



The University of Mississippi School of Law

The National Center for Remote Sensing, Air, and Space Law

Informational resources on the legal aspects of human activities using aerospace technologies

Space Law: Selected Documents 2008

Compiled by P.J. Blount

P.J. Blount, editor

Joanne Irene Gabrynowicz, editor



A supplement to the Journal of Space Law

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Dedicated to

Paul G. Dembling

Former General Counsel of NASA and author of the National Aeronautics and Space Act of 1958 (NAS Act), U.S. Public Law No. 85-568, which celebrated its 50th anniversary in 2008. His account of the drafting of the NAS Act can be found in 34 J. SPACE L. 203 (2008).

"Law must precede man into space."

- Andrew G. Haley, *Space Age
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Selected Space Law Documents: 2008

Foreword

by

Joanne Irene Gabrynowicz

This compilation of 2008 space law documents was gathered primarily from postings placed on the aerospace law blog, *Res Communis* from 1 January through 31 December 2008. *Res Communis* is hosted by the National Center for Remote Sensing, Air, and Space Law (Center) at the University of Mississippi School of Law. The postings are supplemented with materials from other sources that were published within 2008 but which were published too late to be posted as a blog entry in a timely manner. The blog's name, *Res Communis*, is taken from the Latin legal term that means, in part, "[t]hings common to all; that is, those things that are used and enjoyed by everyone." *Res Communis* is also a fundamental principle that provides a major part of the foundation of the international space law regime. The name was chosen because of its specific relevance to space law and to express the Center's intent that the blog provide the aerospace law community with a reliable, timely source of legal materials.

This compilation is a special supplement to the *Journal of Space Law*, the world's oldest law review dedicated to space law. The *Journal of Space Law*, beginning with the first volume, is available online through HeinOnline.

The compilation demonstrates that the body of space law is continuing to grow. A major characteristic of this growth is the number of new laws promulgated at the national level. India, Iran, Japan, France, the Russian Federation (C.I.S), South Africa, Ukraine, the United Kingdom, and the United States all had new space laws in 2008. Internationally, space law growth can be seen in the materials produced by various U.N. bodies and a number of multilateral and bilateral agreements and statements. The reader can find updated material on an on-going basis at <http://rescommunis.wordpress.com/>.

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**Government of India
Ministry of Communications & IT
Department of Telecommunications
WPC Wing**

Dated 1 August 2008

Guidelines for Auction and Allotment of Spectrum for 3G Telecom Services

The Government of India hereby announces the following guidelines for auction and allotment of spectrum for 3G telecom services.

1. Frequency Bands:

- Spectrum in 2.1 GHz band shall be allocated for 3G telecom services through bidding/ auction;

2. Eligibility for Bidding for 3G Spectrum

Any person

(i) who holds a UAS licence or

(ii) who fulfils the eligibility criteria for obtaining a Unified Access Service Licence(UASL) as per Department of Telecommunications guidelines dated 14.12.2005 and has previous experience of running 3G telecom services

can bid for 3G spectrum.

3. Amount of Spectrum

3.1 Spectrum shall be auctioned in blocks of 2x5 MHz in 2.1 GHz band. The number of blocks to be auctioned may vary from 5 to 10 subject to availability in different telecom service areas. In exceptional cases of non-availability, the number of blocks may be less than 5 in a telecom service area. The actual number of blocks to be auctioned in a telecom service area will be announced well before the auction.

- (a) The auction of spectrum shall be telecom service area wise as defined in UAS guidelines dated 14.12.2005 subject to availability. Each successful bidder shall be allocated only one block in a telecom service area.
- (b) The bidders can make bids for one block of 2 x 5 MHz each for 3 G telecom services in the 2.1 GHz band(1920 – 1980 MHz for uplink and 2110-2170 MHz for downlink) in a telecom service area.
- (c) The technology used would have to co-exist with other technologies/ services/applications operating in 2.1GHz band.

3.2 Spectrum shall be auctioned in the 450 MHz band, in 800 MHz band for EVDO services, and in 1900 MHz band (1900 – 1910 paired with 1980-1990 MHz) when

it becomes available. UASL CDMA telecom service providers may have the option to seek 2x1.25 MHz in 800 MHz band subject to availability at a price equivalent to the highest winning bid in 2.1 GHz auction prorated to a per 2x1.25 MHz price. The seniority for allotment shall be the subscriber base in a telecom service area.

4. Mergers and Acquisitions

- Mergers and acquisitions shall be as per guidelines on the subject issued by Department of Telecommunications vide No. 20-100/2007-AS-I dated 22nd April 2008 or any subsequent revision thereof.

5. Reserve Price & Earnest Money for the Bids

- The 'Reserve Price' for a 2 x 5 MHz block of spectrum for each of Metro Category 'A' areas, Category 'B' & 'C' service areas shall be as under:

Service Area	Reserve Price (Rs. in crore)
Mumbai, Delhi and Category 'A'	160
Kolkata & Category 'B'	80
Category 'C'	30

- In the event of subsequent auctions, due to more spectrum becoming available, the reserve price will be the highest bid price of the last auction.
- The earnest money (in the form of a Bank Guarantee from a Schedule Bank) shall be 25% of the reserve price.

6. Auction Process

Auction amount as per **successful** bid shall be payable upfront. For this purpose, a controlled, simultaneous, ascending e-auction shall be conducted, as per details to be notified separately. The broad stipulations shall be as follows:-

- (a) The bidding shall be service area wise.
- (b) The reserve price for auction shall be set for each service area.
- (c) The bid shall be submitted in Rupees for a block of 2 x 5 MHz spectrum for 2.1 GHz band.
- (d) Successful bidder shall deposit 25 per cent of the successful bid amount as bid deposit within 5 days of the close of the auction, failing which the earnest money shall stand forfeited.
- (e) Successful bidder shall deposit the balance amount (bid amount – bid deposit) within fifteen calendar days of the bid, failing which the earnest money shall stand forfeited.
- (f) Neither a bidder can withdraw a bid after placing, nor it can reduce a bid in subsequent rounds. If a bidder withdraws a bid at any point of time, the earnest money deposited shall stand forfeited.

- (g) The Government of India reserves the right to disqualify any bidder violating these rules.
- (h) If the number of bids is less than or equal to the number of spectrum blocks available in the service area, the spectrum shall be allocated to all the bidders at the highest bid price. If the number of bids is greater than the number of spectrum blocks available, the auction shall proceed as per e-auction rules.
- (i) One block shall be allocated to MTNL in Delhi and Mumbai/Metro service Areas and BSNL in other Service Areas at a price equal to the highest bid in the respective service area. When the number of bidders left is equal to the number of blocks of spectrum being auctioned in any service area, the auction shall be closed. All the bidders shall have to match the bid of the highest bidder (H1). In case they do not match, then that block would be offered to the next highest bidder at the highest bid price (H1). If any block is left vacant then that block shall be re-auctioned.
- (j) The top bidders shall be called in decreasing order of their bids to choose which block of spectrum they wish to be allocated.
- (k) If there is a tie between more than one bidder, then preference would be given to an existing service provider in that telecom service area.
- (l) If there is a tie between more than one bidder who are all existing service providers in that telecom service area, preference would be given to the bidder with the highest subscriber base.

7. Grant of Licence.

- (a) The successful bidder shall get spectrum allotment for 3 G services for a period of 20 years. Successful bidders who are not UAS licensees would be granted a separate UAS Licence for the concerned service area under Indian Telegraph Act, 1885. The terms and conditions of existing UAS licence shall be amended accordingly.
- (b) The successful bidder shall obtain SACFA clearance and a separate wireless operating licence from Wireless Planning and Coordination (WPC) Wing as per prescribed procedure.
- (c) In case UASL is cancelled/terminated for any reason, the spectrum allotted shall stand withdrawn forthwith;
- (d) If the period of existing UAS telecom licence of a successful bidder is expiring before this period of 20 years for spectrum allotment for 3G services, its existing UAS licence shall be extended in the 19th year of its validity to a date 20 years from the date of 3G spectrum allotment at a price as may be determined by the Government at the time of extension of licence. This extension shall be done in the 19th year of the UAS licence for the period required to make it co-terminus with the 3G spectrum allocation period by amending licence conditions if required.

(e) A separate entry fee shall be payable for grant of UAS licence for 3G Telecom Services in addition to 3G spectrum auction price. This shall be equal to the entry fee of the UAS licence. .

8. Roll Out Obligations:

The roll out obligations for 3G services in various service areas shall be as follows:

Category of Circle	At the End of 3 Years From Date of 3G Spectrum Allocation	At the End of 5 Years From the Date of 3G Spectrum Allocation
Metros	-	90% of metro area
A, B and C	-	50% of the DHQs or cities in the service area <i>out of which 15% of the DHQs should be rural SDCAs.</i>

9. Penalty for Spectrum Hoarding:

If licensee does not achieve its roll out obligations under para 8 above, it shall be given a further period of one year to do so by making payment of 2.5 percent of its successful auction bid (i.e. spectrum acquisition price) per quarter or part thereof as penalty. If licensee does not complete its roll out obligations even within the extended period of one year, the spectrum assignment shall stand withdrawn.

10. Spectrum Usage Charges:

- No annual spectrum charge shall be payable for 3 G Telecom services in the first year from the date of allotment of spectrum.
- The licensee shall pay annual spectrum charge of 1% of AGR after a period of one year.

11. Other Issues:

- The Government of India reserves the right to amend or modify these terms and conditions before the commencement of auction process. The final conditions shall be as indicated in the bidding document.
- The Government of India reserves the right to cancel the bidding process or disqualify any bidder.
- Trading/sharing of spectrum, if any, shall be governed by policy as may be determined by the Government of India.
- Auction shall be conducted by an independent expert agency to be appointed for this purpose by the Government of India.

**Government of India
Ministry of Communications & IT
Department of Telecommunications
WPC Wing**

Dated 1 August, 2008

Detailed Guidelines for Auction and Allotment of Spectrum for BWA Services

The Government of India hereby announces the following guidelines for auction and allotment of spectrum for BWA services.

1. Frequency Bands

1.1 Spectrum in 2.5 GHz band shall be allocated for BWA services through bidding/ auction;

2. Eligibility for Bidding for BWA Spectrum

Any person

- (i) who holds a UAS licence or
- (ii) who fulfills the eligibility criteria for obtaining a Unified Access Services Licence (UASL) as per Department of Telecommunications guidelines dated 14.12.2005.
- (iii) who holds a ISP licence category 'A' or 'B'.

3. Amount of Spectrum and Reserve Price

3.1 Spectrum shall be auctioned in the 2.5 GHz, and 2.3 GHz bands for data services. Each successful bidder can get 20 MHz in 2.3 and 2.5 GHz bands in a telecom service area. The number of blocks shall be two in 2.3 GHz band and two in 2.5 GHz band. The reserve price per MHz in 2.3 GHz and 2.5 GHz bands shall be 25% of the 3G reserve price.

Spectrum in 700 MHz and 3.3-3.6 GHz bands shall be auctioned as and when it becomes available.

4. Mergers and Acquisitions

4.1 Mergers and acquisitions shall be as per policy guidelines on the subject issued by DOT vide No. 20-100/2007-AS-I dated 22nd April 2008 or any subsequent revision thereof.

5. Auction Process

5.1 A controlled, simultaneous, ascending e-auction shall be conducted, as per details to be notified separately. The broad stipulations shall be as follows: -

- (a) The bidding shall be service area wise.
- (b) The bid shall be submitted in Rupees for each block of spectrum.
- (c) Successful bidder shall deposit 25 per cent of the successful bid amount as bid deposit within 5 days of the close of the auction, failing which it shall forfeit the earnest money.
- (d) Successful bidder shall deposit the balance amount (bid amount – bid deposit) within fifteen calendar days of the bid, failing which it shall forfeit the earnest money.
- (e) Neither a bidder can withdraw a bid after placing, nor it can reduce a bid in subsequent rounds. If a bidder withdraws a bid at any point of time, it shall forfeit the earnest money.
- (f) The Government of India reserves the right to disqualify any bidder violating these rules.
- (g) If the number of bids is less than or equal to the number of spectrum blocks available in the service area, the spectrum shall be allocated to all the bidders at the highest bid price. If the number of bids is greater than the number of spectrum blocks available, the auction shall proceed as per e-auction rules.
- (h) When the number of bidders left is equal to the number of blocks of spectrum being auctioned in any service area, the auction shall be closed. All the bidders shall have to match the bid of the highest bidder (H1). In case they do not match, then that block would be offered to the next highest bidder at the highest bid price (H1). If any block is left vacant then that block shall be re-auctioned.
- (i) The top bidders shall be called in decreasing order of their bids to choose which block of spectrum they wish to be allocated.
- (j) If there is a tie between a bidder who is a UAS licensee and another who is an ISP licensee, then preference will be given to UAS licensee. If there is a tie between two UAS licensees or two ISP licensees, then preference would be given to the bidder with the higher subscriber base.
- (k) One block of 20 MHz shall be allocated to MTNL in Delhi and Mumbai/Metro Service Areas and BSNL in other Service Areas at a price equal to the highest bid in the respective service area.

6. Grant of Licence

6.1 The successful bidder shall get spectrum allotment for BWA services for a period of 15 years duration.

6.2 The successful bidder shall obtain SACFA clearance and a separate wireless operating licence from Wireless Planning and

Coordination (WPC) Wing under Indian Wireless Telegraphy Act 1933 as per prescribed procedure.

6.3 In case UAS or ISP licence for BWA service is cancelled/terminated for any reason, the spectrum allocated shall stand withdrawn forthwith;

6.4 If the period of the UAS or ISP license is expiring before the extended spectrum allotment for BWA services, its existing UAS or ISP license shall be extended in the 19th or 14th year of its validity as applicable, to a date 15 years from the date of BWA spectrum allotment at a price. This price would be determined by the Government at the time of extension of licence. This automatic extension of the UAS or ISP licence shall be done for the period required to make it co-terminus with the BWA spectrum allocation period by amending licence conditions, if required.

6.5 A separate entry fee shall be payable for grant of UAS/ISP licence for BWA services in addition to BWA spectrum auction price. This shall be equal to the entry fee of the UAS/ISP licence issued by the Department of Telecom.

7. Roll Out Obligations

7.1 The roll out obligations for BWA services in various service areas shall be as follows:

Category of Circle	At the End of 2 Years From Date of BWA Spectrum Allocation	At the End of 5 Years From the Date of BWA Spectrum Allocation
Metros	-----	90% of metro area
A, B and C	25% rural SDCAs area coverage.	50% rural SDCAs area coverage.

8. Penalty for Non-Fulfilment of Rollout Obligations

9.1 If the licensee does not achieve the two years roll out obligations under para 8 above, its performance bank guarantee shall be encashed. If it fails the 5 years roll out obligation its spectrum assignments shall be cancelled.

9. Annual Spectrum Usage Charges

9.1 No annual spectrum charge shall be payable for BWA services in the first year from the date of allocation of spectrum.

9.2 The operators shall pay an annual spectrum charge of 1% of AGR after a period of one year.

10. Other Issues

10.1 The Government of India reserves the right to amend or modify these terms and conditions before the commencement of auction process. The final conditions shall be as indicated in the bidding document.

10.2 The Government of India reserves the right to cancel the bidding process or disqualify any bidder.

10.3 Trading/sharing of spectrum, if any, shall be governed by Government policy.

10.4 Auction shall be conducted by an independent expert agency to be appointed for this purpose by the Government of India.

خروم 27560/1 مرامش دامنش يپ مې انب 26/3/1387 خروم هسلج رد ناريزو تئيه - انتيا تارايتخا و فياظو نوناق 9 هدام دانستسا مې و تاغالطا يروانف و تاطابترا ترازو، 9/8/1386 مې ان ناريا يياضف نامزاس همانساسا - 1382 بوصم - تاغالطا يروانف و تاطابترا ترازو درك بيوصت ريز حرش

رد ارجا و يسدنم، يحارط، يشهوژپ، يتاعلاطم روم و ينوناق فياظو ماجنا روظنم مې - ۱ هدام يروانف و يطابترا ياهمكېش تيوقت و رود هار زاشجنس و يياضف تامدخ ياهيروانف نيمز رود هار زاشجنس زكرم يتيماكح ياهتيلاعف عيمجت و روشك زاجراخ و لخاد رد يياضف مې همانساسا نيا رد مك ناريا يياضف نامزاس، تاغالطا يروانف و تاطابترا ترازو و ناريا و حرط لك مرادا يناسنا يورين و تانك م زاهدفتسا اب، دوشيم هديمان نامزاس راصتخا تارباخم تكورش يامراوهام تاطابترا يرادمگن لك مرادا و يامراوهام تاطابترا بصن و يسدنم دوشيم ليكشت ناريا

يتلود هسسؤم بتروص مې و تسايلا لالقتسا و يقوقح تيصوصش ياراد نامزاس - 2 هدام و يلام ياهمماننييآ و نيناق ساسارب و تاغالطا يروانف و تاطابترا ترازو مې هتسباو دش دواو مرادا، تاررقم و نيناق بوچراچ رد و دوخ صاخ يتالاعم

تسا ريز حرش مې نامزاس تارايتخا و فياظو - 3 هدام

تامدخ ياهيروانف نيمز رد ارجا و يسدنم، يحارط، يشهوژپ، يتاعلاطم روم ماجنا - فل عيمجت و روشك زاجراخ و لخاد رد يياضف ياهمكېش تيوقت و رود هار زاشجنس و يياضف تاغالطا يروانف و تاطابترا ترازو و ناريا رود هار زاشجنس زكرم يتيماكح ياهتيلاعف هاگتسد يراكمه اب روشك يياضف شخب رد تدمزارد و تدمنايم ياهممانرب ميظنت و هيئت - ب. طبريذ عجارم مې دامنش يپ يارب طبريذ ياهمراوهام زاهدفتسا و باترپ، تخاس، يحارط ياهتساييس نيودت روظنم مې تاغالطا ماجنا - ب. ينوناق حالصيذ عجارم مې دامنش يپ يارب يياضف تامدخ هيارا و يدربراك و يتاقيقت و يحارط و يتاقيقت ويملع، يراجت ياهمراوهام باترپ و تخاس، يحارط، يتاقيقت ماجنا - ب. طبريذ ياهمكېش يراكمه اب يلم ياهمراوهام باترپ و لرتنك زكرم تخاس شخب طسوت دنوتيم ياهمراوهام لرتنك زكرم و باترپ زج مې هشدادي روم - مرصبت دوش ماجنا نامزاس تراظن تحت يتلودريغ

مارجا و و ياروام يياضف زازيماحلص هافتسا شرتسگ و تياده روظنم مې يزيهرمانرب - ب. يللملانيب و ياهقطنم، يلم يطابترا ياهمكېش تيوقت، يياضف يروانف و موچن و يوامس ياهتساييس بوچراچ رد انا يارجا رب تراظن و يصوصخ، ينواع، يتلود ياهشخب طسوت روشك نالك

و مولع هسوت نيمز رد صاخ يدربراك يامشزومآ و يروانف هسوت، شهوژپ، هعلاطم - ج. يياضف ياهيروانف

هسوت يارب زايندرهم ياهيروانف رياس و ياهمراوهام ياهوژپ يارجا و اهزاييس ررب - ج. طوبرم تاررقم و نيناق بوچراچ رد يياضف يروانف

ياهتساييس بوچراچ رد يللملانيب و ياهقطنم، يلم ياهمراوهام ياهوژپ يارجا رد تكراشم - ح. طوبرم تاررقم و نيناق رياس و ماضن يلك

«توص زا معا» يي اضف شخب لانگيس هي ارا قي رط زا ملو ح يتي مكاح في اظو لامعا - خ
روظنم م باضف رد تيلا عف يارب زوجم ياطعا ، يني مز شخب رد نايضا قتم م با (مداد و ريوصت
تانك م و يروانف زا گنهامه و مچسنم يرادربهر م و روشك يي اضف شخب هچراپكي تي ريديم
ياهه اگتس يا ، (يا مراهام ليا بوم لماش) يل م اي صا صتخا مراهام ملكبش ، اهر اوهام لماش يي اضف
تاررقم و طبواض بوچراچ رد اهر اوهام لرتنك و ميقتسم لاسرا ياهه اگتس يا ، ميقتسم ذخا
طوبرم

اضف رد تيلا عف زوجم ياطعا و يي اضف تامدخ مضرع بوصم ياهه فرعت تفاي رد - د
يتاقي قحت و يي ارجا روم ارجا يارب يتلودريغ نارواشم و ناراك ناميپ تي حالص ني عت - ذ
طوبرم تاررقم و نيناوق بوچراچ رد روشك فلتخم ياهشخب رد يي اضف
طوبرم يللملانيب و ياهقطنم ياهه يداحتا و عماجم رد روضح و تيوضع ، يگدن يامن - ر
طوبرم تاررقم و نيناوق رياس و ماظن يللك ياهتسايس بوچراچ رد يل م عفانم ظفح روظنم م با
ياهتسايس بوچراچ رد يي اضف روم رد يللملانيب و ياهقطنم يرلكم ياهه م ربا يارجا - ز
ماظن يللك

و لوؤسم ياهه اگتسد اب يگنهامه و ياهراهام و يرادم ياهتي عقوم زا يرادربهر م و تي ريديم - ژ
يي اضف عبانم زان م با م بافتسا روظنم م با نيا يللملانيب تبث يارب يريگيپ
روشك ياهراهام ياهه ملكبش مامت زاي ندروم يي اضف شخب ني مآت يارب يزي رهمانرب و هعلاطم - س
نيناوق بوچراچ رد يللملانيب و ياهقطنم ، يل م ياهراهام قي رط زا مراهام تامدخ هي ارا روظنم م با
تاررقم و

في اظو نونا ق 9 مدام رد چردنم في اظو حرش اب طبترم ياهه ماني ييا و تاررقم نيودت و هي مت - ش
ينونا ق عجارم م با دامن شيپ و 1382 بوصم _ تااعلاطا يروانف و تااطابترا ترازو تارايتخا و
بيوصت يارب

يي اضف تااعلاطا يزاس مانگن م با و يدن بهقبط و يرادهگن رد زكرم ت و يل م يناگياي داجيا - ص
ياهشخب ناوت رثك ادح زا مدش لوح في اظو و روم ارجا يارب ، تسا فظوم نامزاس - لكي مرصبت
دنك م بافتسا ماظن يللك ياهتسايس بوچراچ رد يتلودريغ
اب مدام نيا «ذ» و «خ» ياهدن بصوصخ رد يتي نيا تي حالص ني عت تي لوؤسم - 2 مرصبت
دوب دهاوخ طبري ذ عجارم

شرتسگ ياروش دي يات اب لوح في اظو و روم ارجا روظنم م با تسا زاج نامزاس - 3 مرصبت
و (هاگش موژپ اي هكش موژپ) يي اضف تاقي قحت زكرم سي سيات م با تبسن روشك يلاع شزوم
دنك م باقا ، تاررقم و نيناوق بوچراچ رد تكثرش داجيا زين
تايه بيوصت م با مك يي ااخرن ساسارب ، تسا فللكم نامزاس «د» دنب صوصخ رد - 4 مرصبت
دنك زي راو (لك يراده نازخ دن) يمومع دم ارد باسح م بار لصاح م وچ و م باقا ، دي سر دهاوخ ناريزو
نامزاس رايتخا رد هجوب نيناوق رد يرايتعا فيدر لحم زا مدشداي رابتعا دسر ددص لداعم
سي يري يدربهار تراظن و يزي رهمانرب تنواعم اب ممانتق فاوم ملدابم زاسپ ات دريگيم رارق
دوش م نيزه يرومچ

و يني بش شيپ روشك م بالاس هجوب يمومع تارابتعا و م وچو رد نامزاس زاي ندروم رابتعا - 4 مدام
رياس و ممان ساسا نيا 2 مدام عوضوم نامزاس صاخ ياهه ماني ييا بوچراچ رد و دوش يم ني مآت
دش دهاوخ م نيزه طوبرم تاررقم و نيناوق
و يرومچ سي يري يدربهار تراظن و يزي رهمانرب تنواعم يگنهامه اب دن اوتيم نامزاس - مرصبت
يروانف و تااطابترا ترازو يرايتعا عبانم رياس و الكمك زاي تااونس ياهه جوب بوچراچ رد
دنك م بافتسا ادهان رياس و نا عبات ياهتكثرش و ممانزاس و تااعلاطا

دناوتيم نامزاس 1386 بوصم _ يروشك تامدخ تي ريديم نونا ق 68 مدام 10 دنب يارجا رد - 5 مدام
و بذج روظنم م با ، يرومچ سي يري يناسنا هي امرس و تي ريديم هعسوت تنواعم يگنهامه اب
بيوصت اب مزال مداعلاقوف ، تي ريديم و يي صصخت لغاشم يارب بسانم ياهه ماني يريادهگن
دنك تخادرب ناريزو تي يه

و تييريديم هعسوت تنواعم دييأت و نامزاس طسوت نيودت زا سپ نامزاس تاليلكشت -6 هدام
دوب دهاوخ ارجا لباقيروهمج سييري يناسناهيامرس

هدشداي ريزو طسوت، تساتعالطا يروانف و تاطابترا ريزو نواعم مك نامزاس سييري -7 هدام
دوب دهاوخ هاگتسد ييارجا ماقم نييرتالاب و دوشي م بوصنم

يارب و تساناامزاس لاوما و عفانم، قوقح ظفح و روم يارجا نسح لويئسم نامزاس سييري -8 هدام
يگدن يامن و تساتاررقم دودح رد مات تارايتخا و قوقح هنوگ ممه ياراد نامزاس روم مرادا
ريغ مبليلكوت قح اب يقوقح و يقيقح صاخشا و يياضق يامقام مامت لباقم رد ار نامزاس
زا كيري ره مبيبتك غالبا بجوم مبلار دوختارايتخا زايتمسق دنوتيم زين و تشاد دهاوخ
دنك ضيوفت دوختيلووسم و صيخشت مبل نامزاس نانكراك اي ناريديم، نانواعم

دييأت مبل نابهگن ياروش، 12/4/1387 خروم 27483/30/87 مرامش همان بجوم مبل همانساسا نيا
تسا مديسر، هدشداي ياروش

و تاطابترا ترازو مبل، 25/4/1387 خيرات رد هـ 38571 ت 62999TM مرامش اب مبلوصم نيا
تسا هدش غالبا تاعالطا يروانف

Unofficial English translation available in 34 J. Space L. 487 (2008)

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宇宙基本法

(平成二十年五月二十八日法律第四十三号)

第一章 総則（第一条—第十二条）

第二章 基本的施策（第十三条—第二十三条）

第三章 宇宙基本計画（第二十四条）

第四章 宇宙開発戦略本部（第二十五条—第三十四条）

第五章 宇宙活動に関する法制の整備（第三十五条）

附則

第一章 総則

（目的）

第一条

この法律は、科学技術の進展その他の内外の諸情勢の変化に伴い、宇宙の開発及び利用（以下「宇宙開発利用」という。）の重要性が増大していることにかんがみ、日本国憲法の平和主義の理念を踏まえ、環境との調和に配慮しつつ、我が国において宇宙開発利用の果たす役割を拡大するため、宇宙開発利用に関し、基本理念及びその実現を図るために基本となる事項を定め、国の責務等を明らかにし、並びに宇宙基本計画の作成について定めるとともに、宇宙開発戦略本部を設置すること等により、宇宙開発利用に関する施策を総合的かつ計画的に推進し、もって国民生活の向上及び経済社会の発展に寄与するとともに、世界の平和及び人類の福祉の向上に貢献することを目的とする。

（宇宙の平和的利用）

第二条

宇宙開発利用は、月その他の天体を含む宇宙空間の探査及び利用における国家活動を律する原則に関する条約等の宇宙開発利用に関する条約その他の国際約束の定めるところに従い、日本国憲法の平和主義の理念にのっとり、行われるものとする。

（国民生活の向上等）

第三条

宇宙開発利用は、国民生活の向上、安全で安心して暮らせる社会の形成、災害、貧困その他の人間の生存及び生活に対する様々な脅威の除去、国際社会の平和及び安全の確保並びに我が国の安全保障に資するよう行われなければならない。

（産業の振興）

第四条

宇宙開発利用は、宇宙開発利用の積極的かつ計画的な推進、宇宙開発利用に関する研究開発の成果の円滑な企業化等により、我が国の宇宙産業その他の産業の技術力及び国際競争力の強化をもたらし、もって我が国産業の振興に資するよう行われなければならない。

（人類社会の発展）

第五条

宇宙開発利用は、宇宙に係る知識の集積が人類にとっての知的資産であることにかんがみ、先端的な宇宙開発利用の推進及び宇宙科学の振興等により、人類の宇宙への夢の実現及び人類社会の発展に資するよう行われなければならない。

（国際協力等）

第六条

宇宙開発利用は、宇宙開発利用に関する国際協力、宇宙開発利用に関する外交等を積極的に推進することにより、我が国の国際社会における役割を積極的に果たすとともに、国際社会における我が国の利益の増進に資するよう行われなければならない。

（環境への配慮）

第七条

宇宙開発利用は、宇宙開発利用が環境に及ぼす影響に配慮して行われなければならない。

（国の責務）

第八条

国は、第二条から前条までに定める宇宙開発利用に関する基本理念（以下「基本理念」という。）にのっとり、宇宙開発利用に関する総合的な施策を策定し、及び実施する責務を有する。

（地方公共団体の努力義務）

第九条

地方公共団体は、基本理念にのっとり、宇宙開発利用に関し、国との適切な役割分担を踏まえて、その地方公共団体の区域の特性を生かした自主的な施策を策定し、及び実施するよう努めなければならない。

（連携の強化）

第十条

国は、国、地方公共団体、大学、民間事業者等が相互に連携を図りながら協力することにより、宇宙開発利用の効果的な推進が図られることにかんがみ、これらの者の間の連携の強化に必要な施策を講ずるものとする。

（法制上の措置等）

第十一条

政府は、宇宙開発利用に関する施策を実施するため必要な法制上、財政上、税制上又は金融上の措置その他の措置を講じなければならない。

（行政組織の整備等）

第十二条

国は、宇宙開発利用に関する施策を講ずるにつき、行政組織の整備及び行政運営の改善に努めるものとする。

第二章 基本的施策

（国民生活の向上等に資する人工衛星の利用）

第十三条

国は、国民生活の向上、安全で安心して暮らせる社会の形成並びに災害、貧困その他の人間の生存及び生活に対する様々な脅威の除去に資するため、人工衛星を利用した安定的な情報通信ネットワーク、観測に関する情報システム、測位に関する情報システム等の整備の推進その他の必要な施策を講ずるものとする。

（国際社会の平和及び安全の確保並びに我が国の安全保障）

第十四条

国は、国際社会の平和及び安全の確保並びに我が国の安全保障に資する宇宙開発利用を推進するため、必要な施策を講ずるものとする。

（人工衛星等の自立的な打上げ等）

第十五条

国は、人工衛星等の開発、打上げ、追跡及び運用を自立的に行う能力を我が国が有することの重要性にかんがみ、これらに必要な機器（部品を含む。）、技術等の研究開発の推進及び設備、施設等の整備、我が国が宇宙開発利用に関し使用できる周波数の確保その他の必要な施策を講ずるものとする。

（民間事業者による宇宙開発利用の促進）

第十六条

国は、宇宙開発利用において民間が果たす役割の重要性にかんがみ、民間における宇宙開発利用に関する事業活動（研究開発を含む。）を促進し、我が国の宇宙産業その他の産業の技術力及び国際競争力の強化を図るため、自ら宇宙開発利用に係る事業を行うに際しては、民間事業者の能力を活用し、物品及び役務の調達を計画的に行うよう配慮するとともに、打上げ射場（ロケットの打上げを行う施設をいう。）、試験研究設備その他の設備及び施設等の整備、宇宙開発利用に関する研究開発の成果の民間事業者への移転の促進、民間における宇宙開発利用に関する研究開発の成果の企業化の促進、宇宙開発利用に関する事業への民間事業者による投資を容易にするための税制上及び金融上の措置その他の必要な施策を講ずるものとする。

（信頼性の維持及び向上）

第十七条

国は、宇宙開発利用に関する技術の信頼性の維持及び向上を図ることの重要性にかんがみ、宇宙開発利用に関する基礎研究及び基盤的技術の研究開発の推進その他の必要な施策を講ずるものとする。

（先端的な宇宙開発利用等の推進）

第十八条

国は、宇宙の探査等の先端的な宇宙開発利用及び宇宙科学に関する学術研究等を推進するために必要な施策を講ずるものとする。

（国際協力の推進等）

第十九条

国は、宇宙開発利用の分野において、我が国の国際社会における役割を積極的に果たすとともに、国際社会における我が国の利益を増進するため、宇宙開発利用に関し、研究開発のための国際的な連携、国際的な技術協力その他の国際協力を推進す

るとともに、我が国の宇宙開発利用に対する諸外国の理解を深めるために必要な施策を講ずるものとする。

(環境の保全)

第二十条

国は、環境との調和に配慮した宇宙開発利用を推進するために必要な施策を講ずるものとする。

2

国は、宇宙の環境を保全するための国際的な連携を確保するように努めるものとする。

(人材の確保等)

第二十一条

国は、宇宙開発利用を推進するため、大学、民間事業者等と緊密な連携協力を図りながら、宇宙開発利用に係る人材の確保、養成及び資質の向上のために必要な施策を講ずるものとする。

(教育及び学習の振興等)

第二十二条

国は、国民が広く宇宙開発利用に関する理解と関心を深めるよう、宇宙開発利用に関する教育及び学習の振興、広報活動の充実その他の必要な施策を講ずるものとする。

(宇宙開発利用に関する情報の管理)

第二十三条

国は、宇宙開発利用の特性にかんがみ、宇宙開発利用に関する情報の適切な管理のために必要な施策を講ずるものとする。

第三章 宇宙基本計画

第二十四条

宇宙開発戦略本部は、宇宙開発利用に関する施策の総合的かつ計画的な推進を図るため、宇宙開発利用に関する基本的な計画（以下「宇宙基本計画」という。）を作成しなければならない。

2 宇宙基本計画は、次に掲げる事項について定めるものとする。

一 宇宙開発利用の推進に関する基本的な方針

二 宇宙開発利用に関し政府が総合的かつ計画的に実施すべき施策

三

前二号に定めるもののほか、宇宙開発利用に関する施策を政府が総合的かつ計画的に推進するために必要な事項

3

宇宙基本計画に定める施策については、原則として、当該施策の具体的な目標及びその達成の期間を定めるものとする。

4

宇宙開発戦略本部は、第一項の規定により宇宙基本計画を作成したときは、遅滞なく、これをインターネットの利用その他適切な方法により公表しなければならない。

5

宇宙開発戦略本部は、適時に、第三項の規定により定める目標の達成状況を調査し、その結果をインターネットの利用その他適切な方法により公表しなければならない。

6

宇宙開発戦略本部は、宇宙開発利用の進展の状況、政府が宇宙開発利用に関して講じた施策の効果等を勘案して、適宜、宇宙基本計画に検討を加え、必要があると認めるときには、これを変更しなければならない。この場合においては、第四項の規定を準用する。

7

政府は、宇宙基本計画について、その実施に要する経費に関し必要な資金の確保を図るため、毎年度、国の財政の許す範囲内で、これを予算に計上する等その円滑な実施に必要な措置を講ずるよう努めなければならない。

第四章 宇宙開発戦略本部

(設置)

第二十五条

宇宙開発利用に関する施策を総合的かつ計画的に推進するため、内閣に、宇宙開発戦略本部（以下「本部」という。）を置く。

(所掌事務)

第二十六条 本部は、次に掲げる事務をつかさどる。

一 宇宙基本計画を作成し、及びその実施を推進すること。

二

前号に掲げるもののほか、宇宙開発利用に関する施策で重要なものの企画に関する調査審議、その施策の実施の推進及び総合調整に関すること。

(組織)

第二十七条

本部は、宇宙開発戦略本部長、宇宙開発戦略副本部長及び宇宙開発戦略本部員をもって組織する。

(宇宙開発戦略本部長)

第二十八条

本部の長は、宇宙開発戦略本部長（以下「本部長」という。）とし、内閣総理大臣をもって充てる。

2 本部長は、本部の事務を総括し、所部の職員を指揮監督する。

(宇宙開発戦略副本部長)

第二十九条

本部に、宇宙開発戦略副本部長（以下「副本部長」という。）を置き、内閣官房長官及び宇宙開発担当大臣（内閣総理大臣の命を受けて、宇宙開発利用に関し内閣総理大臣を助けることをその職務とする国務大臣をいう。）をもって充てる。

2 副本部長は、本部長の職務を助ける。

(宇宙開発戦略本部員)

第三十条 本部に、宇宙開発戦略本部員（以下「本部員」という。）を置く。

2 本部員は、本部長及び副本部長以外のすべての国務大臣をもって充てる。
（資料の提出その他の協力）

第三十一条

本部は、その所掌事務を遂行するため必要があると認めるときは、関係行政機関、地方公共団体及び独立行政法人（独立行政法人通則法（平成十一年法律第百三十三号）第二条第一項に規定する独立行政法人をいう。）の長並びに特殊法人（法律により直接に設立された法人又は特別の法律により特別の設立行為をもって設立された法人であって、総務省設置法（平成十一年法律第九十一号）第四条第十五号の規定の適用を受けるものをいう。）の代表者に対して、資料の提出、意見の開陳、説明その他必要な協力を求めることができる。

2

本部は、その所掌事務を遂行するため特に必要があると認めるときは、前項に規定する者以外の者に対しても、必要な協力を依頼することができる。

（事務）

第三十二条

本部に関する事務は、内閣官房において処理し、命を受けて内閣官房副長官補が掌理する。

（主任の大臣）

第三十三条

本部に係る事項については、内閣法（昭和二十二年法律第五号）にいう主任の大臣は、内閣総理大臣とする。

（政令への委任）

第三十四条

この法律に定めるもののほか、本部に関し必要な事項は、政令で定める。

第五章 宇宙活動に関する法制の整備

第三十五条

政府は、宇宙活動に係る規制その他の宇宙開発利用に関する条約その他の国際約束を実施するために必要な事項等に関する法制の整備を総合的、計画的かつ速やかに実施しなければならない。

2

前項の法制の整備は、国際社会における我が国の利益の増進及び民間における宇宙開発利用の推進に資するよう行われるものとする。

附 則

（施行期日）

第一条

この法律は、公布の日から起算して三月を超えない範囲内において政令で定める日から施行する。

(本部に関する事務の処理を内閣府に行わせるための法制の整備等)

第二条

政府は、この法律の施行後一年を目途として、本部に関する事務の処理を内閣府に行わせるために必要な法制の整備その他の措置を講ずるものとする。

(独立行政法人宇宙航空研究開発機構等に関する検討)

第三条

政府は、この法律の施行後一年を目途として、独立行政法人宇宙航空研究開発機構その他の宇宙開発利用に関する機関について、その目的、機能、業務の範囲、組織形態の在り方、当該機関を所管する行政機関等について検討を加え、見直しを行うものとする。

(宇宙開発利用に関する施策を総合的かつ一体的に推進するための行政組織の在り方等の検討)

第四条

政府は、宇宙開発利用に関する施策を総合的かつ一体的に推進するための行政組織の在り方等について検討を加え、その結果に基づいて必要な措置を講ずるものとする。

Unofficial English translation available in 34 J. Space L. 471 (2008).

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LOIS

LOI n° 2008-518 du 3 juin 2008 relative aux opérations spatiales (1)

NOR : ESRX0700048L

L'Assemblée nationale et le Sénat ont adopté,
Le Président de la République promulgue la loi dont la teneur suit :

TITRE I^{er}

DÉFINITIONS

Article 1^{er}

Pour l'application de la présente loi, on entend par :

1° « Dommage » : toute atteinte aux personnes, aux biens, et notamment à la santé publique ou à l'environnement directement causée par un objet spatial dans le cadre d'une opération spatiale, à l'exclusion des conséquences de l'utilisation du signal émis par cet objet pour les utilisateurs ;

2° « Opérateur spatial », ci-après dénommé « opérateur » : toute personne physique ou morale qui conduit, sous sa responsabilité et de façon indépendante, une opération spatiale ;

3° « Opération spatiale » : toute activité consistant à lancer ou tenter de lancer un objet dans l'espace extra-atmosphérique ou à assurer la maîtrise d'un objet spatial pendant son séjour dans l'espace extra-atmosphérique, y compris la Lune et les autres corps célestes, ainsi que, le cas échéant, lors de son retour sur Terre ;

4° « Phase de lancement » : la période de temps qui, dans le cadre d'une opération spatiale, débute à l'instant où les opérations de lancement deviennent irréversibles et qui, sous réserve des dispositions contenues, le cas échéant, dans l'autorisation délivrée en application de la présente loi, s'achève à la séparation du lanceur et de l'objet destiné à être placé dans l'espace extra-atmosphérique ;

5° « Phase de maîtrise » : la période de temps qui, dans le cadre d'une opération spatiale, débute à la séparation du lanceur et de l'objet destiné à être placé dans l'espace extra-atmosphérique et qui s'achève à la survenance du premier des événements suivants :

- lorsque les dernières manœuvres de désorbitation et les activités de passivation ont été effectuées ;
- lorsque l'opérateur a perdu le contrôle de l'objet spatial ;
- le retour sur Terre ou la désintégration complète dans l'atmosphère de l'objet spatial ;

6° « Tiers à une opération spatiale » : toute personne physique ou morale autre que celles participant à l'opération spatiale ou à la production du ou des objets spatiaux dont cette opération consiste à assurer le lancement ou la maîtrise. Notamment, ne sont pas regardés comme des tiers l'opérateur spatial, ses cocontractants, ses sous-traitants et ses clients, ainsi que les cocontractants et sous-traitants de ses clients ;

7° « Exploitant primaire de données d'origine spatiale » : toute personne physique ou morale qui assure la programmation d'un système satellitaire d'observation de la Terre ou la réception, depuis l'espace, de données d'observation de la Terre.

TITRE II

AUTORISATION DES OPÉRATIONS SPATIALES

CHAPITRE I^{er}

Opérations soumises à autorisation

Article 2

Doit préalablement obtenir une autorisation délivrée par l'autorité administrative :

1° Tout opérateur, quelle que soit sa nationalité, qui entend procéder au lancement d'un objet spatial à partir du territoire national, de moyens ou d'installations placés sous juridiction française ou qui entend procéder au retour d'un tel objet sur le territoire national, sur des moyens ou des installations placés sous juridiction française ;

2° Tout opérateur français qui entend procéder au lancement d'un objet spatial à partir du territoire d'un Etat étranger, de moyens ou d'installations placés sous la juridiction d'un Etat étranger ou d'un espace non soumis à la souveraineté d'un Etat ou qui entend procéder au retour d'un tel objet sur le territoire d'un Etat étranger, sur des moyens ou des installations placés sous la juridiction d'un Etat étranger ou sur un espace non soumis à la souveraineté d'un Etat ;

3° Toute personne physique possédant la nationalité française ou personne morale ayant son siège en France, qu'elle soit ou non opérateur, qui entend faire procéder au lancement d'un objet spatial ou tout opérateur français qui entend assurer la maîtrise d'un tel objet pendant son séjour dans l'espace extra-atmosphérique.

Article 3

Le transfert à un tiers de la maîtrise d'un objet spatial ayant fait l'objet d'une autorisation au titre de la présente loi est soumis à l'autorisation préalable de l'autorité administrative.

Conformément aux dispositions du 3° de l'article 2, tout opérateur français qui entend prendre la maîtrise d'un objet spatial dont le lancement ou la maîtrise n'a pas été autorisé au titre de la présente loi doit obtenir à cette fin une autorisation préalable délivrée par l'autorité administrative.

Les modalités d'application du présent article sont fixées par décret en Conseil d'Etat.

CHAPITRE II

Conditions de délivrance des autorisations

Article 4

Les autorisations de lancement, de maîtrise et de transfert de la maîtrise d'un objet spatial lancé et de retour sur Terre sont délivrées après vérification, par l'autorité administrative, des garanties morales, financières et professionnelles du demandeur et, le cas échéant, de ses actionnaires, et de la conformité des systèmes et procédures qu'il entend mettre en œuvre avec la réglementation technique édictée, notamment dans l'intérêt de la sécurité des personnes et des biens et de la protection de la santé publique et de l'environnement.

Les autorisations ne peuvent être accordées lorsque les opérations en vue desquelles elles sont sollicitées sont, eu égard notamment aux systèmes dont la mise en œuvre est envisagée, de nature à compromettre les intérêts de la défense nationale ou le respect par la France de ses engagements internationaux.

Des licences attestant, pour une durée déterminée, qu'un opérateur spatial justifie des garanties morales, financières et professionnelles peuvent être délivrées par l'autorité administrative compétente en matière d'autorisations. Ces licences peuvent également attester la conformité des systèmes et procédures mentionnés au premier alinéa avec la réglementation technique édictée. Elles peuvent enfin valoir autorisation pour certaines opérations.

Un décret en Conseil d'Etat fixe les conditions d'application du présent article. Il précise notamment :

1° Les renseignements et documents à fournir à l'appui des demandes d'autorisation et la procédure de délivrance de ces autorisations ;

2° L'autorité administrative compétente pour délivrer les autorisations et pour édicter la réglementation technique mentionnée au premier alinéa ;

3° Les conditions dans lesquelles peuvent être délivrées les licences mentionnées au troisième alinéa ainsi que les modalités selon lesquelles le bénéficiaire d'une licence informe l'autorité administrative des opérations spatiales auxquelles il procède ;

4° Les conditions dans lesquelles l'autorité administrative peut dispenser le demandeur de tout ou partie du contrôle de conformité prévu au premier alinéa, lorsqu'une autorisation est sollicitée en vue d'une opération devant être conduite à partir du territoire d'un Etat étranger ou de moyens et d'installations placés sous la juridiction d'un Etat étranger et que les engagements nationaux ou internationaux, la législation et la pratique de cet Etat comportent des garanties suffisantes en matière de sécurité des personnes et des biens, de protection de la santé publique et de l'environnement, et de responsabilité.

CHAPITRE III

Obligations des titulaires d'autorisation

Article 5

Les autorisations délivrées en application de la présente loi peuvent être assorties de prescriptions édictées dans l'intérêt de la sécurité des personnes et des biens et de la protection de la santé publique et de l'environnement, notamment en vue de limiter les risques liés aux débris spatiaux.

Ces prescriptions peuvent également avoir pour objet de protéger les intérêts de la défense nationale ou d'assurer le respect par la France de ses engagements internationaux.

Article 6

I. – Tout opérateur soumis à autorisation en application de la présente loi est tenu, tant que sa responsabilité est susceptible d'être engagée dans les conditions prévues à l'article 13 et à concurrence du montant mentionné aux articles 16 et 17, d'être couvert par une assurance ou de disposer d'une autre garantie financière agréée par l'autorité compétente.

Un décret en Conseil d'Etat précise les modalités d'assurance, la nature des garanties financières pouvant être agréées par l'autorité compétente et les conditions dans lesquelles il est justifié du respect des obligations mentionnées au premier alinéa auprès de l'autorité qui a délivré l'autorisation. Il précise en outre les conditions dans lesquelles l'opérateur peut être dispensé par l'autorité administrative de l'obligation prévue à l'alinéa précédent.

II. – L'assurance ou la garantie financière doit couvrir le risque d'avoir à indemniser, dans la limite du montant mentionné au I, les dommages susceptibles d'être causés aux tiers à l'opération spatiale.

III. – L'assurance ou la garantie financière doit bénéficier, dans la mesure de la responsabilité pouvant leur incomber à raison d'un dommage causé par un objet spatial, aux personnes suivantes :

- 1° L'Etat et ses établissements publics ;
- 2° L'Agence spatiale européenne et ses Etats membres ;
- 3° L'opérateur et les personnes qui ont participé à la production de l'objet spatial ou à l'opération spatiale.

Article 7

I. – Sont habilités à procéder aux contrôles nécessaires en vue de vérifier le respect des obligations du présent chapitre :

1° Les agents commissionnés par l'autorité administrative mentionnée à l'article 2, dans des conditions déterminées par décret en Conseil d'Etat, appartenant aux services de l'Etat chargés de l'espace, de la défense, de la recherche, de l'environnement ou à ses établissements publics qui exercent leurs missions dans les mêmes domaines ;

2° Les agents habilités à effectuer des contrôles techniques à bord des aéronefs ;

3° Les membres du corps de contrôle des assurances mentionné à l'article L. 310-13 du code des assurances ;

4° Les agents mentionnés à l'article L. 1421-1 du code de la santé publique ;

5° Les administrateurs et les inspecteurs des affaires maritimes, les officiers du corps technique et administratif des affaires maritimes, les contrôleurs des affaires maritimes, les commandants des bâtiments de l'Etat et les commandants de bord des aéronefs de l'Etat chargés de la surveillance de la mer.

Les agents mentionnés aux 1° à 5° sont astreints au secret professionnel dans les conditions et sous les sanctions prévues aux articles 226-13 et 226-14 du code pénal.

II. – Les agents mentionnés au I ont accès à tout moment aux établissements, aux locaux et aux installations où sont réalisées les opérations spatiales ainsi qu'à l'objet spatial. Ces dispositions ne sont pas applicables à la partie des locaux servant de domicile, sauf entre six heures et vingt et une heures, et sur autorisation du président du tribunal de grande instance ou du magistrat qu'il délègue à cette fin.

Au plus tard au début des opérations de contrôle, l'opérateur est avisé qu'il peut assister aux opérations et se faire assister de toute personne de son choix, ou s'y faire représenter.

III. – Dans le cadre de leur mission de contrôle, les agents mentionnés au I peuvent demander communication de tous les documents ou pièces utiles, quel qu'en soit le support. Ils peuvent en prendre copie et recueillir sur convocation ou sur place les renseignements et justifications nécessaires.

Les agents ne peuvent emporter des documents qu'après établissement d'une liste contresignée par l'opérateur. La liste précise la nature des documents et leur nombre.

L'opérateur est informé par l'autorité administrative mentionnée à l'article 2 des suites du contrôle. Il peut lui faire part de ses observations.

IV. – Si l'opérateur ou la personne ayant qualité pour autoriser l'accès à l'établissement, au local ou à l'installation ne peut être atteint ou s'il s'oppose à l'accès, les agents mentionnés au I peuvent demander au président du tribunal de grande instance ou au juge délégué par lui à y être autorisés.

Article 8

S'agissant du lancement ou de la maîtrise d'un objet spatial, l'autorité administrative ou, sur délégation de celle-ci, les agents habilités par elle à cet effet peuvent à tout moment donner les instructions et imposer toutes mesures qu'ils considèrent comme nécessaires dans l'intérêt de la sécurité des personnes et des biens et de la protection de la santé publique et de l'environnement.

L'autorité administrative ou les agents habilités agissant sur sa délégation consultent l'opérateur au préalable, sauf dans le cas où existe un danger immédiat.

Un décret en Conseil d'Etat précise les modalités de délégation et d'habilitation des agents chargés de l'application du présent article.

CHAPITRE IV

Sanctions administratives et pénales

Article 9

Les autorisations délivrées en application de la présente loi peuvent être retirées ou suspendues en cas de manquement du titulaire aux obligations qui lui incombent, ou lorsque les opérations en vue desquelles elles ont été sollicitées apparaissent de nature à compromettre les intérêts de la défense nationale ou le respect par la France de ses engagements internationaux.

En cas de suspension ou de retrait de l'autorisation de maîtrise d'un objet spatial lancé, l'autorité administrative peut enjoindre à l'opérateur de prendre, à ses frais, les mesures propres, au regard des règles de bonne conduite communément admises, à limiter les risques de dommage liés à cet objet.

Article 10

Outre les officiers et agents de police judiciaire agissant conformément aux dispositions du code de procédure pénale, les agents mentionnés au I de l'article 7 et assermentés ont qualité pour rechercher et constater les infractions aux dispositions du présent chapitre et aux textes pris pour son application. Ils disposent, à cet effet, des pouvoirs prévus aux II à IV du même article.

Ils constatent ces infractions par des procès-verbaux qui font foi jusqu'à preuve contraire. Ils sont adressés au procureur de la République dans les cinq jours qui suivent leur clôture.

Un décret en Conseil d'Etat précise les modalités d'application du présent article.

Article 11

I. – Est puni d'une amende de 200 000 € le fait :

1° Pour tout opérateur, quelle que soit sa nationalité, de procéder sans autorisation au lancement d'un objet spatial à partir du territoire national ou de moyens ou installations placés sous juridiction française ou au retour d'un tel objet sur le territoire national ou sur des moyens ou installations placés sous juridiction française ;

2° Pour tout opérateur français, de procéder sans autorisation au lancement d'un objet spatial à partir du territoire d'un Etat étranger, de moyens ou d'installations placés sous la juridiction d'un Etat étranger ou d'un espace non soumis à la souveraineté d'un Etat ou au retour d'un tel objet sur le territoire d'un Etat étranger, sur des moyens ou des installations placés sous la juridiction d'un Etat étranger ou sur un espace non soumis à la souveraineté d'un Etat ;

3° Pour toute personne physique possédant la nationalité française ou personne morale ayant son siège en France, de faire procéder sans autorisation au lancement d'un objet spatial ou d'en assurer la maîtrise sans autorisation pendant son séjour dans l'espace extra-atmosphérique.

II. – Est puni d'une amende de 200 000 € le fait :

1° De transférer à un tiers sans autorisation la maîtrise d'un objet spatial dont le lancement ou la maîtrise a été autorisé au titre de la présente loi ;

2° Pour tout opérateur français, de prendre sans autorisation la maîtrise d'un objet spatial dont le lancement n'a pas été autorisé au titre de la présente loi.

III. – Est puni d'une amende de 200 000 € le fait pour un opérateur :

1° De poursuivre l'opération spatiale en infraction à une mesure administrative ou à une décision juridictionnelle d'arrêt ou de suspension ;

2° De poursuivre l'opération spatiale sans se conformer à une mise en demeure de l'autorité administrative de respecter une prescription.

IV. – Est puni d'une amende de 200 000 € le fait pour un opérateur ou une personne physique de faire obstacle aux contrôles effectués en application de l'article 7.

TITRE III

IMMATRICULATION DES OBJETS SPATIAUX LANCÉS

Article 12

Dans les cas où l'obligation d'immatriculer incombe à la France en vertu de l'article II de la convention du 14 janvier 1975 sur l'immatriculation des objets lancés dans l'espace extra-atmosphérique et, le cas échéant, d'autres accords internationaux, les objets spatiaux lancés sont inscrits sur un registre d'immatriculation tenu, pour le compte de l'Etat, par le Centre national d'études spatiales selon des modalités fixées par décret en Conseil d'Etat.

TITRE IV

RESPONSABILITÉS

CHAPITRE I^{er}

Responsabilité à l'égard des tiers

Article 13

L'opérateur est seul responsable des dommages causés aux tiers du fait des opérations spatiales qu'il conduit dans les conditions suivantes :

- 1° Il est responsable de plein droit pour les dommages causés au sol et dans l'espace aérien ;
- 2° En cas de dommages causés ailleurs qu'au sol ou dans l'espace aérien, sa responsabilité ne peut être recherchée que pour faute.

Cette responsabilité ne peut être atténuée ou écartée que par la preuve de la faute de la victime.

Sauf cas de faute intentionnelle, la responsabilité prévue aux 1° et 2° cesse quand toutes les obligations fixées par l'autorisation ou la licence sont remplies ou, au plus tard, un an après la date où ces obligations auraient dû être remplies. L'Etat se substitue à l'opérateur pour les dommages intervenus passé ce délai.

Article 14

Lorsqu'en vertu des stipulations du traité du 27 janvier 1967 sur les principes régissant les activités des Etats en matière d'exploration et d'utilisation de l'espace extra-atmosphérique, y compris la Lune et les autres corps célestes, ou de la convention du 29 mars 1972 sur la responsabilité internationale pour les dommages causés par des objets spatiaux, l'Etat a réparé un dommage, il peut exercer une action récursoire contre l'opérateur à l'origine de ce dommage ayant engagé la responsabilité internationale de la France, dans la mesure où il n'a pas déjà bénéficié des garanties financières ou d'assurance de l'opérateur à hauteur de l'indemnisation.

Si le dommage a été causé par un objet spatial utilisé dans le cadre d'une opération autorisée en application de la présente loi, l'action récursoire s'exerce :

- 1° Dans la limite du montant fixé dans les conditions mentionnées à l'article 16 en cas de dommage causé pendant la phase de lancement ;
- 2° Dans la limite du montant fixé dans les conditions mentionnées à l'article 17 en cas de dommage causé après la phase de lancement, y compris à l'occasion du retour sur Terre de l'objet spatial.

En cas de faute intentionnelle de l'opérateur, les limites prévues aux 1° et 2° ne s'appliquent pas.

L'Etat n'exerce pas d'action récursoire en cas de dommage causé par un objet spatial utilisé dans le cadre d'une opération autorisée en application de la présente loi et résultant d'actes visant les intérêts étatiques.

Article 15

Lorsqu'un opérateur a été condamné à indemniser un tiers à raison d'un dommage causé par un objet spatial utilisé dans le cadre d'une opération autorisée en application de la présente loi, et à la condition que l'opération en cause ait été conduite depuis le territoire de la France ou d'un autre Etat membre de l'Union européenne ou partie à l'accord sur l'Espace économique européen, ou à partir de moyens ou installations placés sous la juridiction de la France ou d'un autre Etat membre de l'Union européenne ou partie à l'accord sur l'Espace économique européen, cet opérateur bénéficie, sauf cas de faute intentionnelle, de la garantie de l'Etat selon les modalités prévues par la loi de finances :

- 1° Pour la part de l'indemnisation excédant le montant fixé dans les conditions mentionnées à l'article 16 en cas de dommage causé pendant la phase de lancement ;
- 2° Pour la part de l'indemnisation excédant le montant fixé dans les conditions mentionnées à l'article 17 en cas de dommage causé au sol ou dans l'espace aérien après la phase de lancement, y compris à l'occasion du retour sur terre de l'objet spatial.

En cas de dommage causé pendant la phase de lancement, la garantie de l'Etat bénéficie, le cas échéant et dans les conditions prévues aux alinéas précédents, aux personnes qui n'ont pas la qualité de tiers à une opération spatiale, au sens de la présente loi.

Article 16

Dans le cadre fixé par la loi de finances, l'autorisation délivrée en application de la présente loi fixe, compte tenu des risques encourus, eu égard notamment aux caractéristiques du site de lancement, le montant en deçà duquel et au-delà duquel sont, respectivement, en cas de dommages causés pendant la phase de lancement, exercée l'action récursoire et octroyée la garantie de l'Etat.

Article 17

Dans le cadre fixé par la loi de finances, l'autorisation délivrée en application de la présente loi fixe, compte tenu des risques encourus, le montant en deçà duquel et au-delà duquel sont, respectivement, en cas de dommages causés après la phase de lancement, exercée l'action récursoire et octroyée la garantie de l'Etat.

Article 18

Toute personne mise en cause devant une juridiction à raison d'un dommage au titre duquel elle serait susceptible de bénéficier de la garantie de l'Etat en informe l'autorité administrative compétente qui peut, au nom de l'Etat, exercer tous les droits de la défense dans le procès. A défaut d'une telle information, la personne mise en cause est réputée avoir renoncé au bénéfice de la garantie de l'Etat.

CHAPITRE II**Responsabilité à l'égard des personnes participant à l'opération spatiale****Article 19**

Lorsque, pour indemniser un tiers, l'assurance ou la garantie financière mentionnées à l'article 6 ainsi que, le cas échéant, la garantie de l'Etat ont été mises en jeu, la responsabilité de l'une des personnes ayant participé à l'opération spatiale ou à la production de l'objet spatial à l'origine du dommage ne peut être recherchée par une autre de ces personnes, sauf en cas de faute intentionnelle.

Article 20

En cas de dommage causé par une opération spatiale ou la production d'un objet spatial à une personne participant à cette opération ou à cette production, la responsabilité de toute autre personne participant à l'opération spatiale ou à la production de l'objet spatial à l'origine du dommage et liée à la précédente par un contrat ne peut être recherchée à raison de ce dommage, sauf stipulation expresse contraire portant sur les dommages causés pendant la phase de production d'un objet spatial destiné à être maîtrisé dans l'espace extra-atmosphérique ou pendant sa maîtrise en orbite, ou cas de faute intentionnelle.

TITRE V**DISPOSITIONS RELATIVES
AU CODE DE LA RECHERCHE****Article 21**

Le code de la recherche est ainsi modifié :

1° L'article L. 331-6 est ainsi rédigé :

« *Art. L. 331-6.* – I. – Le président du Centre national d'études spatiales exerce, au nom de l'Etat, la police spéciale de l'exploitation des installations du Centre spatial guyanais dans un périmètre délimité par l'autorité administrative compétente. A ce titre, il est chargé d'une mission générale de sauvegarde consistant à maîtriser les risques techniques liés à la préparation et à la réalisation des lancements à partir du Centre spatial guyanais afin d'assurer la protection des personnes, des biens, de la santé publique et de l'environnement, au sol et en vol, et il arrête à cette fin les règlements particuliers applicables dans les limites du périmètre mentionné ci-dessus.

« II. – Le président du Centre national d'études spatiales coordonne, sous l'autorité du représentant de l'Etat dans le département, la mise en œuvre, par les entreprises et autres organismes installés dans le périmètre défini au I, des mesures visant à assurer la sûreté des installations et des activités qui y sont menées, et s'assure du respect, par ces entreprises et organismes, des obligations qui leur incombent à ce titre.

« III. – Dans la mesure strictement nécessaire à l'accomplissement des missions prévues aux I et II, les agents que le président du Centre national d'études spatiales habilite ont accès aux terrains et locaux à usage exclusivement professionnel et occupés par les entreprises et organismes installés au Centre spatial guyanais dans le périmètre défini au I. » ;

2° Après l'article L. 331-6, sont insérés deux articles L. 331-7 et L. 331-8 ainsi rédigés :

« *Art. L. 331-7.* – Le président du Centre national d'études spatiales peut, par délégation de l'autorité administrative mentionnée à l'article 8 de la loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales et pour toute opération spatiale, prendre les mesures nécessaires prévues au même article pour garantir la sécurité des personnes et des biens ainsi que la protection de la santé publique et de l'environnement.

« *Art. L. 331-8.* – Un décret en Conseil d'Etat fixe les conditions d'application du présent chapitre, notamment les conditions dans lesquelles le président du Centre national d'études spatiales peut déléguer sa compétence mentionnée à l'article L. 331-6. »

TITRE VI

PROPRIÉTÉ INTELLECTUELLE

Article 22

I. – L'article L. 611-1 du code de la propriété intellectuelle est complété par un alinéa ainsi rédigé :

« Sauf stipulation contraire d'un engagement international auquel la France est partie, les dispositions du présent article s'appliquent aux inventions réalisées ou utilisées dans l'espace extra-atmosphérique y compris sur les corps célestes ou dans ou sur des objets spatiaux placés sous juridiction nationale en application de l'article VIII du traité du 27 janvier 1967 sur les principes régissant les activités des Etats en matière d'exploration et d'utilisation de l'espace extra-atmosphérique, y compris la Lune et les autres corps célestes. »

II. – L'article L. 613-5 du même code est complété par un *e* ainsi rédigé :

« *e*) Aux objets destinés à être lancés dans l'espace extra-atmosphérique introduits sur le territoire français. »

TITRE VII

DONNÉES D'ORIGINE SPATIALE

Article 23

Tout exploitant primaire de données d'origine spatiale exerçant en France une activité présentant certaines caractéristiques techniques définies par décret en Conseil d'Etat doit préalablement en faire la déclaration à l'autorité administrative compétente.

Ces caractéristiques techniques sont notamment fonction de la résolution, de la précision de localisation, de la bande de fréquence d'observation et de la qualité des données d'observation de la Terre faisant l'objet de la programmation d'un système satellitaire ou reçues.

Article 24

L'autorité administrative compétente s'assure que l'activité des exploitants primaires de données d'origine spatiale ne porte pas atteinte aux intérêts fondamentaux de la Nation, notamment à la défense nationale, à la politique extérieure et aux engagements internationaux de la France.

A ce titre, elle peut, à tout moment, prescrire les mesures de restriction à l'activité des exploitants primaires de données d'origine spatiale nécessaires à la sauvegarde de ces intérêts.

Article 25

Est puni d'une amende de 200 000 € le fait, par tout exploitant primaire de données d'origine spatiale, de se livrer à une activité présentant les caractéristiques techniques mentionnées à l'article 23 :

- 1° Sans avoir effectué la déclaration mentionnée à l'article 23 ;
- 2° Sans respecter les mesures de restriction prises sur le fondement de l'article 24.

TITRE VIII

DISPOSITIONS TRANSITOIRES ET FINALES

Article 26

La présente loi ne s'applique pas au lancement et au guidage, pour les besoins de la défense nationale, d'engins dont la trajectoire traverse l'espace extra-atmosphérique, notamment les missiles balistiques.

Ne sont pas soumises aux dispositions du titre VII les activités d'exploitant primaire de données d'origine spatiale exercées par le ministère de la défense.

Article 27

En tant qu'elles relèvent d'une mission publique confiée au Centre national d'études spatiales après approbation de l'autorité administrative en application du quatrième alinéa de l'article L. 331-2 du code de la recherche, ne sont pas soumises aux dispositions des titres II et IV les opérations de lancement, de retour sur terre, de maîtrise ou de transfert de maîtrise d'un objet spatial et aux dispositions du titre VII les activités satellitaires d'observation de la Terre et de réception des données d'observation de la Terre.

Article 28

L'article L. 331-2 du code de la recherche est complété par un *f*, un *g* et un *h* ainsi rédigés :

« *f*) D'assister l'Etat dans la définition de la réglementation technique relative aux opérations spatiales ;

« g) D'exercer, par délégation du ministre chargé de l'espace, le contrôle de la conformité des systèmes et des procédures mis en œuvre par les opérateurs spatiaux avec la réglementation technique mentionnée au f ;
« h) De tenir, pour le compte de l'Etat, le registre d'immatriculation des objets spatiaux. »

Article 29

Les articles 16 et 17 de la présente loi entrent en vigueur à compter de la publication de la loi de finances qui fixe le minimum et le maximum entre lesquels est compris le montant au-delà duquel est octroyée la garantie de l'Etat.

Article 30

La présente loi est applicable en Nouvelle-Calédonie, en Polynésie française, dans les îles Wallis et Futuna et dans les Terres australes et antarctiques françaises.

La présente loi sera exécutée comme loi de l'Etat.

Fait à Paris, le 3 juin 2008.

NICOLAS SARKOZY

Par le Président de la République :

Le Premier ministre,
FRANÇOIS FILLON

*La ministre de l'intérieur,
de l'outre-mer et des collectivités territoriales,*
MICHÈLE ALLIOT-MARIE

*Le ministre des affaires étrangères
et européennes,*
BERNARD KOUCHNER

*La ministre de l'enseignement supérieur
et de la recherche,*
VALÉRIE PÉCRESSE

Le ministre de la défense,
HERVÉ MORIN

(1) *Travaux préparatoires* : loi n° 2008-518.

Sénat :

Projet de loi n° 297 (2006-2007) ;
Rapport de M. Henri Revol, au nom de la commission des affaires économiques, n° 161 (2007-2008) ;
Discussion et adoption le 16 janvier 2008 (TA n° 50).

Assemblée nationale :

Projet de loi, adopté par le Sénat, n° 614 ;
Rapport de M. Pierre Lasbordes, au nom de la commission des affaires économiques, n° 775 ;
Discussion et adoption le 9 avril 2008 (TA n° 120).

Sénat :

Projet de loi n° 272 (2007-2008) ;
Rapport de M. Henri Revol, au nom de la commission des affaires économiques, n° 328 (2007-2008) ;
Discussion et adoption le 22 mai 2008 (TA n° 97).

Unofficial English translation available in 34 J. Space L. 435 (2008).

Постановление от 25 августа 2008 г. № 641 Об оснащении транспортных, технических средств и систем аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS

В целях обеспечения национальной безопасности, проведения независимой политики в области спутниковой навигации, повышения эффективности управления движением транспорта, уровня безопасности перевозок пассажиров, специальных и опасных грузов, а также совершенствования геодезических и кадастровых работ Правительство Российской Федерации постановляет:

1. Оснащению аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS подлежат следующие транспортные, технические средства и системы:

- а) космические средства (ракеты-носители, разгонные блоки, космические аппараты и корабли, спускаемые капсулы (аппараты));
- б) воздушные суда государственной, гражданской и экспериментальной авиации;
- в) морские суда и суда внутреннего речного и смешанного ("река - море") плавания;
- г) автомобильные и железнодорожные транспортные средства, используемые для перевозки пассажиров, специальных и опасных грузов;
- д) приборы и оборудование, используемые при проведении геодезических и кадастровых работ;
- е) средства, обеспечивающие синхронизацию времени.

2. Виды транспортных, технических средств и систем, указанных в подпунктах "г" - "е" пункта 1 настоящего постановления и подлежащих оснащению аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS, определяются федеральными органами исполнительной власти в установленной сфере деятельности.

3. Оснащению аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS подлежат технические средства и системы, образцы вооружения, военная и специальная техника, предназначенные для Вооруженных Сил Российской Федерации, других войск, воинских формирований и органов, в которых предусмотрена военная и приравненная к ней служба, а также транспортные средства, поставляемые и используемые для обеспечения органов, в которых предусмотрена военная и приравненная к ней служба.

Перечень технических средств и систем, образцов вооружения, военной и специальной техники, а также транспортных средств, подлежащих оснащению аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS, определяется руководителем соответствующего федерального органа исполнительной власти.

4. Федеральным органам исполнительной власти, в которых предусмотрена военная и приравненная к ней служба, утвердить в 2008 году порядок и этапность оснащения аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS транспортных, технических средств и систем, указанных в пунктах 1 и 3 настоящего постановления.

5. Федеральным органам исполнительной власти обеспечить с 2010 года проведение работ по поэтапному оснащению аппаратурой спутниковой навигации ГЛОНАСС или

ГЛОНАСС/GPS находящихся в эксплуатации (вводимых в эксплуатацию) транспортных, технических средств и систем, указанных в пункте 1 настоящего постановления.

6. Финансовое обеспечение расходных обязательств, связанных с реализацией настоящего постановления в отношении транспортных, технических средств и систем, закрепленных на праве оперативного управления за федеральными органами исполнительной власти или подведомственными им бюджетными учреждениями и федеральными казенными предприятиями, осуществляется в пределах бюджетных ассигнований, предусматриваемых в установленном порядке на их текущее содержание, за исключением расходов, связанных с оснащением технических, транспортных средств и систем, образцов вооружения, военной и специальной техники, состоящих на вооружении (снабжении, в эксплуатации) в Вооруженных Силах Российской Федерации, других войсках, воинских формированиях и органах, в которых предусмотрена военная и приравненная к ней служба.

7. Финансовое обеспечение расходных обязательств, связанных с реализацией настоящего постановления в отношении транспортных, технических средств и систем, образцов вооружения, военной и специальной техники, состоящих на вооружении (снабжении, в эксплуатации) в Вооруженных Силах Российской Федерации, других войсках, воинских формированиях и органах, в которых предусмотрена военная и приравненная к ней служба, осуществляется в пределах бюджетных ассигнований, предусматриваемых в установленном порядке на реализацию мероприятий государственной программы вооружения.

8. Рекомендовать органам исполнительной власти субъектов Российской Федерации, органам местного самоуправления муниципальных образований и подведомственным им организациям принять меры по оснащению аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS транспортных, технических средств и систем, указанных в подпунктах "б" - "е" пункта 1 настоящего постановления, закрепленных в установленном порядке за этими органами и организациями.

9. Установить, что руководители федеральных органов исполнительной власти несут персональную ответственность за организацию работ по оснащению аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS транспортных, технических средств и систем, указанных в пунктах 1 и 3 настоящего постановления.

10. Признать утратившими силу постановления Правительства Российской Федерации: от 3 августа 1999 г. № 896 "Об использовании в Российской Федерации глобальных навигационных спутниковых систем на транспорте и в геодезии" (Собрание законодательства Российской Федерации, 1999, № 33, ст. 4118); от 9 июня 2005 г. № 365 "Об оснащении космических, транспортных средств, а также средств, предназначенных для выполнения геодезических и кадастровых работ, аппаратурой спутниковой навигации ГЛОНАСС или ГЛОНАСС/GPS" (Собрание законодательства Российской Федерации, 2005, № 25, ст. 2502).

Председатель Правительства
Российской Федерации В.Путин

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Приказ Федерального космического агентства от 24 сентября 2008 г. N 131

“О порядке хранения и предоставления гражданским потребителям параметров навигационных радиосигналов системы ГЛОНАСС и параметров интерфейса между подсистемой космических аппаратов и навигационной аппаратурой потребителей”

В целях упорядочения хранения и предоставления гражданским потребителям официальной информации по параметрам навигационных радиосигналов системы ГЛОНАСС и параметрам интерфейса между подсистемой космических аппаратов и навигационной аппаратурой потребителей приказываю:

1. Возложить на генерального конструктора глобальной навигационной системы ГЛОНАСС, генерального директора - генерального конструктора ФГУП «РНИИ КП» Ю.М. Урличича обязанности по хранению и официальному распространению в интересах отечественных и зарубежных потребителей контрольной версии интерфейсного контрольного документа по навигационным радиосигналам в диапазонах L1, L2 с открытым доступом и частотным разделением (редакция 5.1) на русском и английском языках (далее - ИКД в редакции 5.1).
2. Генеральному директору - генеральному конструктору ФГУП «РНИИ КП» Ю.М. Урличичу организовать в установленном порядке хранение контрольной версии ИКД в редакции 5.1 и ее размещение в электронном виде на русском и английском языках (контрольная электронная версия) на Web-сайте ФГУП «РНИИ КП» в международной информационной сети «Интернет» по адресу: www.mii.kp.ru, а также их информационную поддержку.
3. Руководителям организаций ракетно-космической промышленности при упоминании на собственных Web-сайтах в международной информационной сети «Интернет» и в других документах информации об ИКД в редакции 5.1 в обязательном порядке ссылаться на адрес размещения в международной информационной сети «Интернет» его контрольной электронной версии.
4. Контроль за исполнением настоящего приказа возложить на заместителя руководителя Федерального космического агентства Ю.И. Носенко.

Руководитель А.Н. Перминов

Зарегистрировано в Минюсте РФ 29 октября 2008 г.

Регистрационный N 12541

Приказ Федерального космического агентства от 24 сентября 2008 г. N 131 “О порядке хранения и предоставления гражданским потребителям параметров навигационных радиосигналов системы ГЛОНАСС и параметров интерфейса между подсистемой космических аппаратов и навигационной аппаратурой потребителей”

Зарегистрировано в Минюсте РФ 29 октября 2008 г.

Регистрационный N 12541

Текст приказа официально опубликован не был

Дата: 01.10.2008 16:30

Распоряжение от 1 октября 2008 г. № 1435-р

1. Создать федеральное государственное бюджетное учреждение "Научно-исследовательский испытательный центр подготовки космонавтов имени Ю.А.Гагарина" (далее - учреждение).

Отнести создаваемое учреждение к ведению Роскосмоса.

2. Определить следующие цели деятельности учреждения:

- а) организация отбора и подготовки космонавтов (астронавтов), их медицинское освидетельствование, медицинское обеспечение и реабилитация после выполнения космических полетов;
- б) создание, размещение и модернизация наземных технических средств, применяемых для подготовки космонавтов (астронавтов);
- в) проведение научно-исследовательских и опытно-конструкторских работ по тематике пилотируемой космонавтики;
- г) обеспечение выполнения мобилизационно-оборонных задач и специальной летной подготовки космонавтов с использованием авиационной техники учреждения;
- д) оказание услуг по направлениям, соответствующим профилю деятельности учреждения, при реализации коммерческих проектов.

3. Установить предельную штатную численность работников учреждения в количестве 2189 человек и ассигнования на содержание учреждения в размере 928760 тыс. рублей.

Создание учреждения осуществить в пределах бюджетных ассигнований, предусмотренных в Федеральном законе "О федеральном бюджете на 2008 год и на плановый период 2009 и 2010 годов" Минобороны России на обеспечение деятельности Российского государственного научно-исследовательского испытательного центра подготовки космонавтов имени Ю.А.Гагарина в размере 295657 тыс. рублей и передаваемых им Роскосмосу, а также предусмотренных Роскосмосу на реализацию мероприятий по государственной поддержке космической деятельности в размере 633103 тыс. рублей.

4. Ликвидировать Российский государственный научно-исследовательский испытательный центр подготовки космонавтов имени Ю.А.Гагарина.

5. Минобороны России и Роскосмосу утвердить в 2-недельный срок состав ликвидационной комиссии и завершить в 9-месячный срок ликвидацию Российского государственного научно-исследовательского испытательного центра подготовки космонавтов имени Ю.А.Гагарина.

6. Роскосмосу и Росимуществу в 9-месячный срок обеспечить осуществление мероприятий, связанных с созданием учреждения.

7. Росимуществу определить совместно с Роскосмосом и Минобороны России перечень находящегося в федеральной собственности имущества, включая земельные участки и воздушные суда государственной авиации, ранее закрепленного за Российским государственным научно-исследовательским испытательным центром подготовки космонавтов имени Ю.А.Гагарина, необходимого для обеспечения деятельности учреждения, и закрепить это имущество за учреждением в установленном порядке.

8. Минобороны России до создания на территории закрытого военного городка № 1 (г. Щелково-14, пос. Звездный, Московская область) закрытого административно-территориального образования обеспечить сохранение режима охраны, применяемого к

закрытым военным городкам, а также содержание и эксплуатацию жилищно-коммунальной и социальной инфраструктуры указанного городка.

Председатель Правительства
Российской Федерации В.Путин



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No. 31729

THE PRESIDENCY

No. 1385

15 December 2008

It is hereby notified that the President has assented to the following Act, which is hereby published for general information:—

No. 36 of 2008: South African National Space Agency Act, 2008.



AIDS HELPLINE: 0800-123-22 Prevention is the cure

(English text signed by the President.)
(Assented to 11 December 2008.)

ACT

To provide for the promotion and use of space and co-operation in space-related activities, foster research in space science, advance scientific engineering through human capital, support the creation of an environment conducive to industrial development in space technologies within the framework of national government policy, and for that purpose to establish the South African National Space Agency; to provide for the objects and functions of the South African National Space Agency and for the manner in which it must be managed and governed; and to provide for matters connected therewith.

BE IT ENACTED by the Parliament of the Republic of South Africa, as follows:—

ARRANGEMENT OF SECTIONS

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Definitions 25

1. In this Act, unless the context indicates otherwise—
 “**Agency**” means the South African National Space Agency established by section 2;
 “**Board**” means the Board of the Agency contemplated in section 6;

- “Chief Executive Officer”** means the person appointed as such in terms of section 14;
- “Department”** means the Department of Science and Technology;
- “GEPF”** means the Government Employees Pension Fund;
- “GEPL”** means the Government Employees Pension Law, 1996 (Proclamation No. 21 of 1996); 5
- “Minister”** means the Minister responsible for science and technology;
- “national space science and technology strategy”** means any strategy determined in terms of section 3;
- “satellite imagery”** means photographs of the earth or other planets in visible colours and other spectra by means of artificial satellites; 10
- “space”** means the area beyond the earth’s measurable atmosphere;
- “Space Affairs Act”** means the Space Affairs Act, 1993 (Act No. 84 of 1993);
- “space mission applications”** means the usage and dissemination of data retrieved from spacecraft sensors; 15
- “space mission operations”** means the day-to-day management of spacecraft;
- “space science”** means any of several scientific disciplines that study phenomena occurring in the upper atmosphere, in space or on celestial bodies other than Earth;
- “this Act”** includes any regulation made in terms of section 19.

Establishment of South African National Space Agency 20

2. (1) The South African National Space Agency is hereby established as a juristic person.

(2) The Public Finance Management Act, 1999 (Act No. 1 of 1999), applies to the Agency.

National Space Science and Technology Strategy 25

3. The Minister must determine national space science and technology strategies in order to give effect to national space policy contemplated in the Space Affairs Act.

Objects of Agency

4. The objects of the Agency are to—
- (a) promote the peaceful use of space; 30
 - (b) support the creation of an environment conducive to industrial development in space technology;
 - (c) foster research in space science, communications, navigation and space physics;
 - (d) advance scientific, engineering and technological competencies and capabilities through human capital development outreach programmes and infrastructure development; and 35
 - (e) foster international co-operation in space-related activities.

Functions of Agency

5. (1) The Agency must— 40
- (a) implement any space programme in line with the policy determined in terms of the Space Affairs Act;
 - (b) advise the Minister on the development of national space science and technology strategies and programmes;
 - (c) implement any national space science and technology strategy; and 45
 - (d) acquire, assimilate and disseminate space satellite imagery for any organ of state.
- (2) The Agency may, in order to perform any duty contemplated in subsection (1) and in order to achieve its objects—
- (a) enter into an agreement with any person, government or administration on the terms and conditions agreed upon by the Agency and that person, government or administration; 50
 - (b) purchase or otherwise acquire, or dispose of, any property and may hire out, let, pledge or otherwise encumber that property;

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- (c) for the purposes of developing or exploiting any invention or technological space expertise—
 - (i) establish a company contemplated in the Companies Act, 1973 (Act No. 61 of 1973), or in collaboration with any other person establish such a company; and 5
 - (ii) acquire an interest in any company or other juristic person undertaking the development or exploitation of an invention or technological space innovation;
- (d) establish any programme in line with national space policy in respect of—
 - (i) enabling technologies that will provide leadership in coordinating and supporting applied research; 10
 - (ii) coordination and support to the development of space science missions;
 - (iii) space mission applications; and
 - (iv) space mission operations;
- (e) support programmes or projects relating to scientific space research; 15
- (f) co-operate with space and space-related agencies of other countries in the peaceful use and development of space; and
- (g) do anything necessary for the proper performance of its functions or to achieve its objects.

Board of Agency 20

- 6. (1) The Agency acts through its Board.
- (2) The Board consists of—
 - (a) a chairperson appointed by the Minister;
 - (b) not less than 10 and not more than 15 members; and
 - (c) the Chief Executive Officer, as an *ex officio* member. 25

Appointment of Board members

- 7. (1) The Minister appoints members of the Board after—
 - (a) publishing a notice in the Gazette and two national newspapers circulating in the Republic calling upon members of the public to nominate persons contemplated in section 6(2)(a) and (b); 30
 - (b) appointing a panel of experts to compile a short-list of not more than thirty (30) persons from the nominees referred to in paragraph (a);
 - (c) the chairperson of the panel has submitted a short-list of candidates together with their curriculum vitae to the Minister who must submit it to the National Assembly for approval; and 35
 - (d) the National Assembly has submitted to the Minister an approved short-list from which to select.
- (2) The panel must act in a transparent and fair manner and ensure that the candidates are competent and broadly representative of the South African population, according to race, gender and disability. 40
- (3) If the shortlist compiled in terms of subsection (2) does not contain suitable persons or the required number of suitable persons, the Minister may call for further nominations in the manner set out in subsection (1).
- (4) The Board must—
 - (a) consist of persons who are citizens of the Republic or have the right of permanent residence in the Republic and have distinguished themselves in the field of the space science and technology sector or possess the relevant qualifications, experience or skills in relation to some aspect of the functions of the Agency; 45
 - (b) be broadly representative of the various sectors in the field of space science and technology; and 50
 - (c) have at least one member who has a legal qualification and one member with financial expertise.

Disqualification, removal from office, term of office and filling of vacancies

8. (1) A person may not be appointed as a member contemplated in section 6(2)(a) or (b) if he or she—

- (a) is an unrehabilitated insolvent;
- (b) has been declared by a court to be mentally ill; 5
- (c) has been convicted of an offence in the Republic or elsewhere and was sentenced to imprisonment without the option of a fine, other than an offence committed prior to 27 April 1994 associated with a political objective for which amnesty was granted by the Truth and Reconciliation Commission;
- (d) is a member of the National Assembly, a provincial legislature or any municipal council, or is a delegate to the National Council of Provinces; 10
- (e) is not a citizen of, or does not have the right of permanent residence in, the Republic; or
- (f) has, as a result of improper conduct, been removed from a position of trust by a competent court of law. 15

(2) The Minister may remove a member contemplated in section 6(2)(a) or (b) from office—

- (a) on the grounds of misconduct, incapacity or incompetence;
- (b) if the member is absent from three consecutive meetings of the Board without leave from the Board; 20
- (c) if the member becomes disqualified as is contemplated in subsection (1);
- (d) for any other sound and compelling reason.

(3) A decision to remove a member of the Board from office in terms of subsection (2) must be based on the recommendation of an independent panel appointed by the Minister. 25

(4) The Minister may dissolve the Board on reasonable grounds.

(5) A member contemplated in section 6(2)(a) or (b) holds office for a period not exceeding four years, subject to subsections (1) and (2).

(6) No member may serve more than two consecutive terms.

(7) If a member of the Board dies, resigns by written notice to the Minister or is removed from office, the Minister may, having followed the procedure contemplated in section 7, appoint a person in that vacancy for the remaining part of the term of office. 30

Functions of Board

9. (1) The Board must perform any function imposed upon it in accordance with a policy direction issued by the Minister and in terms of this Act. 35

(2) The Board must—

- (a) oversee the functions of the Agency;
- (b) monitor the research priorities and programmes of the Agency;
- (c) give effect to the strategy of the Agency, in the performance of its functions; and 40
- (d) notify the Minister immediately of any matter that may prevent or materially affect the achievement of the objects of the Agency.

(3) The Board may, after consultation with the Minister, establish or disestablish organisational divisions of the Agency.

Remuneration of Board members 45

10. A member of the Board or a member of any committee of the Board who is not in the full-time employment of the State must be paid such remuneration and allowances out of the funds of the Agency as may be determined by the Minister, in consultation with the Minister of Finance.

Meetings of Board 50

11. (1) The Board must meet at least four times a year at such times and places as the Board may determine.

(2) The Board may determine the procedure for its meetings.

(3) The chairperson—

- (a) may convene a special meeting of the Board; and 55

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- (b) must convene such a meeting within 14 days of receipt of a written request signed by at least two third of the members of the Board to convene such a meeting.
- (4) The chairperson or, in the chairperson's absence, a member of the Board elected by the members present, must preside at a meeting of the Board. 5
- (5) The quorum for a meeting of the Board is the majority of the Board members eligible to vote.
- (6) A decision of the Board must be taken by resolution of the majority of the members present at any meeting of the Board, and in the event of an equality of votes on any matter, the person presiding at the meeting has a casting vote in addition to her or his deliberative vote. 10

Disclosure of interest

12. (1) A member of the Board must upon appointment disclose to the Minister by way of a written statement any interest which could reasonably compromise the Board in the performance of its functions. 15
- (2) A member of the Board may not vote or in any manner be present during or participate in the proceedings at any meeting of the Board if, in relation to any matter before the Board, she or he may have an interest which precludes her or him from performing her or his functions as a member of the Board in a fair, unbiased and proper manner. 20

Committees of Board

13. (1) The Board may establish one or more committees to perform such functions as the Board may determine.
- (2) The Board may appoint as members of such committee any— 25
- (a) member of the Board;
 - (b) employee of the Agency; or
 - (c) other person with suitable skills or experience who must be paid such allowances as the Minister may determine.
- (3) A member of the Board may not serve on more than two committees at a time.
- (4) The Board may at any time dissolve or reconstitute a committee. 30
- (5) The Board is not absolved from the performance of any function entrusted to any committee in terms of this section.

Chief Executive Officer of Agency

14. (1) The Board must, with the approval of the Minister, appoint a suitably skilled and qualified person as the Chief Executive Officer. 35
- (2) The appointment of the Chief Executive Officer must be made after following a transparent and competitive selection process.
- (3) The Chief Executive Officer is appointed for a term not exceeding five years and is subject to such conditions relating to remuneration and allowances as the Board may determine. 40
- (4) The Chief Executive Officer must enter into a performance agreement with the Board within three months of taking up the post as Chief Executive Officer.
- (5) The Chief Executive Officer is responsible for the administration and the general management and control of the day-to-day functioning of the Agency, subject to the directions and instructions issued by the Board. 45
- (6) The Chief Executive Officer is responsible and accountable to the Board for—
- (a) all money received by the Agency and the utilisation of that money; and
 - (b) the property of the Agency.
- (7) The Chief Executive Officer must report to the Board on matters that may adversely affect the functioning of the Agency. 50
- (8) If the Chief Executive Officer is absent for a period of more than two months or is unable to carry out her or his duties, or if there is a vacancy in the office of the Chief Executive Officer, the Board may, with the concurrence of the Minister, appoint any person who meets the requirements determined in subsection (1) to act as Chief Executive Officer, until the Chief Executive Officer is able to resume those functions or 55
- until the vacant position of Chief Executive Officer is filled.

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(9) If the Chief Executive Officer is absent for a period of less than two months the Board may, without the concurrence of the Minister, appoint any person to act as Chief Executive Officer.

(10) The acting Chief Executive Officer has all the powers and may perform all the duties of the Chief Executive Officer. 5

(11) The Chief Executive Officer may not serve for more than two consecutive terms.

Employees of Agency

15. (1) Subject to subsection (2), the Chief Executive Officer—

(a) must, on such conditions as she or he may determine, appoint such number of employees or receive on secondment such number of persons as are necessary 10 to enable the Agency to perform its functions;

(b) is responsible for the administrative control of the organisation and for the discipline of the employees and persons contemplated in paragraph (a); and

(c) must ensure compliance with applicable labour legislation.

(2) The Board must approve— 15

(a) the general terms and conditions of employment of the employees contemplated in subsection (1);

(b) a human resource policy; and

(c) structures for remuneration, allowances, subsidies and other benefits for employees contemplated in subsection (1) in accordance with a system 20 approved by the Minister with the concurrence of the Minister of Finance.

(3) The terms and conditions of employment contemplated in subsection (2)(c) must be broadly in line with the guidelines issued from time to time by the Minister responsible for the public service and administration.

Pensions

16. (1) The Agency may, under the Pensions Fund Act, 1956 (Act No. 24 of 1956), establish a pension fund for its employees.

(2) Any employee of the Agency who was, prior to the commencement of this Act, a member of the GEPPF, may—

(a) remain a member of the GEPPF; 30

(b) terminate her or his membership of the GEPPF and join the pension fund established in terms of subsection (1); or

(c) elect dormant membership of the GEPPF in accordance with section 27 of the GEPL.

Funds of Agency

17. (1) The funds of the Agency consist of—

(a) money appropriated by Parliament;

(b) fees, royalties or other revenue obtained in terms of this Act;

(c) donations or contributions received by the Agency; and

(d) revenue accruing to the Agency from any other source. 40

(2) The Agency must utilise its funds to defray the expenses incurred by the Agency in the performance of its functions.

(3) Money received by way of donation or contribution must be utilised in accordance with any conditions imposed by the donor or contributor concerned.

(4) The Agency may, subject to the approval of the Minister and in terms of the Public Finance Management Act, 1999 (Act No. 1 of 1999), invest any of its funds not immediately required. 45

Delegation

18. (1) The Chief Executive Officer may, subject to such conditions as she or he may determine, delegate to an employee of the Agency any function entrusted to the Chief Executive Officer under this Act. 50

(2) A delegation in terms of subsection (1) does not prohibit the performance of the function in question by the Chief Executive Officer.

(3) The delegation must be in writing.

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Regulations

19. The Minister may, after consultation with the Board, make regulations regarding—

- (a) the method of reporting to the Minister on Board meetings and the frequency of those reports; 5
- (b) interim measures for the continued management and functioning of the Agency in the event that the Minister dissolves the Board in terms of section 8(4); and
- (c) any ancillary or incidental administrative or procedural matter that it is necessary to prescribe for the proper implementation or administration of this Act. 10

Short title and commencement

20. This Act is called the South African National Space Agency Act, 2008, and comes into operation on a date to be fixed by the President by proclamation in the *Gazette*.

Про затвердження Загальнодержавної цільової науково-технічної космічної програми України на 2008 - 2012 роки

Верховна Рада України
Закони
за №608 від 09/30/2008

Про затвердження Загальнодержавної цільової науково-технічної космічної програми України на 2008 - 2012 роки

Верховна Рада України постановляє:

1. Затвердити Загальнодержавну цільову науково-технічну космічну програму України на 2008 - 2012 роки (додається).
2. Кабінету Міністрів України під час підготовки проекту закону про Державний бюджет України на відповідний рік передбачати виділення коштів для здійснення заходів, визначених Загальнодержавною цільовою науково-технічною космічною програмою України на 2008 - 2012 роки, виходячи з фінансових можливостей Державного бюджету України.
3. Цей Закон набирає чинності з дня його опублікування.

Президент України
В. ЮЩЕНКО
м. Київ
30 вересня 2008 року
N 608-VI

ЗАТВЕРДЖЕНО
Законом України
від 30 вересня 2008 року N 608-VI

ЗАГАЛЬНОДЕРЖАВНА ЦІЛЬОВА
науково-технічна космічна програма України на 2008 - 2012 роки

ЗАГАЛЬНА ЧАСТИНА

Сучасна космічна діяльність високорозвинутих держав спрямована

на економічний та науково-технічний розвиток, розв'язання глобальних проблем людства, у тому числі проблем безпеки, і характеризується новими завданнями, зокрема щодо використання космічної техніки для забезпечення сталого розвитку. Такі тенденції сприяють активному пошуку Україною свого місця на космічному ринку, формуванню нової космічної політики, спрямованої на задоволення нагальних загальнодержавних потреб.

Україна належить до космічних держав не тільки за характеристиками космічного потенціалу, а й за рівнем спроможності практично реалізовувати сучасні космічні проекти, зокрема унікальний міжнародний проект "Морський старт". Після відмови від ядерних озброєнь сучасні космічні технології є одним з небагатьох факторів, які визначають стратегічне місце держави та наявність засобів стримування. Доступ у космічний простір об'єктивно збільшує вагомість України у відносинах із стратегічними партнерами, процесах інтеграції в європейські структури. Провадження космічної діяльності є також інструментом реалізації активної регіональної політики, зокрема в налагодженні взаємовигідної співпраці з країнами Балтійсько-чорноморського регіону.

Специфіка сучасного стану космічної діяльності України полягає у значній невідповідності досягнутого рівня космічних технологій ефективності їх використання. У зв'язку з цим актуальним є розроблення якісно нової моделі провадження космічної діяльності відповідно до сучасних умов та національних інтересів, яка дасть змогу втілити в життя взаємозв'язані інноваційні рішення, узгодити питання, що виникли у зв'язку з багатофункціональністю космічної діяльності.

Загальнодержавна цільова науково-технічна космічна програма України на 2008 - 2012 роки (далі - Програма) є четвертою космічною програмою незалежної України і третьою, затвердженою законом. Державним замовником Програми визначено Національне космічне агентство України. Виконання Державної космічної програми України на 1994 - 1997 роки, Загальнодержавної (Національної) космічної програми України на 1998 - 2002 роки та Загальнодержавної (Національної) космічної програми України на 2003 - 2007 роки сприяло розв'язанню невідкладних проблем розвитку космічної діяльності: збереженню наукового й виробничого потенціалу космічної галузі в інтересах національної економіки та безпеки, формуванню внутрішнього ринку космічних послуг, виходу на міжнародний космічний ринок із власною продукцією та послугами (у тому числі космічними ракетними комплексами та космічними апаратами), інтеграції України до міжнародної космічної спільноти. На сьогодні основні завдання

зазначених програм виконані.

МЕТА ПРОГРАМИ

Метою Програми є забезпечення розвитку та ефективного використання космічного потенціалу України для розв'язання нагальних проблем у сфері безпеки держави, впровадження високих технологій, а також підвищення рівня науки і освіти.

ШЛЯХИ І СПОСОБИ РОЗВ'ЯЗАННЯ ПРОБЛЕМИ

Стратегія розвитку світової космонавтики та рівень космічного потенціалу України зумовили необхідність розроблення нової моделі провадження космічної діяльності України відповідно до сучасних вимог та з метою захисту національних інтересів. Використання такої моделі передбачає підпорядкування завдань космічних проектів цілям економічного, наукового та соціального розвитку держави. Космічна індустрія повинна функціонувати за законами національної економіки, при цьому критерієм її дієвості є соціально-економічні та науково-технічні результати.

Для застосування нової моделі провадження космічної діяльності необхідно прийняти комплекс взаємозв'язаних інноваційних рішень, а також поглибити міжнародне співробітництво.

Заходи щодо забезпечення розвитку космічної діяльності здійснюватимуться шляхом:

реалізації цільових проектів, забезпечення безперервного надходження та ефективного використання інформації з космічних пристроїв шляхом створення постійно діючого угруповання космічних апаратів для спостереження Землі. Це дасть змогу забезпечити виконання конкретних завдань космічного моніторингу в інтересах національної економіки, безпеки та наукових досліджень, розширити участь України у міжнародних проектах;

модернізації існуючих та розроблення перспективних ракет-носіїв, їх систем, а також космічних апаратів, розширення участі суб'єктів космічної діяльності України в комерційних космічних проектах;

участі у виконанні перспективних наукових програм, реалізації найбільш актуальних і престижних міжнародних дослідницьких проектів та ініціатив;

забезпечення випереджальних прикладних розробок систем ракетно-космічної техніки, приладів, наземних програмно-апаратних

комплексів, інформаційних технологій, матеріалів для забезпечення поступального розвитку вітчизняної космічної діяльності, створення підґрунтя для реалізації перспективних космічних проектів.

Необхідність у фінансуванні Програми з державного бюджету обумовлена тим, що:

космічні технології та інформація є важливою складовою частиною засобів виконання загальнодержавних завдань для забезпечення сталого розвитку, безпеки держави та зростання її науково-технічного потенціалу;

рівень розвитку ракетно-космічної техніки визначає стратегію держави, її спроможність створювати необхідні засоби стримування, а також забезпечувати незалежний доступ у космічний простір;

розвиток аерокосмічних технологій є найбільш ефективним засобом стимулювання розвитку високотехнологічних галузей національної економіки, одним з визначальних факторів її конкурентоспроможності;

провадження космічної діяльності є вагомим фактором інтенсифікації міжнародної співпраці, інструментом інтеграції України в євроатлантичні структури, засобом набуття Україною статусу регіонального лідера.

ЗАВДАННЯ І ЗАХОДИ

Основними завданнями Програми є:

проведення наукових космічних досліджень;

здійснення дистанційного зондування Землі;

розвиток супутникових систем телекомунікації та навігації;

проведення космічної діяльності в інтересах національної безпеки і оборони;

створення космічних комплексів;

розроблення перспективної космічної техніки і технологій;

забезпечення розвитку наземної інфраструктури;

забезпечення розвитку міжнародного співробітництва та аналітична підтримка.

Перелік заходів і завдань з визначенням головних розпорядників бюджетних коштів, строків виконання, обсягів та джерел фінансування наведено в додатку 1. Етапи виконання науково-дослідних та дослідно-конструкторських робіт визначаються згідно з національними стандартами.

Пріоритетами заходів щодо виконання завдання "Проведення наукових космічних досліджень" є забезпечення розвитку досліджень, результати яких відповідають сучасному світовому рівню, передбачають міжнародне співробітництво, сприяють розробленню унікальних приладів і методик та об'єднують науковий і ракетно-космічний потенціали України. Насамперед передбачається провести дослідження з фундаментальних та прикладних проблем, пов'язаних з походженням та еволюцією Сонячної системи, Землі, вивчення сонячно-земних зв'язків, а також їх впливу на біосферу, навколишнє природне середовище та техногенну ситуацію в атмосфері й на поверхні Землі.

Заходами щодо виконання завдання "Здійснення дистанційного зондування Землі" передбачено створення та використання національних технічних засобів дистанційного зондування Землі для:

участі в розв'язанні загальнодержавних проблем з моніторингу ресурсів, раціонального природокористування, прогнозування техногенних і природних катаклізмів шляхом забезпечення аерокосмічною інформацією суб'єктів державної системи моніторингу навколишнього природного середовища, створення нових апаратно-програмних засобів та інформаційних технологій, модернізації наземної інфраструктури;

забезпечення розвитку міжнародного співробітництва у сфері дистанційного зондування Землі для розв'язання глобальних і регіональних проблем шляхом обміну супутниковою інформацією та участі в реалізації міжнародних проектів.

Заходами щодо виконання завдання "Розвиток супутникових систем телекомунікації та навігації" передбачено підвищення ефективності застосування космічних засобів для задоволення державних та суспільних потреб. Заплановано створення супутника зв'язку, продовження створення супутникової системи телекомунікації, доповнення глобальних навігаційних супутникових систем національною системою навігаційно-часового забезпечення.

Пріоритетами заходів щодо виконання завдання "Проведення космічної діяльності в інтересах національної безпеки і оборони" є ефективне використання в інтересах безпеки держави науково-технічного потенціалу та можливостей, які надає космічна діяльність. Враховуючи те, що однією з основних сучасних тенденцій розвитку військової справи є інформатизація і комп'ютеризація, широке використання космічних систем розвідки, навігації та зв'язку, високий ступінь просторово-часової координації дій військових формувань, передбачається проведення;

воєнно-теоретичних наукових досліджень з питань використання космічних систем в інтересах національної безпеки і оборони, розроблення нормативно-технічного забезпечення застосування космічних систем та засобів військового й подвійного призначення;

дослідно-конструкторських робіт із створення космічних систем та засобів подвійного призначення.

У результаті виконання завдання "Створення космічних комплексів" передбачається забезпечити подальше вдосконалення засобів виведення космічних апаратів з метою розширення присутності на світовому ринку транспортно-космічних послуг, розвитку міжнародної співпраці та кооперації.

Заходами щодо виконання завдання "Розроблення перспективної космічної техніки та технологій" передбачається проведення науково-технічних та технологічних досліджень і розробок, спрямованих на створення та впровадження перспективних елементів, матеріалів і технологій космічної техніки.

Заходами щодо виконання завдання "Забезпечення розвитку наземної інфраструктури" передбачено модернізацію технічних засобів наземного сегмента космічної системи, у тому числі наземного інформаційного комплексу, наземних командно-вимірjuвальних та приймально-реєструвальних радіоліній, системи контролю та аналізу космічної обстановки, а також створення полігону для забезпечення калібрування засобів дистанційного зондування Землі з метою приведення їх технічних характеристик до рівня найсучасніших світових аналогів.

Необхідність здійснення заходів щодо виконання завдання "Забезпечення розвитку міжнародного співробітництва та аналітична підтримка" визначається тим, що міжнародне співробітництво, правовий, науково-методичний та науково-технічний супровід заходів Програми є одним з найважливіших напрямів космічної діяльності України. Передбачається, зокрема,

реалізація комерційних проектів щодо виготовлення та модернізації ракет-носіїв і космічних ракетних комплексів, забезпечення виконання програм міжнародного співробітництва та міжнародних зобов'язань у космічній сфері.

ОЧІКУВАНІ РЕЗУЛЬТАТИ, ЕФЕКТИВНІСТЬ ВИКОНАННЯ ПРОГРАМИ

Виконання заходів Програми дасть змогу:

створити постійно діюче угруповання вітчизняних космічних апаратів для спостереження Землі в оптичному діапазоні "Січ", забезпечити його експлуатацію та використання;

створити національну систему геоінформаційного забезпечення як частину європейської системи GMES та світової GEOSS;

удосконалити систему координатно-часового та навігаційного забезпечення України за участю Російської Федерації та ЄС;

створити умови для організації комерційного використання українських ракет-носіїв під час реалізації проектів відповідно до заходів "Циклон-4", "Наземний старт" і "Дніпро";

створити супутникові телекомунікаційні мережі зв'язку та мовлення загального користування і спеціальні телекомунікаційні мережі з використанням національного супутника зв'язку;

забезпечити виробництво ракет-носіїв ("Зеніт", "Циклон", "Дніпро"), розробити перспективні – космічні ракетні комплекси та космічні апарати нового покоління;

провести космічні дослідження у сфері сонячно-земних зв'язків, астрофізики, космічної біології та матеріалознавства, зокрема в рамках реалізації міжнародних проектів "Спектр-Р", "Міжнародна космічна станція", GLOBAL EXPLORATION STRATEGY (GES), AURORA відповідно до заходів "Іоносат", "Іоносфера", "Інтерферометр", "Коронас-Фотон", "Спектр-УФ", "Селена", "Сегмент" і "Мікрогравітація";

модернізувати технічні засоби Національного центру управління та випробувань космічних засобів у місті Євпаторії для використання їх у міжнародних космічних програмах;

реалізувати освітні космічні проекти, зокрема проект створення супутників за участю молодіжних колективів;

забезпечити державні органи, що здійснюють повноваження у сфері

оборони та національної безпеки України, сучасними космічними засобами та інформацією;

створити нові зразки космічної техніки, службові системи, дослідницькі прилади для реалізації перспективних космічних проектів.

Очікувані результати виконання Програми наведено в додатку 2.

Ефективність виконання Програми визначається такими показниками:

у сфері економіки:

1) прямий дохід до державного бюджету, одержаний в результаті реалізації переважно комерційних проектів відповідно до заходів "Либідь" (надання телекомунікаційних послуг), "Циклон-4", "Морський старт", "Наземний старт" і "Дніпро" (надання пускових послуг) становитиме від 270 до 560 млн гривень;

2) непрямий дохід, одержаний в результаті провадження космічної діяльності, спрямованої на зміцнення національної безпеки, а також упровадження розробок та новітніх технологій, становитиме від 2040 до 2570 млн гривень;

у соціальній сфері:

розвиток новітніх технологій та зростання науково-технічного потенціалу космічної галузі;

підвищення рівня зайнятості населення у високотехнологічних секторах економіки шляхом створення додаткової кількості робочих місць;.

поліпшення якості життя населення в результаті розвитку космічних телекомунікацій, використання космічної інформації для потреб споживачів;

піднесення престижу науково-технічних спеціальностей серед студентської та творчої молоді шляхом створення та забезпечення функціонування молодіжних комплексів для проектування, виготовлення та експлуатації мікросупутників.

Ефективність виконання Програми у сфері екології полягає в поліпшенні екологічних умов життєдіяльності населення в результаті підвищення оперативності та достовірності широкомасштабного контролю за рівнем забрудненості навколишнього природного середовища, вивчення впливу сонячної активності на

людину, біосферу та техногенні системи, використання природних ресурсів шляхом комплексного використання інформації, що надходить з космічних і наземних засобів.

ОБСЯГИ ТА ДЖЕРЕЛА ФІНАНСУВАННЯ

Фінансування Програми здійснюється за рахунок коштів Державного бюджету України у сумі 1460 млн гривень та інших джерел у сумі 1035 млн гривень. Загальний обсяг фінансування становить 2495 млн гривень. Передбачається залучення коштів іноземних компаній у сумі близько 3000 млн гривень на здійснення комерційних заходів "Морський старт", "Наземний старт" та інших.

Кошти державного бюджету спрямовуються в установленому порядку для проведення науково-дослідних та дослідно-конструкторських робіт згідно з цією Програмою.

Порядок використання коштів, передбачених у державному бюджеті для виконання Програми, затверджується щороку Кабінетом Міністрів України.

Закупівля товарів і послуг в інтересах національної безпеки і оборони відповідно до обсягів фінансування заходів за завданням "Космічна діяльність в інтересах національної безпеки і оборони" здійснюється за державним оборонним замовленням.

Розрахунок прогнозних обсягів та визначення джерел фінансування Програми наведено у додатку 3.

Обсяги фінансування окремих завдань і заходів Програми коригуються Національним космічним агентством України з урахуванням обсягів видатків, передбачених у Державному бюджеті України на її виконання, та державних, пріоритетів у сфері космічної діяльності.

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З А К О Н У К Р А Ї Н И

Про ратифікацію Рамкової угоди
між Урядом України та Урядом Сполучених Штатів Америки
про співробітництво в дослідженні та
використанні космічного простору в мирних цілях

Верховна Рада України п о с т а н о в л я є:

Рамкову угоду між Урядом України та Урядом Сполучених Штатів
Америки про співробітництво в дослідженні та використанні
космічного простору в мирних цілях (840_137), підписану
31 березня 2008 року в м. Києві, ратифікувати (додається).

Президент України

В.ЮЩЕНКО

м. Київ, 17 грудня 2008 року
N 681-VI

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2008 No. 2426

Electronic Communications

The Wireless Telegraphy (Exemption) (Amendment) (No. 2) Regulations 2008

Made: 10th September 2008

Coming into force: 1st October 2008

The Office of Communications (“OFCOM”) make the following Regulations in exercise of the power conferred by section 8(3) of the Wireless Telegraphy Act 2006([1](#)) (the “Act”).

Before making these Regulations, OFCOM have given notice of their proposal to do so in accordance with section 122(4)(a) of the Act, published notice of their proposal in accordance with section 122(4)(b) of the Act and have considered the representations made to them before the time specified in the notice in accordance with section 122(4)(c) of the Act.

Citation and commencement

1. These Regulations may be cited as the Wireless Telegraphy (Exemption) (Amendment) (No. 2) Regulations 2008 and shall come into force on 1st October 2008.

Amendment of the Wireless Telegraphy (Exemption) Regulations 2003

2. The Wireless Telegraphy (Exemption) Regulations 2003([2](#)) shall be amended in accordance with the following provisions of these Regulations.

Amendment of regulation 3

3. In regulation 3 (interpretation), in paragraph (1), in the definition of “relevant apparatus”, for “Schedules 3 to 10” substitute “Schedules 3 to 11”.

Amendment of Schedule 5

4. In Schedule 5 (land mobile-satellite service stations), in Part III (interface requirement) for “published by OFCOM in April 2006” substitute “published by OFCOM in September 2008”.

Amendment of Schedule 6

5. In Schedule 6 (short range devices), in Part III (interface requirement) for “published by OFCOM in November 2006” substitute “published by OFCOM in September 2008”.

Addition of Schedule 11

6. After Schedule 10 (citizens’ band radio equipment) add the following Schedule—

Regulation 3(1)

“SCHEDULE 11 HIGH DENSITY FIXED SATELLITE APPLICATIONS

PART I Interpretation

In this Schedule “prescribed apparatus” means apparatus described in the Interface Requirement referred to in Part III of this Schedule.

PART II Additional Terms, Provisions and Limitations

The prescribed apparatus shall be subject to and comply with the Interface Requirement referred to in Part III of this Schedule.

PART III Interface Requirement

IR 2066 - UK Interface Requirement for High Density Fixed Satellite Applications published by OFCOM in September 2008.”

Ed Richards

Chief Executive of the Office of Communications

For and by authority of the Office of Communications

10th September 2008

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations amend the Wireless Telegraphy (Exemption) Regulations 2003 (S.I. 2003/74) (the “principal Regulations”).

Schedule 5 of the principal Regulations is amended to refer to the updated IR 2016 which makes provision for land mobile-satellite service stations.

Schedule 6 of the principal Regulations is amended to refer to the updated IR 2030 which makes provision for short range devices. This amendment also ensures compliance with Commission Decision [2008/432/EC](#) of 23rd May 2008 amending Decision [2006/771/EC](#) on harmonisation of the radio spectrum for use by short-range devices (OJ No L 151, 11,6,2008, p. 49).

These Regulations also provide for a new exemption from wireless telegraphy licensing for high density fixed satellite applications through the addition of a new Schedule 11 to the principal Regulations.

Copies of IR 2016 and IR 2030 referred to in the principal Regulations and IR 2066 referred to in these Regulations may be obtained from OFCOM at Riverside House, 2a Southwark Bridge Road, London SE1 9HA and are available on the OFCOM website at <http://www.ofcom.org.uk>.

A full regulatory impact assessment and report of the effect that these Regulations will have on the costs to business is available from the OFCOM Library at Riverside House and the OFCOM website. Copies of the regulatory impact assessment have also been placed in the libraries of both Houses of Parliament.

(1) [2006 c.36](#) [Back \[1\]](#)

(2) S.I. 2003/74, amended by S.I. 2003/2155, S.I. 2005/3481, S.I. 2006/2994 and S.I. 2008/236 [Back \[2\]](#)

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Space Legislation **110th Congress, 2nd Session**

H.R. 5310: Zero Gravity, Zero Tax Act 2008

Introduced: February 7, 2008

Final Status: Referred to the House Committee on Ways and Means

H. R. 5916: To reform the administration of the Arms Export Control Act, and for other purposes.

Introduced: April 29, 2008

Final Status: Passed House 5/15/2008

H.R. 6063: To authorize the programs of the National Aeronautics and Space Administration, and for other purposes

Introduced: May 15, 2008

Final Status: Signed by President, 10/15/2008, Became Public Law No: 110-422.

H.R. 6455: To require the Secretary of the Treasury to mint coins in commemoration of the 50th Anniversary of the establishment of the National Aeronautics and Space Administration

Introduced: July 10, 2008

Final Status: Passed House and Received in Senate, 7/15/2008

H.R. 6970: To authorize a comprehensive program of nationwide access to Federal remote sensing data, to promote its use for education, workforce training and development, applied research, and to support Federal, State, tribal, and local government programs

Introduced: September 18, 2008

Final Status: Referred to the Subcommittee on Energy and Mineral Resources, 9/25/2008

H.R. 6993: To authorize the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration to procure, launch, and operate the next generation of weather forecasting satellites.

Introduced: September 22, 2008

Final Status: Referred to the House Committee on Science and Technology, 9/22/2008

H.R. 7062: To authorize the Administrator of the National Aeronautics and Space Administration to develop a plan to guarantee access to the International Space Station, and for other purposes.

Introduced: September 25, 2008

Final Status: Referred to the Committee on Science and Technology, 9/25/2008

H.R. 7157: To require that radios used in the satellite digital radio service be capable of receiving terrestrial digital radio signals

Introduced: September 26, 2008

Final Status: Referred to the Subcommittee on Telecommunications and the Internet,
9/26/2008

H. Res. 943: Remembering the space shuttle Challenger disaster and honoring its crew members, who lost their lives on January 28, 1986

Introduced: January 28, 2008

Final Status: Passed, 2/6/2008

H. Res. 968: Recognizing the 50th anniversary of the Defense Advanced Research Projects Agency

Introduced: February 7, 2008

Final Status: Referred to the Subcommittee on Terrorism, Unconventional Threats and Capabilities, 2/29/2008

H. Res. 1057: Commemorating the 25th anniversary of President Ronald Reagan's Strategic Defense Initiative Speech

Introduced: March 14, 2008

Final Status: Referred to the Committee on Armed Services, 3/14/2008

H. Res. 1312: Commemorating the 25th anniversary of the Space Foundation

Introduced: June 26, 2008.

Final Status: Passed, 7/9/2008

H. Res. 1313: Celebrating the 25th anniversary of the first American woman in space, Dr. Sally K. Ride, and honoring her contributions to the space program and to science education.

Introduced: June 26, 2008.

Final Status: Passed, 7/10/2008

H. Res. 1315: Commemorating the 50th Anniversary of the National Aeronautics and Space Administration

Introduced: June 26, 2008

Final Status: Passed, 7/10/2008

H. Con. Res. 287: Celebrating the 50th anniversary of the United States Explorer I satellite, the world's first scientific spacecraft, and the birth of the United States space exploration program

Introduced: January 29, 2008

Final Status: Passed House, 2/6/2008, Received in the Senate and referred to the Committee on Commerce, Science, and Transportation, 2/7/2008

H. Con. Res. 375: To honor the goal of the International Year of Astronomy, and for other purposes.

Introduced: June 20, 2008

Final Status: Passed House, 7/9/2008, Received in the Senate and referred to the Committee on Commerce, Science, and Transportation 7/10/2008

S. 2862: A bill to provide for National Science Foundation and National Aeronautics and Space Administration utilization of the Arecibo Observatory

Introduced: April 15, 2008

Final Status: Read twice and referred to the Committee on Health, Education, Labor, and Pensions, 4/15/2008

S. 3103: A bill to amend the Iran, North Korea, and Syria nonproliferation Act to allow certain extraordinary payments in connection with the International Space Station.

Introduced: June 9, 2008

Final Status: Placed on Senate Legislative Calendar under General Orders, Calendar No. 1046, 9/23/2008

S. 3630: A bill to authorize a comprehensive program of nationwide access to Federal remote sensing data, to promote use of the program for education, workforce training and development, and applied research, and to support Federal, State, tribal, and local government programs

Introduced: September 26, 2008

Final Status: Read twice and referred to the Committee on Commerce, Science, and Transportation, 9/26/2008

S. Res. 591: A resolution recognizing the National Aeronautics and Space Administration (NASA) for the historic touchdown of the Phoenix Mars Lander during its 50th anniversary year

Introduced: June 11, 2008

Final Status: Referred to the Committee on Commerce, Science, and Transportation, 6/11/2008

S. Res. 651: A resolution honoring the National Aeronautics and Space Administration on the 50th anniversary of its establishment

Introduced: August 1, 2008

Final Status: Passed, 9/22/2008

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PUBLIC LAW 110-417—OCT. 14, 2008

DUNCAN HUNTER NATIONAL DEFENSE
AUTHORIZATION ACT FOR FISCAL YEAR 2009

SEC. 212. ANALYSIS OF FUTURE COMBAT SYSTEMS COMMUNICATIONS NETWORK
AND SOFTWARE.

(a) Report Required.--Not later than September 30, 2009, the Assistant Secretary of Defense for Networks and Information Integration shall submit to the congressional defense committees a report on the Future Combat Systems communications network and software. The report shall include the following:

(1) An assessment of the vulnerability of the Future Combat Systems communications network and software to enemy network attack, in particular the effect of the use of significant amounts of commercial software in Future Combat Systems software.

(2) An assessment of the vulnerability of the Future Combat Systems communications network to electronic warfare, jamming, and other potential enemy interference.

(3) An assessment of the vulnerability of the Future Combat Systems communications network to adverse weather and complex terrain.

(4) An assessment of the Future Combat Systems communication network's dependence on satellite communications support, and an assessment of the network's performance in the absence of assumed levels of satellite communications support.

(5) An assessment of the performance of the Future Combat Systems communications network when operating in a degraded condition due to the factors analyzed in paragraphs (1), (2), (3), and (4), and how such a degraded network environment would affect the performance of Future Combat Systems brigades and the survivability of Future Combat Systems manned ground vehicles.

(6) An assessment, developed in coordination with the Director of Operational Test and Evaluation, of the adequacy of the Future Combat Systems communications network testing schedule.

(7) An assessment, developed in coordination with the Director of Operational Test and Evaluation, of the synchronization of the funding, schedule, and technology maturity of the Warfighter Information Network-Tactical and Joint Tactical Radio System programs in relation to the Future Combat Systems program, including any planned Future Combat Systems spin outs.

(b) Form.--The report required by subsection (a) shall be submitted in unclassified form, but may include a classified annex.

SEC. 217. REQUIREMENT FOR PLAN ON OVERHEAD NONIMAGING INFRARED
SYSTEMS.

(a) In General.--The Secretary of Defense, in consultation with the Director of National Intelligence, shall develop a comprehensive plan to conduct and support research, development, and demonstration of technologies that could evolve into the next generation of overhead nonimaging infrared systems.

(b) Elements.--The plan required by subsection (a) shall include the following:

- (1) The research objectives to be achieved under the plan.
- (2) A description of the research, development, and

demonstration activities under the plan.

(3) An estimate of the duration of the research, development, and demonstration of technologies under the plan.

(4) The cost and duration of any flight or on-orbit demonstrations of the technologies being developed.

(5) A plan for implementing any acquisition programs with respect to technologies determined to be successful under the plan.

(6) An identification of the date by which a decision must be made to begin any follow-on programs and a justification for the date identified.

(7) A schedule for completion of a full analysis of the on-orbit performance characteristics of the Space-Based Infrared System and the Space Tracking and Surveillance System, and an assessment of how the performance characteristics of such systems will inform the decision to proceed to a next generation overhead nonimaging infrared system.

(c) Limitation on Obligation and Expenditure of Funds for Third Generation Infrared <<NOTE: Deadline.>> Surveillance Program.--Not more than 50 percent of the amounts authorized to be appropriated for fiscal year 2009 by section 201(3) for research, development, test, and evaluation for the Air Force and available for the Third Generation Infrared Surveillance program may be obligated or expended until the date that is 30 days after the date on which the Secretary submits to Congress the plan required by subsection (a).

Subtitle B--Space Activities

SEC. 911. EXTENSION OF AUTHORITY FOR PILOT PROGRAM FOR PROVISION OF SPACE SURVEILLANCE NETWORK SERVICES TO ENTITIES OUTSIDE UNITED STATES GOVERNMENT.

Section 2274(i) of title 10, United States Code, is amended by striking ``September 30, 2009'' and inserting ``September 30, 2010''.

SEC. 912. INVESTMENT AND ACQUISITION STRATEGY FOR COMMERCIAL SATELLITE CAPABILITIES.

(a) Requirement.--The Secretary of Defense shall conduct an assessment to determine a recommended investment and acquisition strategy for commercial satellite capabilities.

(b) Elements.--The assessment required under subsection (a) shall include the following:

(1) Review of national and defense policy relevant to the requirements for, acquisition of, and use of commercial satellite capabilities, and the relationship with commercial satellite providers.

(2) Assessment of the manner in which commercial satellite capabilities are used by the Department of Defense and options for expanding such use or identifying new means to leverage commercial satellite capabilities, such as hosting payloads.

(3) Review of military requirements for satellite communications and remote sensing by quantity, quality, timeline, and any other metric considered appropriate.

(4) Description of current and planned commercial satellite

capabilities and an assessment of their ability to meet the requirements identified in paragraph (3).

(5) Assessment of the ability of commercial satellite capabilities to meet other military requirements not identified in paragraph (3).

(6) Description of the use of and resources allocated to commercial satellite communications and remote sensing needed to meet the requirements identified in paragraph (3) during--

(A) the five-year period preceding the date of the assessment;

(B) the period from the date of the assessment through the fiscal years covered under the future-years defense program under section 221 of title 10, United States Code; and

(C) the period beyond the fiscal years covered under the future-years defense program under such section 221.

(7) Assessment of purchasing patterns that may lead to recommendations in which the Department may consolidate requirements, centralize operations, aggregate purchases, or leverage purchasing power (including the use of multiyear contracting).

(8) Assessment of various models for acquiring commercial satellite capabilities, including funding, management, and operations models.

(c) Report.--

(1) In general.--Not later than February 1, 2010, the Secretary of Defense shall submit to the congressional defense committees a report setting forth the results of the assessment required under subsection (a) and provide recommendations, including--

(A) the recommended investment and acquisition strategy of the Department for commercial satellite capabilities;

(B) how the investment and acquisition strategy should be addressed in fiscal years after fiscal year 2010; and

(C) a proposal for such legislative action as the Secretary considers necessary to acquire appropriate types and amounts of commercial satellite capabilities.

(2) Form.--The report shall be in unclassified form, but may include a classified annex.

(d) Definitions.--In this section:

(1) The term ``commercial satellite capabilities'' means the system, capability, or service provided by a commercial satellite provider.

(2) The term ``commercial satellite provider'' refers to privately owned and operated space systems, their technology, components, products, data, services, and related information, as well as foreign systems whose products and services are sold commercially.

SEC. 913. SPACE POSTURE REVIEW.

(a) Requirement for Comprehensive Review.--In order to clarify the national security space policy and strategy of the United States for the

near term, the Secretary of Defense and the Director of National Intelligence shall jointly conduct a comprehensive review of the space posture of the United States over the posture review period.

(b) Elements of Review.--The review conducted under subsection (a) shall include, for the posture review period, the following:

(1) The definition, policy, requirements, and objectives for each of the following:

- (A) Space situational awareness.
- (B) Space control.
- (C) Space superiority, including defensive and offensive counterspace and protection.
- (D) Force enhancement and force application.
- (E) Space-based intelligence and surveillance and reconnaissance from space.
- (F) Integration of space and ground control and user equipment.
- (G) Any other matter the Secretary considers relevant to understanding the space posture of the United States.

(2) A description of current and planned space acquisition programs that are in acquisition categories 1 and 2, including how each program will address the policy, requirements, and objectives described under each of subparagraphs (A) through (G) of paragraph (1).

(3) A description of future space systems and technology development (other than such systems and technology in development as of the date of the enactment of this Act) necessary to address the policy, requirements, and objectives described under each of subparagraphs (A) through (G) of paragraph (1).

(4) An assessment of the relationship among the following:

- (A) Military space policy.
- (B) National security space policy.
- (C) National security space objectives.
- (D) Arms control policy.
- (E) Export control policy.
- (F) Industrial base policy.

(5) An assessment of the effect of the military and national security space policy of the United States on the proliferation of weapons capable of targeting objects in space or objects on Earth from space.

(c) Report.--

(1) In general.--Not later than December 1, 2009, the Secretary of Defense and the Director of National Intelligence shall jointly submit to the congressional committees specified in paragraph (3) a report on the review conducted under subsection (a).

(2) Form of report.--The report under this subsection shall be submitted in unclassified form, but may include a classified annex.

(3) Committees.--The congressional committees specified in this paragraph are--

- (A) the Committee on Armed Services and the Select Committee on Intelligence of the Senate; and
- (B) the Committee on Armed Services and the Permanent Select Committee on Intelligence of the House

of Representatives.

(d) Posture Review Period Defined.--In this section, the term ``posture review period'' means the 10-year period beginning on February 1, 2009.

SEC. 1047. REVIEW OF BANDWIDTH CAPACITY REQUIREMENTS OF THE
DEPARTMENT OF DEFENSE AND THE
INTELLIGENCE COMMUNITY.

(a) In General.--The Secretary of Defense and the Director of National Intelligence shall conduct a joint review of the bandwidth capacity requirements of the Department of Defense and the intelligence community in the near term, mid term, and long term.

(b) Elements.--The review required by subsection (a) shall include an assessment of the following:

(1) The current bandwidth capacities and capabilities of the Department of Defense and the intelligence community to transport data, including Government and commercial ground networks, airborne relays, and satellite systems.

(2) The bandwidth capacities and capabilities anticipated to be available to the Department of Defense and the intelligence community to transport data in the near term, mid term, and long term.

(3) Innovative technologies available to the Department of Defense and the intelligence community to increase data transport capacity of existing bandwidth (such as compression techniques or intelligent software agents) that can be applied in the near term, mid term, and long term.

(4) The bandwidth and data requirements of current major operational systems of the Department of Defense and the intelligence community, including an assessment of--

(A) whether such requirements are being appropriately met by the bandwidth capacities and capabilities described in paragraph (1); and

(B) the degree to which any such requirements are not being met by such bandwidth capacities and capabilities.

(5) The anticipated bandwidth and data requirements of major operational systems of the Department of Defense and the intelligence community planned for each of the near term, mid term, and long term, including an assessment of--

(A) whether such anticipated requirements will be appropriately met by the bandwidth capacities and capabilities described in paragraph (2); and

(B) the degree to which any such requirements are not anticipated to be met by such bandwidth capacities and capabilities.

(6) Any mitigation concepts that could be used to satisfy any unmet bandwidth and data requirements.

(7) The costs of meeting the bandwidth and data requirements described in paragraphs (4) and (5).

(8) Any actions necessary to integrate or consolidate the information networks of the Department of Defense and the intelligence community.

(c) Report.--Not later than one year after the date of the enactment

of this Act, the Secretary of Defense and the Director of National Intelligence shall jointly submit to the congressional defense committees, the Select Committee on Intelligence of the Senate, and the Permanent Select Committee on Intelligence of the House of Representatives a report setting forth the results of the review required by subsection (a).

(d) Formal Review <<NOTE: 10 USC 2366a note.>> Process for Bandwidth Requirements.--The Secretary of Defense and the Director of National Intelligence shall, as part of the Milestone B or Key Decision Point B approval process for any major defense acquisition program or major system acquisition program, establish a formal review process to ensure that--

(1) the bandwidth requirements needed to support such program are or will be met; and

(2) a determination will be made with respect to how to meet the bandwidth requirements for such program.

(e) Definitions.--In this section:

(1) Intelligence community.--The term ``intelligence community'' has the meaning given the term in section 3(4) of the National Security Act of 1947 (50 U.S.C. 401a(4)).

(2) Long term.--The term ``long term'' means the five-year period beginning on the date that is 10 years after the date of the enactment of this Act.

(3) Mid term.--The term ``mid term'' means the five-year period beginning on the date that is five years after the date of the enactment of this Act.

(4) Near term.--The term ``near term'' means the five-year period beginning on the date of the enactment of this Act.

SEC. 1233. REVIEW OF SECURITY RISKS OF PARTICIPATION BY DEFENSE
CONTRACTORS IN CERTAIN SPACE ACTIVITIES
OF THE PEOPLE'S REPUBLIC OF CHINA.

(a) Review Required.--The Secretary of Defense shall conduct a review to determine whether there are any security risks associated with participation by covered contractors in certain space activities of the People's Republic of China.

(b) Matters to Be Included.--The review required under subsection (a) shall include, at a minimum, a review of the following:

(1) Whether there have been any incidents with respect to which a determination has been made that an improper disclosure of covered information by a covered contractor has occurred during the five-year period ending on the date of the enactment of this Act.

(2) The increase, if any, in the number of covered contractors expected to occur during the 5-year period beginning on the date of the enactment of this Act.

(3) The extent to which the policies and procedures of the Department of Defense are sufficient to protect against the improper disclosure of covered information by a covered contractor during the 5-year period beginning on the date of the enactment of this Act.

(4) The Secretary's conclusions regarding awards of contracts by the Department of Defense to covered contractors

after the date of the enactment of this Act.

(5) Any other matters that the Secretary determines to be appropriate to include in the review.

(c) Cooperation From Other Departments and Agencies.--The Secretary of State, the Director of National Intelligence, and the head of any other United States Government department or agency shall cooperate in a complete and timely manner to provide the Secretary of Defense with data and other information necessary for the Secretary of Defense to carry out the review required under subsection (a).

(d) Report.--

(1) In general.--Not later than March 1, 2009, the Secretary of Defense shall submit to the congressional defense committees a report on the review required under subsection (a).

(2) Form.--The report required under this subsection shall include a summary in unclassified form to the maximum extent practicable.

(e) Definitions.--In this section:

(1) Certain space activities of the people's republic of china.--The term ``certain space activities of the People's Republic of China'' means--

(A) the development or manufacture of satellites for launch from the People's Republic of China; and

(B) the launch of satellites from the People's Republic of China.

(2) Covered contractor.--The term ``covered contractor'' means a contractor of the Department of Defense, and any subcontractor (at any tier) of the contractor, that--

(A) has access to covered information; and

(B) participates, or is part of a joint venture that participates, or whose parent, sister, subsidiary, or affiliate company participates, in certain space activities in the People's Republic of China.

(3) Covered information.--The term ``covered information'' means classified information and sensitive controlled unclassified information obtained under contracts (or subcontracts of such contracts) of the Department of Defense.

Public Law 110–422
110th Congress

An Act

To authorize the programs of the National Aeronautics and Space Administration,
and for other purposes.

Oct. 15, 2008

[H.R. 6063]

*Be it enacted by the Senate and House of Representatives of
the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) **SHORT TITLE.**—This Act may be cited as the “National Aeronautics and Space Administration Authorization Act of 2008”.

(b) **TABLE OF CONTENTS.**—The table of contents for this Act is as follows:

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- Sec. 3. Definitions.

National
Aeronautics
and Space
Administration
Authorization
Act of 2008.
42 USC 17701
note.

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SEC. 2. FINDINGS.

42 USC 17701.

The Congress finds, on this, the 50th anniversary of the establishment of the National Aeronautics and Space Administration, the following:

(1) NASA is and should remain a multimission agency with a balanced and robust set of core missions in science, aeronautics, and human space flight and exploration.

(2) Investment in NASA's programs will promote innovation through research and development, and will improve the competitiveness of the United States.

(3) Investment in NASA's programs, like investments in other Federal science and technology activities, is an investment in our future.

(4) Properly structured, NASA's activities can contribute to an improved quality of life, economic vitality, United States leadership in peaceful cooperation with other nations on challenging undertakings in science and technology, national security, and the advancement of knowledge.

(5) NASA should assume a leadership role in a cooperative international Earth observations and research effort to address key research issues associated with climate change and its impacts on the Earth system.

(6) NASA should undertake a program of aeronautical research, development, and where appropriate demonstration activities with the overarching goals of—

(A) ensuring that the Nation's future air transportation system can handle up to 3 times the current travel demand and incorporate new vehicle types with no degradation in safety or adverse environmental impact on local communities;

(B) protecting the environment;

(C) promoting the security of the Nation; and

(D) retaining the leadership of the United States in global aviation.

(7) Human and robotic exploration of the solar system will be a significant long-term undertaking of humanity in the 21st century and beyond, and it is in the national interest that the United States should assume a leadership role in a cooperative international exploration initiative.

(8) Developing United States human space flight capabilities to allow independent American access to the International Space Station, and to explore beyond low Earth orbit, is a strategically important national imperative, and all prudent steps should thus be taken to bring the Orion Crew Exploration

Vehicle and Ares I Crew Launch Vehicle to full operational capability as soon as possible and to ensure the effective development of a United States heavy lift launch capability for missions beyond low Earth orbit.

(9) NASA's scientific research activities have contributed much to the advancement of knowledge, provided societal benefits, and helped train the next generation of scientists and engineers, and those activities should continue to be an important priority.

(10) NASA should make a sustained commitment to a robust long-term technology development activity. Such investments represent the critically important "seed corn" on which NASA's ability to carry out challenging and productive missions in the future will depend.

(11) NASA, through its pursuit of challenging and relevant activities, can provide an important stimulus to the next generation to pursue careers in science, technology, engineering, and mathematics.

(12) Commercial activities have substantially contributed to the strength of both the United States space program and the national economy, and the development of a healthy and robust United States commercial space sector should continue to be encouraged.

(13) It is in the national interest for the United States to have an export control policy that protects the national security while also enabling the United States aerospace industry to compete effectively in the global market place and the United States to undertake cooperative programs in science and human space flight in an effective and efficient manner.

42 USC 17702.

SEC. 3. DEFINITIONS.

In this Act:

(1) ADMINISTRATOR.—The term "Administrator" means the Administrator of NASA.

(2) NASA.—The term "NASA" means the National Aeronautics and Space Administration.

(3) NOAA.—The term "NOAA" means the National Oceanic and Atmospheric Administration.

(4) OSTP.—The term "OSTP" means the Office of Science and Technology Policy.

TITLE I—AUTHORIZATION OF APPROPRIATIONS FOR FISCAL YEAR 2009

SEC. 101. FISCAL YEAR 2009.

There are authorized to be appropriated to NASA for fiscal year 2009 \$20,210,000,000, as follows:

(1) For Science, \$4,932,200,000, of which—

(A) \$1,518,000,000 shall be for Earth Science, including \$29,200,000 for suborbital activities and \$2,500,000 for carrying out section 313 of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109-155);

(B) \$1,483,000,000 shall be for Planetary Science, including \$486,500,000 for the Mars Exploration program, \$2,000,000 to continue planetary radar operations at the

Arecibo Observatory in support of the Near-Earth Object program, and \$5,000,000 for radioisotope material production, to remain available until expended;

(C) \$1,290,400,000 shall be for Astrophysics, including \$27,300,000 for suborbital activities;

(D) \$640,800,000 shall be for Heliophysics, including \$50,000,000 for suborbital activities; and

(E) \$75,000,000 shall be for Intra-Science Mission Directorate Technology Development, to be taken on a proportional basis from the funding subtotals under subparagraphs (A), (B), (C), and (D).

(2) For Aeronautics, \$853,400,000, of which \$406,900,000 shall be for system-level research, development, and demonstration activities related to—

(A) aviation safety;

(B) environmental impact mitigation, including noise, energy efficiency, and emissions;

(C) support of the Next Generation Air Transportation System initiative; and

(D) investigation of new vehicle concepts and flight regimes.

(3) For Exploration, \$4,886,000,000, of which—

(A) \$3,886,000,000 shall be for baseline exploration activities, of which \$100,000,000 shall be for the activities under sections 902(a)(4) and 902(d), such funds to remain available until expended; no less than \$1,101,400,000 shall be for the Orion Crew Exploration Vehicle; no less than \$1,018,500,000 shall be for Ares I Crew Launch Vehicle; and \$737,800,000 shall be for Advanced Capabilities, including \$106,300,000 for the Lunar Precursor Robotic Program (of which \$30,000,000 shall be for the lunar lander mission), \$276,500,000 shall be for International Space Station-related research and development activities, and \$355,000,000 shall be for research and development activities not related to the International Space Station; and

(B) \$1,000,000,000 shall be available to be used to accelerate the initial operating capability of the Orion Crew Exploration Vehicle and the Ares I Crew Launch Vehicle, to remain available until expended.

(4) For Education, \$128,300,000, of which \$14,200,000 shall be for the Experimental Program to Stimulate Competitive Research and \$32,000,000 shall be for the Space Grant program.

(5) For Space Operations, \$6,074,700,000, of which—

(A) \$150,000,000 shall be for an additional Space Shuttle flight to deliver the Alpha Magnetic Spectrometer to the International Space Station;

(B) \$100,000,000 shall be to augment funding for research utilization of the International Space Station National Laboratory, to remain available until expended; and

(C) \$50,000,000 shall be to augment funding for Space Operations Mission Directorate reserves and Shuttle Transition and Retirement activities.

(6) For Cross-Agency Support Programs, \$3,299,900,000, of which \$4,000,000 shall be for the program established under section 1107(a), to remain available until expended.

(7) For Inspector General, \$35,500,000.

TITLE II—EARTH SCIENCE

42 USC 17711.

SEC. 201. GOAL.

The goal for NASA’s Earth Science program shall be to pursue a program of Earth observations, research, and applications activities to better understand the Earth, how it supports life, and how human activities affect its ability to do so in the future. In pursuit of this goal, NASA’s Earth Science program shall ensure that securing practical benefits for society will be an important measure of its success in addition to securing new knowledge about the Earth system and climate change. In further pursuit of this goal, NASA shall, together with NOAA and other relevant agencies, provide United States leadership in developing and carrying out a cooperative international Earth observations-based research program.

SEC. 202. GOVERNANCE OF UNITED STATES EARTH OBSERVATIONS ACTIVITIES.

Consultation.

(a) STUDY.—The Director of OSTP shall consult with NASA, NOAA, and other relevant agencies with an interest in Earth observations and enter into an arrangement with the National Academies for a study to determine the most appropriate governance structure for United States Earth Observations programs in order to meet evolving United States Earth information needs and facilitate United States participation in global Earth Observations initiatives.

Plan.

(b) REPORT.—The Director shall transmit the study to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 18 months after the date of enactment of this Act, and shall provide OSTP’s plan for implementing the study’s recommendations not later than 24 months after the date of enactment of this Act.

SEC. 203. DECADAL SURVEY MISSIONS.

(a) IN GENERAL.—The missions recommended in the National Academies’ decadal survey “Earth Science and Applications from Space” provide the basis for a compelling and relevant program of research and applications, and the Administrator should work to establish an international cooperative effort to pursue those missions.

Consultation.
Deadline.

(b) PLAN.—The Administrator shall consult with all agencies referenced in the survey as responsible for spacecraft missions and prepare a plan for submission to Congress not later than 270 days after the date of enactment of this Act that shall describe how NASA intends to implement the missions recommended for NASA to conduct as described in subsection (a), whether by means of dedicated NASA missions, multi-agency missions, international cooperative missions, data sharing, or commercial data buys, or by means of long-term technology development to determine whether specific missions would be executable at a reasonable cost and within a reasonable schedule.

SEC. 204. TRANSITIONING EXPERIMENTAL RESEARCH INTO OPERATIONAL SERVICES. 42 USC 17712.

(a) SENSE OF CONGRESS.—It is the sense of the Congress that experimental NASA sensors and missions that have the potential to benefit society if transitioned into operational monitoring systems be transitioned into operational status whenever possible.

(b) INTERAGENCY PROCESS.—The Director of OSTP, in consultation with the Administrator, the Administrator of NOAA, and other relevant stakeholders, shall develop a process to transition, when appropriate, NASA Earth science and space weather missions or sensors into operational status. The process shall include coordination of annual agency budget requests as required to execute the transitions.

(c) RESPONSIBLE AGENCY OFFICIAL.—The Administrator and the Administrator of NOAA shall each designate an agency official who shall have the responsibility for and authority to lead NASA's and NOAA's transition activities and interagency coordination.

Designation.

(d) PLAN.—For each mission or sensor that is determined to be appropriate for transition under subsection (b), NASA and NOAA shall transmit to Congress a joint plan for conducting the transition. The plan shall include the strategy, milestones, and budget required to execute the transition. The transition plan shall be transmitted to Congress not later than 60 days after the successful completion of the mission or sensor critical design review.

Deadline.

SEC. 205. LANDSAT THERMAL INFRARED DATA CONTINUITY.

(a) PLAN.—In view of the importance of Landsat thermal infrared data for both scientific research and water management applications, the Administrator shall prepare a plan for ensuring the continuity of Landsat thermal infrared data or its equivalent, including allocation of costs and responsibility for the collection and distribution of the data, and a budget plan. As part of the plan, the Administrator shall provide an option for developing a thermal infrared sensor at minimum cost to be flown on the Landsat Data Continuity Mission with minimum delay to the schedule of the Landsat Data Continuity Mission.

(b) DEADLINE.—The plan shall be provided to Congress not later than 60 days after the date of enactment of this Act.

SEC. 206. REAUTHORIZATION OF GLORY MISSION.

42 USC 17713.

(a) REAUTHORIZATION.—Congress reauthorizes NASA to continue with development of the Glory Mission, which will examine how aerosols and solar energy affect the Earth's climate.

(b) BASELINE REPORT.—Pursuant to the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155), not later than 90 days after the date of enactment of this Act, the Administrator shall transmit a new baseline report consistent with section 103(b)(2) of such Act. The report shall include an analysis of the factors contributing to cost growth and the steps taken to address them.

SEC. 207. PLAN FOR DISPOSITION OF DEEP SPACE CLIMATE OBSERVATORY.

(a) PLAN.—NASA shall develop a plan for the Deep Space Climate Observatory (DSCOVR), including such options as using the parts of the spacecraft in the development and assembly of other science missions, transferring the spacecraft to another

agency, reconfiguring the spacecraft for another Earth science mission, establishing a public-private partnership for the mission, and entering into an international cooperative partnership to use the spacecraft for its primary or other purposes. The plan shall include an estimate of budgetary resources and schedules required to implement each of the options.

(b) **CONSULTATION.**—NASA shall consult, as necessary, with NOAA and other Federal agencies, industry, academic institutions, and international space agencies in developing the plan.

(c) **REPORT.**—The Administrator shall transmit the plan required under subsection (a) to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 180 days after the date of enactment of this Act.

42 USC 17714.

SEC. 208. TORNADOES AND OTHER SEVERE STORMS.

The Administrator shall ensure that NASA gives high priority to those parts of its existing cooperative activities with NOAA that are related to the study of tornadoes and other severe storms, tornado-force winds, and other factors determined to influence the development of tornadoes and other severe storms, with the goal of improving the Nation's ability to predict tornados and other severe storms. Further, the Administrator shall examine whether there are additional cooperative activities with NOAA that should be undertaken in the area of tornado and severe storm research.

TITLE III—AERONAUTICS

SEC. 301. SENSE OF CONGRESS.

It is the sense of Congress that—

(1) aeronautics research continues to be an important core element of NASA's mission and should be supported;

(2) NASA aeronautics research should be guided by and consistent with the national policy to guide aeronautics research and development programs of the United States developed in accordance with section 101(c) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16611); and

(3) technologies developed by NASA as described in paragraph (2) would help to secure the leadership role of the United States in global aviation and greatly enhance competitiveness of the United States in aeronautics in the future.

42 USC 17721.

SEC. 302. ENVIRONMENTALLY FRIENDLY AIRCRAFT RESEARCH AND DEVELOPMENT INITIATIVE.

The Administrator shall establish an initiative involving NASA, universities, industry, and other research organizations as appropriate, of research, development, and demonstration, in a relevant environment, of technologies to enable the following commercial aircraft performance characteristics:

(1) Noise levels on takeoff and on airport approach and landing that do not exceed ambient noise levels in the absence of flight operations in the vicinity of airports from which such commercial aircraft would normally operate, without increasing energy consumption or nitrogen oxide emissions compared to aircraft in commercial service as of the date of enactment of this Act.

(2) Significant reductions in greenhouse gas emissions compared to aircraft in commercial services as of the date of enactment of this Act.

SEC. 303. RESEARCH ALIGNMENT.

42 USC 17722.

In addition to pursuing the research and development initiative described in section 302, the Administrator shall, to the maximum extent practicable within available funding, align the fundamental aeronautics research program to address high priority technology challenges of the National Academies' Decadal Survey of Civil Aeronautics, and shall work to increase the degree of involvement of external organizations, and especially of universities, in the fundamental aeronautics research program.

SEC. 304. RESEARCH PROGRAM TO DETERMINE PERCEIVED IMPACT OF SONIC BOOMS.

42 USC 17723.

(a) IN GENERAL.—The ability to fly commercial aircraft over land at supersonic speeds without adverse impacts on the environment or on local communities would open new markets and enable new transportation capabilities. In order to have the basis for establishing appropriate sonic boom standards for such flight operations, a research program is needed to assess the impact in a relevant environment of commercial supersonic flight operations.

(b) ESTABLISHMENT.—The Administrator shall establish a cooperative research program with industry, including the conduct of flight demonstrations in a relevant environment, to collect data on the perceived impact of sonic booms. The data could enable the promulgation of appropriate standards for overland commercial supersonic flight operations.

(c) COORDINATION.—The Administrator shall ensure that sonic boom research is coordinated as appropriate with the Administrator of the Federal Aviation Administration, and as appropriate make use of the expertise of the Partnership for Air Transportation Noise and Emissions Reduction Center of Excellence sponsored by NASA and the Federal Aviation Administration.

SEC. 305. EXTERNAL REVIEW OF NASA'S AVIATION SAFETY-RELATED RESEARCH PROGRAMS.

(a) REVIEW.—The Administrator shall enter into an arrangement with the National Research Council for an independent review of NASA's aviation safety-related research programs. The review shall assess whether—

(1) the programs have well-defined, prioritized, and appropriate research objectives;

(2) the programs are properly coordinated with the safety research programs of the Federal Aviation Administration and other relevant Federal agencies;

(3) the programs have allocated appropriate resources to each of the research objectives; and

(4) suitable mechanisms exist for transitioning the research results from the programs into operational technologies and procedures and certification activities in a timely manner.

(b) REPORT.—Not later than 18 months after the date of enactment of this Act, the Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the results of the review required in subsection (a).

SEC. 306. AVIATION WEATHER RESEARCH PLAN.

Deadline. The Administrator and the Administrator of NOAA shall develop a collaborative research plan on convective weather events. The goal of the research is to significantly improve the reliability of 2-hour to 6-hour aviation weather forecasts. Within 270 days after the date of enactment of this Act, the Administrator and the Administrator of NOAA shall submit this plan to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science and Technology of the House of Representatives.

42 USC 17724.

SEC. 307. FUNDING FOR RESEARCH AND DEVELOPMENT ACTIVITIES IN SUPPORT OF OTHER MISSION DIRECTORATES.

Research and development activities performed by the Aeronautics Research Mission Directorate with the primary objective of assisting in the development of a flight project in another Mission Directorate shall be funded by the Mission Directorate seeking assistance.

SEC. 308. ENHANCEMENT OF GRANT PROGRAM ON ESTABLISHMENT OF UNIVERSITY-BASED CENTERS FOR RESEARCH ON AVIATION TRAINING.

42 USC 16727. Section 427(a) of the National Aeronautics and Space Administration Authorization Act of 2005 (Public Law 109–155) is amended by striking “may” and inserting “shall”.

TITLE IV—EXPLORATION INITIATIVE**SEC. 401. SENSE OF CONGRESS.**

It is the sense of Congress that the President of the United States should invite America’s friends and allies to participate in a long-term international initiative under the leadership of the United States to expand human and robotic presence into the solar system, including the exploration and utilization of the Moon, near Earth asteroids, Lagrangian points, and eventually Mars and its moons, among other exploration and utilization goals. When appropriate, the United States should lead confidence building measures that advance the long-term initiative for international cooperation.

SEC. 402. REAFFIRMATION OF EXPLORATION POLICY.

Congress hereby affirms its support for—

(1) the broad goals of the space exploration policy of the United States, including the eventual return to and exploration of the Moon and other destinations in the solar system and the important national imperative of independent access to space;

(2) the development of technologies and operational approaches that will enable a sustainable long-term program of human and robotic exploration of the solar system;

(3) activity related to Mars exploration, particularly for the development and testing of technologies and mission concepts needed for eventual consideration of optional mission architectures, pursuant to future authority to proceed with the consideration and implementation of such architectures; and

(4) international participation and cooperation, as well as commercial involvement in space exploration activities.

SEC. 403. STEPPING STONE APPROACH TO EXPLORATION.

42 USC 17731.

In order to maximize the cost-effectiveness of the long-term exploration and utilization activities of the United States, the Administrator shall take all necessary steps, including engaging international partners, to ensure that activities in its lunar exploration program shall be designed and implemented in a manner that gives strong consideration to how those activities might also help meet the requirements of future exploration and utilization activities beyond the Moon. The timetable of the lunar phase of the long-term international exploration initiative shall be determined by the availability of funding. However, once an exploration-related project enters its development phase, the Administrator shall seek, to the maximum extent practicable, to complete that project without undue delays.

SEC. 404. LUNAR OUTPOST.

42 USC 17732.

(a) **ESTABLISHMENT.**—As NASA works toward the establishment of a lunar outpost, NASA shall make no plans that would require a lunar outpost to be occupied to maintain its viability. Any such outpost shall be operable as a human-tended facility capable of remote or autonomous operation for extended periods.

(b) **DESIGNATION.**—The United States portion of the first human-tended outpost established on the surface of the Moon shall be designated the “Neil A. Armstrong Lunar Outpost”.

(c) **SENSE OF CONGRESS.**—It is the sense of Congress that NASA should make use of commercial services to the maximum extent practicable in support of its lunar outpost activities.

SEC. 405. EXPLORATION TECHNOLOGY DEVELOPMENT.

42 USC 17733.

(a) **IN GENERAL.**—A robust program of long-term exploration-related technology research and development will be essential for the success and sustainability of any enduring initiative of human and robotic exploration of the solar system.

(b) **ESTABLISHMENT.**—The Administrator shall carry out a program of long-term exploration-related technology research and development, including such things as in-space propulsion, power systems, life support, and advanced avionics, that is not tied to specific flight projects. The program shall have the funding goal of ensuring that the technology research and development can be completed in a timely manner in order to support the safe, successful, and sustainable exploration of the solar system. In addition, in order to ensure that the broadest range of innovative concepts and technologies are captured, the long-term technology program shall have the goal of having a significant portion of its funding available for external grants and contracts with universities, research institutions, and industry.

SEC. 406. EXPLORATION RISK MITIGATION PLAN.

(a) **PLAN.**—The Administrator shall prepare a plan that identifies and prioritizes the human and technical risks that will need to be addressed in carrying out human exploration beyond low Earth orbit and the research and development activities required to address those risks. The plan shall address the role of the International Space Station in exploration risk mitigation and

include a detailed description of the specific steps being taken to utilize the International Space Station for that purpose.

(b) **REPORT.**—The Administrator shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate the plan described in subsection (a) not later than one year after the date of enactment of this Act.

42 USC 17734.

SEC. 407. EXPLORATION CREW RESCUE.

In order to maximize the ability to rescue astronauts whose space vehicles have become disabled, the Administrator shall enter into discussions with the appropriate representatives of spacefaring nations who have or plan to have crew transportation systems capable of orbital flight or flight beyond low Earth orbit for the purpose of agreeing on a common docking system standard.

SEC. 408. PARTICIPATORY EXPLORATION.

Technology plan.

(a) **IN GENERAL.**—The Administrator shall develop a technology plan to enable dissemination of information to the public to allow the public to experience missions to the Moon, Mars, or other bodies within our solar system by leveraging advanced exploration technologies. The plan shall identify opportunities to leverage technologies in NASA's Constellation systems that deliver a rich, multimedia experience to the public, and that facilitate participation by the public, the private sector, nongovernmental organizations, and international partners. Technologies for collecting high-definition video, 3-dimensional images, and scientific data, along with the means to rapidly deliver this content through extended high bandwidth communications networks, shall be considered as part of this plan. It shall include a review of high bandwidth radio and laser communications, high-definition video, stereo imagery, 3-dimensional scene cameras, and Internet routers in space, from orbit, and on the lunar surface. The plan shall also consider secondary cargo capability for technology validation and science mission opportunities. In addition, the plan shall identify opportunities to develop and demonstrate these technologies on the International Space Station and robotic missions to the Moon, Mars, and other solar system bodies. As part of the technology plan, the Administrator shall examine the feasibility of having NASA enter into contracts and other agreements with appropriate public, private sector, and international partners to broadcast electronically, including via the Internet, images and multimedia records delivered from its missions in space to the public, and shall identify issues associated with such contracts and other agreements. In any such contracts and other agreements, NASA shall adhere to a transparent bidding process to award such contracts and other agreements, pursuant to United States law. As part of this plan, the Administrator shall include estimates of associated costs.

(b) **REPORT.**—Not later than 270 days after the date of enactment of this Act, the Administrator shall submit the plan to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.

SEC. 409. SCIENCE AND EXPLORATION.

It is the sense of Congress that NASA's scientific and human exploration activities are synergistic; science enables exploration and human exploration enables science. The Congress encourages

the Administrator to coordinate, where practical, NASA's science and exploration activities with the goal of maximizing the success of human exploration initiatives and furthering our understanding of the Universe that we explore.

SEC. 410. CONGRESSIONAL BUDGET OFFICE REPORT UPDATE.

Not later than 6 months after the date of enactment of this Act, the Congressional Budget Office shall update its report from 2004 on the budgetary analysis of NASA's Vision for the Nation's Space Exploration Program, including new estimates for Project Constellation, NASA's new generation of spacecraft designed for human space flight that will replace the Space Shuttle program.

TITLE V—SPACE SCIENCE

SEC. 501. TECHNOLOGY DEVELOPMENT.

42 USC 17741.

The Administrator shall establish an intra-Directorate long-term technology development program for space and Earth science within the Science Mission Directorate for the development of new technology. The program shall be independent of the flight projects under development. NASA shall have a goal of funding the intra-Directorate technology development program at a level of 5 percent of the total Science Mission Directorate annual budget. The program shall be structured to include competitively awarded grants and contracts.

SEC. 502. PROVISION FOR FUTURE SERVICING OF OBSERVATORY-CLASS SCIENTIFIC SPACECRAFT.

42 USC 17742.

The Administrator shall take all necessary steps to ensure that provision is made in the design and construction of all future observatory-class scientific spacecraft intended to be deployed in Earth orbit or at a Lagrangian point in space for robotic or human servicing and repair to the extent practicable and appropriate.

SEC. 503. MARS EXPLORATION.

Congress reaffirms its support for a systematic, integrated program of exploration of the Martian surface to examine the planet whose surface is most like Earth's, to search for evidence of past or present life, and to examine Mars for future habitability and as a long-term goal for future human exploration. To the extent affordable and practical, the program should pursue the goal of launches at every Mars launch opportunity, leading to an eventual robotic sample return.

SEC. 504. IMPORTANCE OF A BALANCED SCIENCE PROGRAM.

It is the sense of Congress that a balanced and adequately funded set of activities, consisting of NASA's research and analysis grants programs, technology development, small-, medium-, and large-sized space science missions, and suborbital research activities, contributes to a robust and productive science program and serves as a catalyst for innovation.

SEC. 505. SUBORBITAL RESEARCH ACTIVITIES.

(a) SENSE OF CONGRESS.—It is the sense of Congress that suborbital flight activities, including the use of sounding rockets, aircraft, and high-altitude balloons, and suborbital reusable launch vehicles, offer valuable opportunities to advance science, train the

next generation of scientists and engineers, and provide opportunities for participants in the programs to acquire skills in systems engineering and systems integration that are critical to maintaining the Nation's leadership in space programs. The Congress believes that it is in the national interest to expand the size of NASA's suborbital research program. It is further the sense of Congress that funding for suborbital research activities should be considered part of the contribution of NASA to United States competitive and educational enhancement and should represent increased funding as contemplated in section 2001 of the America COMPETES Act (42 U.S.C. 16611(a)).

Deadline.

(b) REVIEW OF SUBORBITAL MISSION CAPABILITIES.—

(1) IN GENERAL.—Not later than 120 days after the date of enactment of this Act, the Administrator shall enter into an arrangement with the National Academies to conduct a review of the suborbital mission capabilities of NASA.

(2) MATTERS REVIEWED.—The review required by paragraph (1) shall include a review of the following:

(A) Existing programs that make use of suborbital flights.

(B) The status, capability, and availability of suborbital platforms, and the infrastructure and workforce necessary to support them.

(C) Existing or planned launch facilities for suborbital missions.

(D) Opportunities for scientific research, training, and educational collaboration in the conduct of suborbital missions by NASA, especially as they relate to the findings and recommendations of the National Academies decadal surveys and report on "Building a Better NASA Workforce: Meeting the Workforce Needs for the National Vision for Space Exploration".

(3) REPORT.—

(A) IN GENERAL.—Not later than 15 months after the date of enactment of this Act, the Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the review required by this subsection.

(B) CONTENTS.—The report required by this paragraph shall include a summary of the review; the findings of the Administrator with respect to such review; recommendations regarding the growth of suborbital launch programs conducted by NASA; and the steps necessary to ensure such programs are conducted using domestic launch facilities to the maximum extent practicable, including any rationale and justification for using non-domestic facilities for such missions.

SEC. 506. RESTORATION OF RADIOISOTOPE THERMOELECTRIC GENERATOR MATERIAL PRODUCTION.

(a) PLAN.—The Director of OSTP shall develop a plan for restarting and sustaining the domestic production of radioisotope thermoelectric generator material for deep space and other space science missions.

(b) **REPORT.**—The plan developed under subsection (a) shall be transmitted to Congress not later than 270 days after the date of enactment of this Act.

SEC. 507. ASSESSMENT OF IMPEDIMENTS TO INTERAGENCY COOPERATION ON SPACE AND EARTH SCIENCE MISSIONS.

(a) **ASSESSMENTS.**—The Administrator, in consultation with other agencies with space science programs, shall enter into an arrangement with the National Academies to assess impediments, including cost growth, to the successful conduct of interagency cooperation on space science missions, to provide lessons learned and best practices, and to recommend steps to help facilitate successful interagency collaborations on space science missions. As part of the same arrangement with the National Academies, the Administrator, in consultation with NOAA and other agencies with civil Earth observation systems, shall have the National Academies assess impediments, including cost growth, to the successful conduct of interagency cooperation on Earth science missions, to provide lessons learned and best practices, and to recommend steps to help facilitate successful interagency collaborations on Earth science missions.

(b) **REPORT.**—The report of the assessments carried out under subsection (a) shall be transmitted to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 15 months after the date of enactment of this Act.

SEC. 508. ASSESSMENT OF COST GROWTH.

(a) **STUDY.**—The Administrator shall enter into an arrangement for an independent external assessment to identify the primary causes of cost growth in the large-, medium-, and small-sized space and Earth science spacecraft mission classes, and make recommendations as to what changes, if any, should be made to contain costs and ensure frequent mission opportunities in NASA's science spacecraft mission programs.

Recommendations.

(b) **REPORT.**—The report of the assessment conducted under subsection (a) shall be submitted to Congress not later than 15 months after the date of enactment of this Act.

SEC. 509. OUTER PLANETS EXPLORATION.

It is the sense of Congress that the outer solar system planets and their satellites can offer important knowledge about the formation and evolution of the solar system, the nature and diversity of these solar system bodies, and the potential for conditions conducive to life beyond Earth. NASA should move forward with plans for an Outer Planets flagship mission to the Europa-Jupiter system or the Titan-Saturn system as soon as practicable within a balanced Planetary Science program.

TITLE VI—SPACE OPERATIONS

Subtitle A—International Space Station

SEC. 601. PLAN TO SUPPORT OPERATION AND UTILIZATION OF THE ISS BEYOND FISCAL YEAR 2015. 42 USC 17751.

(a) **IN GENERAL.**—The Administrator shall take all necessary steps to ensure that the International Space Station remains a

viable and productive facility capable of potential United States utilization through at least 2020 and shall take no steps that would preclude its continued operation and utilization by the United States after 2015.

(b) PLAN TO SUPPORT OPERATIONS AND UTILIZATION OF THE INTERNATIONAL SPACE STATION BEYOND FISCAL YEAR 2015.—

Deadline.

(1) IN GENERAL.—Not later than 9 months after the date of enactment of this Act, the Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a plan to support the operations and utilization of the International Space Station beyond fiscal year 2015 for a period of not less than 5 years. The plan shall be an update and expansion of the operation plan of the International Space Station National Laboratory submitted to Congress in May 2007 under section 507 of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16767).

(2) CONTENT.—

(A) REQUIREMENTS TO SUPPORT OPERATION AND UTILIZATION OF THE ISS BEYOND FISCAL YEAR 2015.—As part of the plan required in paragraph (1), the Administrator shall provide each of the following:

(i) A list of critical hardware necessary to support International Space Station operations through the year 2020.

(ii) Specific known or anticipated maintenance actions that would need to be performed to support International Space Station operations and research through the year 2020.

(iii) Annual upmass and downmass requirements, including potential vehicles that will deliver such upmass and downmass, to support the International Space Station after the retirement of the Space Shuttle and through the year 2020.

(B) ISS NATIONAL LABORATORY RESEARCH MANAGEMENT PLAN.—As part of the plan required in paragraph (1), the Administrator shall develop a Research Management Plan for the International Space Station. Such Plan shall include a process for selecting and prioritizing research activities (including fundamental, applied, commercial, and other research) for flight on the International Space Station. Such Plan shall be used to prioritize resources such as crew time, racks and equipment, and United States access to international research facilities and equipment. Such Plan shall also identify the organization to be responsible for managing United States research on the International Space Station, including a description of the relationship of the management institution with NASA (e.g., internal NASA office, contract, cooperative agreement, or grant), the estimated length of time for the arrangement, and the budget required to support the management institution. Such Plan shall be developed in consultation with other Federal agencies, academia, industry, and other relevant stakeholders. The Administrator may request the support of the National Academy of Sciences or other appropriate

independent entity, including an external consultant, in developing the Plan.

(C) ESTABLISHMENT OF PROCESS FOR ACCESS TO NATIONAL LABORATORY.—As part of the plan required in paragraph (1), the Administrator shall—

(i) establish a process by which to support International Space Station National Laboratory users in identifying their requirements for transportation of research supplies to and from the International Space Station, and for communicating those requirements to NASA and International Space Station transportation services providers; and

(ii) develop an estimate of the transportation requirements needed to support users of the International Space Station National Laboratory and develop a plan for satisfying those requirements by dedicating a portion of volume on NASA supply missions to the International Space Station. Plan.

(D) ASSESSMENT OF EQUIPMENT TO SUPPORT RESEARCH.—As part of the plan required in paragraph (1), the Administrator shall—

(i) provide a list of critical hardware that is anticipated to be necessary to support nonexploration-related and exploration-related research through the year 2020;

(ii) identify existing research equipment and racks and support equipment that are manifested for flight; and

(iii) provide a detailed description of the status of research equipment and facilities that were completed or in development prior to being cancelled, and provide the budget and milestones for completing and preparing the equipment for flight on the International Space Station.

(E) BUDGET PLAN.—As part of the plan required in paragraph (1), the Administrator shall provide a budget plan that reflects the anticipated use of such activities and the projected amounts to be required for fiscal years 2010 through 2020 to accomplish the objectives of the activities described in subparagraphs (A) through (D).

SEC. 602. INTERNATIONAL SPACE STATION NATIONAL LABORATORY ADVISORY COMMITTEE. 42 USC 17752.

(a) ESTABLISHMENT.—Not later than 1 year after the date of enactment of this Act, the Administrator shall establish under the Federal Advisory Committee Act a committee to be known as the “International Space Station National Laboratory Advisory Committee” (hereafter in this section referred to as the “Committee”). Deadline.

(b) MEMBERSHIP.—

(1) COMPOSITION.—The Committee shall be composed of individuals representing organizations who have formal agreements with NASA to utilize the United States portion of the International Space Station, including allocations within partner elements.

Appointments.

(2) CHAIR.—The Administrator shall appoint a chair from among the members of the Committee, who shall serve for a 2-year term.

Recommendations.

(c) DUTIES OF THE COMMITTEE.—

(1) IN GENERAL.—The Committee shall monitor, assess, and make recommendations regarding effective utilization of the International Space Station as a national laboratory and platform for research.

(2) ANNUAL REPORT.—The Committee shall submit to the Administrator, on an annual basis or more frequently as considered necessary by a majority of the members of the Committee, a report containing the assessments and recommendations required by paragraph (1).

(d) DURATION.—The Committee shall exist for the life of the International Space Station.

42 USC 17753.

SEC. 603. CONTINGENCY PLAN FOR CARGO RESUPPLY.

(a) IN GENERAL.—The International Space Station represents a significant investment of national resources, and it is a facility that embodies a cooperative international approach to the exploration and utilization of space. As such, it is important that its continued viability and productivity be ensured, to the maximum extent possible, after the Space Shuttle is retired.

Deadline.

(b) CONTINGENCY PLAN.—The Administrator shall develop a contingency plan and arrangements, including use of International Space Station international partner cargo resupply capabilities, to ensure the continued viability and productivity of the International Space Station in the event that United States commercial cargo resupply services are not available during any extended period after the date that the Space Shuttle is retired. The plan shall be delivered to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than one year after the date of enactment of this Act.

SEC. 604. SENSE OF CONGRESS ON USE OF SPACE LIFE SCIENCES LABORATORY AT KENNEDY SPACE CENTER.

It is the sense of Congress that the Space Life Sciences Laboratory at Kennedy Space Center represents a key investment and asset in the International Space Station National Laboratory capability. The laboratory is specifically designed to provide pre-flight, in-flight, and post-flight support services for International Space Station end-users, and should be utilized in this manner when appropriate.

Subtitle B—Space Shuttle

SEC. 611. SPACE SHUTTLE FLIGHT REQUIREMENTS.

(a) REPORT ON U.S. HUMAN SPACEFLIGHT CAPABILITIES.—Section 501(c) of the National Aeronautics and Space Administration Authorization Act of 2005 (42 U.S.C. 16761(c)) is amended by striking the matter before paragraph (1) and inserting the following: “Not later than 90 days after the date of enactment of the National Aeronautics and Space Administration Authorization Act of 2008, the Administrator shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science and Technology of the House of Representatives a report

on the lack of a United States human space flight system to replace the Space Shuttle upon its planned retirement, currently scheduled for 2010, and the ability of the United States to uphold the policy described in subsection (a), including a description of—”.

(b) **BASELINE MANIFEST.**—In addition to the Space Shuttle flights listed as part of the baseline flight manifest as of January 1, 2008, the Utilization flights ULF-4 and ULF-5 shall be considered part of the Space Shuttle baseline flight manifest and shall be flown prior to the retirement of the Space Shuttle, currently scheduled for 2010.

(c) **ADDITIONAL FLIGHT TO DELIVER THE ALPHA MAGNETIC SPECTROMETER AND OTHER SCIENTIFIC EQUIPMENT AND PAYLOADS TO THE INTERNATIONAL SPACE STATION.**—

(1) **IN GENERAL.**—In addition to the flying of the baseline manifest as described in subsection (b), the Administrator shall take all necessary steps to fly one additional Space Shuttle flight to deliver the Alpha Magnetic Spectrometer and other scientific equipment and payloads to the International Space Station prior to the retirement of the Space Shuttle. The purpose of the mission required to be planned under this subsection shall be to ensure the active use of the United States portion of the International Space Station as a National Laboratory by the delivery of the Alpha Magnetic Spectrometer, and to the extent practicable, the delivery of flight-ready research experiments prepared under the Memoranda of Understanding between NASA and other entities to facilitate the utilization of the International Space Station National Laboratory, as well as other fundamental and applied life sciences and other microgravity research experiments to the International Space Station as soon as the assembly of the International Space Station is completed.

(2) **FLIGHT SCHEDULE.**—If the Administrator, within 12 months before the scheduled date of the additional Space Shuttle flight authorized by paragraph (1), determines that—

Deadline.
President.
Notification.

(A) NASA will be unable to meet that launch date before the end of calendar year 2010, unless the President decides to extend Shuttle operations beyond 2010, or

(B) implementation of the additional flight requirement would, in and of itself, result in—

(i) significant increased costs to NASA over the cost estimate of the additional flight as determined by the Independent Program Assessment Office, or

(ii) unacceptable safety risks associated with making the flight before termination of the Space Shuttle program,

the Administrator shall notify the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science and Technology of the determination, and provide a detailed explanation of the basis for that determination. After the notification is provided to the Committees, the Administrator shall remove the flight from the Space Shuttle schedule unless the Congress by law reauthorizes the flight or the President certifies that it is in the national interest to fly the mission.

Certification.

(d) **TERMINATION OR SUSPENSION OF ACTIVITIES THAT WOULD PRECLUDE CONTINUED FLIGHT OF SPACE SHUTTLE PRIOR TO REVIEW BY THE INCOMING 2009 PRESIDENTIAL ADMINISTRATION.**—

(1) IN GENERAL.—The Administrator shall terminate or suspend any activity of the Agency that, if continued between the date of enactment of this Act and April 30, 2009, would preclude the continued safe and effective flight of the Space Shuttle after fiscal year 2010 if the President inaugurated on January 20, 2009, were to make a determination to delay the Space Shuttle's scheduled retirement.

(2) REPORT ON IMPACT OF COMPLIANCE.—Within 90 days after the date of enactment of this Act, the Administrator shall provide a report to the Congress describing the expected budgetary and programmatic impacts from compliance with paragraph (1). The report shall include—

(A) a summary of the actions taken to ensure the option to continue space shuttle flights beyond the end of fiscal year 2010 is not precluded before April 30, 2009;

(B) an estimate of additional costs incurred by each specific action identified in the summary provided under subparagraph (A);

(C) a description of the proposed plan for allocating those costs among anticipated fiscal year 2009 appropriations or existing budget authority;

(D) a description of any programmatic impacts within the Space Operations Mission Directorate that would result from reallocations of funds to meet the requirements of paragraph (1);

(E) a description of any additional authority needed to enable compliance with the requirements of paragraph (1); and

(F) a description of any potential disruption to the timely progress of development milestones in the preparation of infrastructure or work-force requirements for shuttle follow-on launch systems.

(e) REPORT ON IMPACTS OF SPACE SHUTTLE EXTENSION.—Within 120 days after the date of enactment of this Act, the Administrator shall provide a report to the Congress outlining options, impacts, and associated costs of ensuring the safe and effective operation of the Space Shuttle at the minimum rate necessary to support International Space Station operations and resupply, including for both a near-term, 1-to-2 year extension of Space Shuttle operations and for a longer term, 3-to-6 year extension. The report shall include an assessment of—

(1) annual fixed and marginal costs, including identification and cost impacts of options for cost-sharing with the Constellation program and including the impact of those cost-sharing options on the Constellation program;

(2) the safety of continuing the use of the Space Shuttle beyond 2010, including a probability risk assessment of a catastrophic accident before completion of the extended Space Shuttle flight program, the underlying assumptions used in calculating that probability, and comparing the associated safety risks with those of other existing and planned human-rated launch systems, including the Soyuz and Constellation vehicles;

(3) a description of the activities and an estimate of the associated costs that would be needed to maintain or improve Space Shuttle safety throughout the periods described in the first sentence of this subsection were the President inaugurated

on January 20, 2009, to extend Space Shuttle operations beyond 2010, the currently anticipated date of Space Shuttle retirement;

(4) the impacts on facilities, workforce, and resources for the Constellation program and on the cost and schedule of that program;

(5) assumptions regarding workforce, skill mix, launch and processing infrastructure, training, ground support, orbiter maintenance and vehicle utilization, and other relevant factors, as appropriate, used in deriving the cost and schedule estimates for the options studied;

(6) the extent to which program management, processes, and workforce and contractor assignments can be integrated and streamlined for maximum efficiency to support continued shuttle flights while transitioning to the Constellation program, including identification of associated cost impacts on both the Space Shuttle and the Constellation program;

(7) the impact of a Space Shuttle flight program extension on the United States' dependence on Russia for International Space Station crew rescue services; and

(8) the potential for enhancements of International Space Station research, logistics, and maintenance capabilities resulting from extended Shuttle flight operations and the costs associated with implementing any such enhancements.

SEC. 612. UNITED STATES COMMERCIAL CARGO CAPABILITY STATUS.

The Administrator shall determine the degree to which an increase in the amounts authorized to be appropriated under section 101(3) for the Commercial Orbital Transportation Services project to be used by Phase One team members of such project in fiscal year 2009 would reasonably be expected to accelerate development of Capabilities A, B, and C of such project to an effective operational capability as close to 2010 as possible.

SEC. 613. SPACE SHUTTLE TRANSITION.

42 USC 17761.

(a) DISPOSITION OF SHUTTLE-RELATED ASSETS.—

(1) **IN GENERAL.**—Not later than 90 days after the date of enactment of this Act, the Administrator shall submit to Congress a plan describing the process for the disposition of the remaining Space Shuttle Orbiters and other Space Shuttle program-related hardware after the retirement of the Space Shuttle fleet.

Deadline.
Plan.

(2) **PLAN REQUIREMENTS.**—The plan submitted under paragraph (1) shall include a description of a process by which educational institutions, science museums, and other appropriate organizations may acquire, through loan or disposal by the Federal Government, Space Shuttle program hardware.

(3) **PROHIBITION ON DISPOSITION BEFORE COMPLETION OF PLAN.**—The Administrator shall not dispose of any Space Shuttle program hardware before the plan required by paragraph (1) is submitted to Congress.

(b) SPACE SHUTTLE TRANSITION LIAISON OFFICE.—

(1) **ESTABLISHMENT.**—The Administrator shall develop a plan and establish a Space Shuttle Transition Liaison Office within the Office of Human Capital Management of NASA to assist local communities affected by the termination of the Space Shuttle program in mitigating the negative impacts on such communities caused by such termination. The plan shall

Plans.

define the size of the affected local community that would receive assistance described in paragraph (2).

(2) MANNER OF ASSISTANCE.—In providing assistance under paragraph (1), the office established under such paragraph shall—

(A) offer nonfinancial, technical assistance to communities described in such paragraph to assist in the mitigation described in such paragraph; and

(B) serve as a clearinghouse to assist such communities in identifying services available from other Federal, State, and local agencies to assist in such mitigation.

(3) TERMINATION OF OFFICE.—The office established under paragraph (1) shall terminate 2 years after the completion of the last Space Shuttle flight.

(4) SUBMISSION.—Not later than 180 days after the date of enactment of this Act, NASA shall provide a copy of the plan required by paragraph (1) to the Congress.

Deadline.
Records.

SEC. 614. AEROSPACE SKILLS RETENTION AND INVESTMENT REUTILIZATION REPORT.

(a) IN GENERAL.—The Administrator shall, in consultation with other Federal agencies, as appropriate—

(1) carry out an analysis of the facilities and human capital resources that will become available as a result of the retirement of the Space Shuttle program; and

(2) identify on-going or future Federal programs and projects that could use such facilities and resources.

(b) REPORT.—Not later than 180 days after the date of enactment of this Act, the Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report—

(1) on the analysis required by paragraph (1) of subsection (a), including the findings of the Administrator with respect to such analysis; and

(2) describing the programs and projects identified under paragraph (2) of such subsection.

SEC. 615. TEMPORARY CONTINUATION OF COVERAGE OF HEALTH BENEFITS.

(a) IN GENERAL.—Section 8905a(d) of title 5, United States Code, is amended by adding at the end the following new paragraph:

“(6)(A) If the basis for continued coverage under this section is, as a result of the termination of the Space Shuttle Program, an involuntary separation from a position due to a reduction-in-force or declination of a directed reassignment or transfer of function, or a voluntary separation from a surplus position in the National Aeronautics and Space Administration—

“(i) the individual shall be liable for not more than the employee contributions referred to in paragraph (1)(A)(i); and

Payments.

“(ii) the National Aeronautics and Space Administration shall pay the remaining portion of the amount required under paragraph (1)(A).

Applicability.

“(B) This paragraph shall only apply with respect to individuals whose continued coverage is based on a separation occurring on or after the date of enactment of this paragraph and before December 31, 2010.

“(C) For purposes of this paragraph, ‘surplus position’ means a position which is—

“(i) identified in pre-reduction-in-force planning as no longer required, and which is expected to be eliminated under formal reduction-in-force procedures as a result of the termination of the Space Shuttle Program; or

“(ii) encumbered by an employee who has received official certification from the National Aeronautics and Space Administration consistent with the Administration’s career transition assistance program regulations that the position is being abolished as a result of the termination of the Space Shuttle Program.”.

(b) CONFORMING AMENDMENT.—Paragraph (1)(A) of such subsection (d) is amended by striking “(4) and (5)” and inserting “(4), (5), and (6)”.

SEC. 616. ACCOUNTING REPORT.

Within 180 days after the date of enactment of this Act, the Administrator shall provide to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report that will summarize any actions taken or planned to be taken during fiscal years 2008 and 2009 to begin reductions in expenditures and activities related to the Space Shuttle program. The report shall include a summary of any actual or anticipated cost savings to the Space Shuttle program relative to the FY 2008 and FY 2009 Space Shuttle program budgets and runout projections as a result of such actions, as well as a summary of any actual or anticipated liens or budgetary challenges to the Space Shuttle program during fiscal years 2008 and 2009.

Subtitle C—Launch Services

SEC. 621. LAUNCH SERVICES STRATEGY.

42 USC 17771.

(a) IN GENERAL.—In preparation for the award of contracts to follow up on the current NASA Launch Services (NLS) contracts, the Administrator shall develop a strategy for providing domestic commercial launch services in support of NASA’s small and medium-sized Science, Space Operations, and Exploration missions, consistent with current law and policy.

(b) REPORT.—The Administrator shall transmit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate describing the strategy developed under subsection (a) not later than 90 days after the date of enactment of this Act. The report shall provide, at a minimum—

(1) the results of the Request for Information on small to medium-sized launch services released on April 22, 2008;

(2) an analysis of possible alternatives to maintain small and medium-sized lift capabilities after June 30, 2010, including the use of the Department of Defense’s Evolved Expendable Launch Vehicle (EELV);

(3) the recommended alternatives, and associated 5-year budget plans starting in October 2010 that would enable their implementation; and

(4) a contingency plan in the event the recommended alternatives described in paragraph (3) are not available when needed.

TITLE VII—EDUCATION

SEC. 701. RESPONSE TO REVIEW.

(a) **PLAN.**—The Administrator shall prepare a plan identifying actions taken or planned in response to the recommendations of the National Academies report, “NASA’s Elementary and Secondary Education Program: Review and Critique”. For those actions that have not been implemented, the plan shall include a schedule and budget required to support the actions.

(b) **REPORT.**—The plan prepared under subsection (a) shall be transmitted to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 1 year after the date of enactment of this Act.

SEC. 702. EXTERNAL REVIEW OF EXPLORER SCHOOLS PROGRAM.

(a) **REVIEW.**—The Administrator shall make arrangements for an independent external review of the Explorer Schools program to evaluate its goals, status, plans, and accomplishments.

(b) **REPORT.**—The report of the independent external review shall be transmitted to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 1 year after the date of enactment of this Act.

SEC. 703. SENSE OF CONGRESS ON EARTHKAM AND ROBOTICS COMPETITIONS.

It is the sense of Congress that NASA’s educational programs are important sources of inspiration and hands-on learning for the next generation of engineers and scientists and should be supported. In that regard, programs such as EarthKAM, which brings NASA directly into American classrooms by enabling students to talk directly with astronauts aboard the International Space Station and to take photographs of Earth from space, and NASA involvement in robotics competitions for students of all levels, are particularly worthy undertakings and NASA should support them and look for additional opportunities to engage students through NASA’s space and aeronautics activities.

42 USC 17781.

SEC. 704. ENHANCEMENT OF EDUCATIONAL ROLE OF NASA.

(a) **SENSE OF CONGRESS.**—It is the sense of Congress that the International Space Station offers a unique opportunity for Federal agencies to engage students in science, technology, engineering, and mathematics education. Congress encourages NASA to include other Federal agencies in its planning efforts to use the International Space Station National Laboratory for science, technology, engineering, and mathematics educational activities.

(b) **EXPERIMENTAL PROGRAM TO STIMULATE COMPETITIVE RESEARCH.**—In order to ensure that research expertise and talent throughout the Nation is developed and engaged in NASA research and education activities, NASA shall, as part of its annual budget submission, detail additional steps that can be taken to further

integrate the participating EPSCoR States in both existing and new or emerging NASA research programs and center activities.

(c) NATIONAL SPACE GRANT COLLEGE AND FELLOWSHIP PROGRAM.—NASA shall continue its emphasis on the importance of education to expand opportunities for Americans to understand and participate in NASA's aeronautics and space projects by supporting and enhancing science and engineering education, research, and public outreach efforts.

TITLE VIII—NEAR-EARTH OBJECTS

SEC. 801. REAFFIRMATION OF POLICY.

42 USC 17791.

(a) REAFFIRMATION OF POLICY ON SURVEYING NEAR-EARTH ASTEROIDS AND COMETS.—Congress reaffirms the policy set forth in section 102(g) of the National Aeronautics and Space Act of 1958 (42 U.S.C. 2451(g)) (relating to surveying near-Earth asteroids and comets).

(b) SENSE OF CONGRESS ON BENEFITS OF NEAR-EARTH OBJECT PROGRAM ACTIVITIES.—It is the sense of Congress that the near-Earth object program activities of NASA will provide benefits to the scientific and exploration activities of NASA.

SEC. 802. FINDINGS.

42 USC 17792.

Congress makes the following findings:

(1) Near-Earth objects pose a serious and credible threat to humankind, as many scientists believe that a major asteroid or comet was responsible for the mass extinction of the majority of the Earth's species, including the dinosaurs, nearly 65,000,000 years ago.

(2) Several such near-Earth objects have only been discovered within days of the objects' closest approach to Earth and recent discoveries of such large objects indicate that many large near-Earth objects remain undiscovered.

(3) Asteroid and comet collisions rank as one of the most costly natural disasters that can occur.

(4) The time needed to eliminate or mitigate the threat of a collision of a potentially hazardous near-Earth object with Earth is measured in decades.

(5) Unlike earthquakes and hurricanes, asteroids and comets can provide adequate collision information, enabling the United States to include both asteroid-collision and comet-collision disaster recovery and disaster avoidance in its public-safety structure.

(6) Basic information is needed for technical and policy decisionmaking for the United States to create a comprehensive program in order to be ready to eliminate and mitigate the serious and credible threats to humankind posed by potentially hazardous near-Earth asteroids and comets.

(7) As a first step to eliminate and to mitigate the risk of such collisions, situation and decision analysis processes, as well as procedures and system resources, must be in place well before a collision threat becomes known.

SEC. 803. REQUESTS FOR INFORMATION.

42 USC 17793.

The Administrator shall issue requests for information on—

(1) a low-cost space mission with the purpose of rendezvousing with, attaching a tracking device, and characterizing the Apophis asteroid; and

(2) a medium-sized space mission with the purpose of detecting near-Earth objects equal to or greater than 140 meters in diameter.

42 USC 17794.

SEC. 804. ESTABLISHMENT OF POLICY WITH RESPECT TO THREATS POSED BY NEAR-EARTH OBJECTS.

Deadline.

Within 2 years after the date of enactment of this Act, the Director of the OSTP shall—

(1) develop a policy for notifying Federal agencies and relevant emergency response institutions of an impending near-Earth object threat, if near-term public safety is at risk; and

Recommendations.

(2) recommend a Federal agency or agencies to be responsible for—

(A) protecting the United States from a near-Earth object that is expected to collide with Earth; and

(B) implementing a deflection campaign, in consultation with international bodies, should one be necessary.

42 USC 17795.

SEC. 805. PLANETARY RADAR CAPABILITY.

The Administrator shall maintain a planetary radar that is comparable to the capability provided through the Deep Space Network Goldstone facility of NASA.

SEC. 806. ARECIBO OBSERVATORY.

Congress reiterates its support for the use of the Arecibo Observatory for NASA-funded near-Earth object-related activities. The Administrator, using funds authorized in section 101(a)(1)(B), shall ensure the availability of the Arecibo Observatory's planetary radar to support these activities until the National Academies' review of NASA's approach for the survey and deflection of near-Earth objects, including a determination of the role of Arecibo, that was directed to be undertaken by the Fiscal Year 2008 Omnibus Appropriations Act, is completed.

SEC. 807. INTERNATIONAL RESOURCES.

It is the sense of Congress that, since an estimated 25,000 asteroids of concern have yet to be discovered and monitored, the United States should seek to obtain commitments for cooperation from other nations with significant resources for contributing to a thorough and timely search for such objects and an identification of their characteristics.

TITLE IX—COMMERCIAL INITIATIVES

SEC. 901. SENSE OF CONGRESS.

It is the sense of Congress that a healthy and robust commercial sector can make significant contributions to the successful conduct of NASA's space exploration program. While some activities are inherently governmental in nature, there are many other activities, such as routine supply of water, fuel, and other consumables to low Earth orbit or to destinations beyond low Earth orbit, and provision of power or communications services to lunar outposts, that potentially could be carried out effectively and efficiently by

the commercial sector at some point in the future. Congress encourages NASA to look for such service opportunities and, to the maximum extent practicable, make use of the commercial sector to provide those services. It is further the sense of Congress that United States entrepreneurial space companies have the potential to develop and deliver innovative technology solutions at affordable costs. NASA is encouraged to use United States entrepreneurial space companies to conduct appropriate research and development activities. NASA is further encouraged to seek ways to ensure that firms that rely on fixed-price proposals are not disadvantaged when NASA seeks to procure technology development.

SEC. 902. COMMERCIAL CREW INITIATIVE.

42 USC 17801.

(a) **IN GENERAL.**—In order to stimulate commercial use of space, help maximize the utility and productivity of the International Space Station, and enable a commercial means of providing crew transfer and crew rescue services for the International Space Station, NASA shall—

(1) make use of United States commercially provided International Space Station crew transfer and crew rescue services to the maximum extent practicable, if those commercial services have demonstrated the capability to meet NASA-specified ascent, entry, and International Space Station proximity operations safety requirements;

(2) limit, to the maximum extent practicable, the use of the Crew Exploration Vehicle to missions carrying astronauts beyond low Earth orbit once commercial crew transfer and crew rescue services that meet safety requirements become operational;

(3) facilitate, to the maximum extent practicable, the transfer of NASA-developed technologies to potential United States commercial crew transfer and rescue service providers, consistent with United States law; and

(4) issue a notice of intent, not later than 180 days after the date of enactment of this Act, to enter into a funded, competitively awarded Space Act Agreement with 2 or more commercial entities for a Phase 1 Commercial Orbital Transportation Services crewed vehicle demonstration program.

Notice.
Deadline.
Contracts.

(b) **CONGRESSIONAL INTENT.**—It is the intent of Congress that funding for the program described in subsection (a)(4) shall not come at the expense of full funding of the amounts authorized under section 101(3)(A), and for future fiscal years, for Orion Crew Exploration Vehicle development, Ares I Crew Launch Vehicle development, or International Space Station cargo delivery.

(c) **ADDITIONAL TECHNOLOGIES.**—NASA shall make International Space Station-compatible docking adaptors and other relevant technologies available to the commercial crew providers selected to service the International Space Station.

(d) **CREW TRANSFER AND CREW RESCUE SERVICES CONTRACT.**—If a commercial provider demonstrates the capability to provide International Space Station crew transfer and crew rescue services and to satisfy NASA ascent, entry, and International Space Station proximity operations safety requirements, NASA shall enter into an International Space Station crew transfer and crew rescue services contract with that commercial provider for a portion of NASA's anticipated International Space Station crew transfer and crew

rescue requirements from the time the commercial provider commences operations under contract with NASA through calendar year 2016, with an option to extend the period of performance through calendar year 2020.

TITLE X—REVITALIZATION OF NASA INSTITUTIONAL CAPABILITIES

SEC. 1001. REVIEW OF INFORMATION SECURITY CONTROLS.

(a) **REPORT ON CONTROLS.**—Not later than one year after the date of enactment of this Act, the Comptroller General shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a review of information security controls that protect NASA's information technology resources and information from inadvertent or deliberate misuse, fraudulent use, disclosure, modification, or destruction. The review shall focus on networks servicing NASA's mission directorates. In assessing these controls, the review shall evaluate—

(1) the network's ability to limit, detect, and monitor access to resources and information, thereby safeguarding and protecting them from unauthorized access;

(2) the physical access to network resources; and

(3) the extent to which sensitive research and mission data is encrypted.

(b) **RESTRICTED REPORT ON INTRUSIONS.**—Not later than one year after the date of enactment of this Act, and in conjunction with the report described in subsection (a), the Comptroller General shall transmit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a restricted report detailing results of vulnerability assessments conducted by the Government Accountability Office on NASA's network resources. Intrusion attempts during such vulnerability assessments shall be divulged to NASA senior management prior to their application. The report shall put vulnerability assessment results in the context of unauthorized accesses or attempts during the prior two years and the corrective actions, recent or ongoing, that NASA has implemented in conjunction with other Federal authorities to prevent such intrusions.

42 USC 17811.

SEC. 1002. MAINTENANCE AND UPGRADE OF CENTER FACILITIES.

(a) **IN GENERAL.**—In order to sustain healthy Centers that are capable of carrying out NASA's missions, the Administrator shall ensure that adequate maintenance and upgrading of those Center facilities is performed on a regular basis.

Strategy.
Budget plan.

(b) **REVIEW.**—The Administrator shall determine and prioritize the maintenance and upgrade backlog at each of NASA's Centers and associated facilities, and shall develop a strategy and budget plan to reduce that maintenance and upgrade backlog by 50 percent over the next five years.

(c) **REPORT.**—The Administrator shall deliver a report to Congress on the results of the activities undertaken in subsection (b) concurrently with the delivery of the fiscal year 2011 budget request.

SEC. 1003. ASSESSMENT OF NASA LABORATORY CAPABILITIES.

42 USC 17812.

(a) **IN GENERAL.**—NASA's laboratories are a critical component of NASA's research capabilities, and the Administrator shall ensure that those laboratories remain productive.

(b) **REVIEW.**—The Administrator shall enter into an arrangement for an independent external review of NASA's laboratories, including laboratory equipment, facilities, and support services, to determine whether they are equipped and maintained at a level adequate to support NASA's research activities. The assessment shall also include an assessment of the relative quality of NASA's in-house laboratory equipment and facilities compared to comparable laboratories elsewhere. The results of the review shall be provided to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 18 months after the date of enactment of this Act.

Deadline.

SEC. 1004. STUDY AND REPORT ON PROJECT ASSIGNMENT AND WORK ALLOCATION OF FIELD CENTERS.

(a) **STUDY.**—

(1) **IN GENERAL.**—Not later than 180 days after the date of enactment of this Act, the Administrator shall complete a study of all field centers of NASA, including the Michoud Assembly Facility.

(2) **MATTERS STUDIED.**—The study required by paragraph (1) shall include the mission and future roles and responsibilities of the field centers, including the Michoud Assembly Facility, described in paragraph (1).

(b) **REPORT.**—

(1) **IN GENERAL.**—Not later than 180 days after the date of enactment of this Act, the Administrator shall submit to the appropriate congressional committees a report on the study required by subsection (a)(1).

(2) **CONTENT.**—The report required by paragraph (1) shall include the following:

(A) A comprehensive analysis of the work allocation of all field centers of NASA, including the Michoud Assembly Facility.

(B) A description of the program and project roles, functions, and activities assigned to each field center, including the Michoud Assembly Facility.

(C) Details on how field centers, including the Michoud Assembly Facility, are selected and designated for lead and support role work assignments (including program and contract management assignments).

TITLE XI—OTHER PROVISIONS

SEC. 1101. SPACE WEATHER.

(a) **PLAN FOR REPLACEMENT OF ADVANCED COMPOSITION EXPLORER AT L-1 LAGRANGIAN POINT.**—

(1) **PLAN.**—The Director of OSTP shall develop a plan for sustaining space-based measurements of solar wind from the L-1 Lagrangian point in space and for the dissemination of the data for operational purposes. OSTP shall consult with

Consultation.

NASA, NOAA, and other Federal agencies, and with industry, in developing the plan.

(2) REPORT.—The Director shall transmit the plan to Congress not later than 1 year after the date of enactment of this Act.

(b) ASSESSMENT OF THE IMPACT OF SPACE WEATHER ON AVIATION.—

(1) STUDY.—The Director of OSTP shall enter into an arrangement with the National Research Council for a study of the impacts of space weather on the current and future United States aviation industry, and in particular to examine the risks for Over-The-Pole (OTP) and Ultra-Long-Range (ULR) operations. The study shall—

(A) examine space weather impacts on, at a minimum, communications, navigation, avionics, and human health in flight;

(B) assess the benefits of space weather information and services to reduce aviation costs and maintain safety; and

(C) provide recommendations on how NOAA, the National Science Foundation, and other relevant agencies, can most effectively carry out research and monitoring activities related to space weather and aviation.

(2) REPORT.—A report containing the results of the study shall be provided to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate not later than 1 year after the date of enactment of this Act.

42 USC 17821.

SEC. 1102. INITIATION OF DISCUSSIONS ON DEVELOPMENT OF FRAMEWORK FOR SPACE TRAFFIC MANAGEMENT.

(a) FINDING.—Congress finds that as more countries acquire the capability for launching payloads into outer space, there is an increasing need for a framework under which information intended to promote safe access into outer space, operations in outer space, and return from outer space to Earth free from physical or radio-frequency interference can be shared among those countries.

(b) DISCUSSIONS.—The Administrator shall, in consultation with such other agencies of the Federal Government as the Administrator considers appropriate, initiate discussions with the appropriate representatives of other space-faring countries to determine an appropriate framework under which information intended to promote safe access into outer space, operations in outer space, and return from outer space to Earth free from physical or radio-frequency interference can be shared among those nations.

42 USC 17822.

SEC. 1103. ASTRONAUT HEALTH CARE.

(a) SURVEY.—The Administrator shall administer an anonymous survey of astronauts and flight surgeons to evaluate communication, relationships, and the effectiveness of policies. The survey questions and the analysis of results shall be evaluated by experts independent of NASA. The survey shall be administered on at least a biennial basis.

Deadlines.

(b) REPORT.—The Administrator shall transmit a report of the results of the survey to Congress not later than 90 days following completion of the survey.

SEC. 1104. NATIONAL ACADEMIES DECADAL SURVEYS.

42 USC 17823.

(a) **IN GENERAL.**—The Administrator shall enter into agreements on a periodic basis with the National Academies for independent assessments, also known as decadal surveys, to take stock of the status and opportunities for Earth and space science discipline fields and Aeronautics research and to recommend priorities for research and programmatic areas over the next decade.

(b) **INDEPENDENT COST ESTIMATES.**—The agreements described in subsection (a) shall include independent estimates of the life cycle costs and technical readiness of missions assessed in the decadal surveys whenever possible.

(c) **REEXAMINATION.**—The Administrator shall request that each National Academies decadal survey committee identify any conditions or events, such as significant cost growth or scientific or technological advances, that would warrant NASA asking the National Academies to reexamine the priorities that the decadal survey had established.

SEC. 1105. INNOVATION PRIZES.

(a) **IN GENERAL.**—Prizes can play a useful role in encouraging innovation in the development of technologies and products that can assist NASA in its aeronautics and space activities, and the use of such prizes by NASA should be encouraged.

42 USC 2459f-1 note.

(b) **AMENDMENTS.**—Section 314 of the National Aeronautics and Space Act of 1958 is amended—

42 USC 2459f-1.

(1) by amending subsection (b) to read as follows:

“(b) **TOPICS.**—In selecting topics for prize competitions, the Administrator shall consult widely both within and outside the Federal Government, and may empanel advisory committees. The Administrator shall give consideration to prize goals such as the demonstration of the ability to provide energy to the lunar surface from space-based solar power systems, demonstration of innovative near-Earth object survey and deflection strategies, and innovative approaches to improving the safety and efficiency of aviation systems.”; and

Consultation.

(2) in subsection (i)(4) by striking “\$10,000,000” and inserting “\$50,000,000”.

SEC. 1106. COMMERCIAL SPACE LAUNCH RANGE STUDY.

(a) **STUDY BY INTERAGENCY COMMITTEE.**—The Director of OSTP shall work with other appropriate Federal agencies to establish an interagency committee to conduct a study to—

Establishment.

(1) identify the issues and challenges associated with establishing space launch ranges and facilities that are fully dedicated to commercial space missions in close proximity to Federal launch ranges or other Federal facilities; and

(2) develop a coordinating mechanism such that States seeking to establish such commercial space launch ranges will be able to effectively and efficiently interface with the Federal Government concerning issues related to the establishment of such commercial launch ranges in close proximity to Federal launch ranges or other Federal facilities.

(b) **REPORT.**—The Director shall, not later than May 31, 2010, submit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the results of the study conducted under subsection (a).

42 USC 17824.

SEC. 1107. NASA OUTREACH PROGRAM.

(a) **ESTABLISHMENT.**—NASA shall competitively select an organization to partner with NASA centers, aerospace contractors, and academic institutions to carry out a program to help promote the competitiveness of small, minority-owned, and women-owned businesses in communities across the United States through enhanced insight into the technologies of NASA's space and aeronautics programs. The program shall support the mission of NASA's Innovative Partnerships Program with its emphasis on joint partnerships with industry, academia, government agencies, and national laboratories.

(b) **PROGRAM STRUCTURE.**—In carrying out the program described in subsection (a), the organization shall support the mission of NASA's Innovative Partnerships Program by undertaking the following activities:

(1) Facilitating the enhanced insight of the private sector into NASA's technologies in order to increase the competitiveness of the private sector in producing viable commercial products.

(2) Creating a network of academic institutions, aerospace contractors, and NASA centers that will commit to donating appropriate technical assistance to small businesses, giving preference to socially and economically disadvantaged small business concerns, small business concerns owned and controlled by service-disabled veterans, and HUBZone small business concerns. This paragraph shall not apply to any contracting actions entered into or taken by NASA.

(3) Creating a network of economic development organizations to increase the awareness and enhance the effectiveness of the program nationwide.

(c) **REPORT.**—Not later than 1 year after the date of enactment of this Act, and annually thereafter, the Administrator shall submit a report to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate describing the efforts and accomplishments of the program established under subsection (a) in support of NASA's Innovative Partnerships Program. As part of the report, the Administrator shall provide—

(1) data on the number of small businesses receiving assistance, jobs created and retained, and volunteer hours donated by NASA, contractors, and academic institutions nationwide;

(2) an estimate of the total dollar value of the economic impact made by small businesses that received technical assistance through the program; and

(3) an accounting of the use of funds appropriated for the program.

SEC. 1108. REDUCTION-IN-FORCE MORATORIUM.

NASA shall not initiate or implement a reduction-in-force, or conduct any other involuntary separations of permanent, non-Senior Executive Service, civil servant employees before December 31, 2010, except for cause on charges of misconduct, delinquency, or inefficiency.

SEC. 1109. PROTECTION OF SCIENTIFIC CREDIBILITY, INTEGRITY, AND COMMUNICATION WITHIN NASA. 42 USC 17825.

(a) SENSE OF THE CONGRESS.—It is the sense of Congress that NASA should not dilute, distort, suppress, or impede scientific research or the dissemination thereof.

(b) STUDY.—Within 60 days after the date of enactment of this Act, the Comptroller General shall— Deadlines.

(1) initiate a study to be completed within 270 days to determine whether the regulations set forth in part 1213 of title 14, Code of Federal Regulations, are being implemented in a clear and consistent manner by NASA to ensure the dissemination of research; and

(2) transmit a report to the Congress setting forth the Comptroller General's findings, conclusions, and recommendations. Reports.

(c) RESEARCH.—The Administrator shall work to ensure that NASA's policies on the sharing of climate related data respond to the recommendations of the Government Accountability Office's report on climate change research and data-sharing policies and to the recommendations on the processing, distribution, and archiving of data by the National Academies Earth Science Decadal Survey, "Earth Science and Applications from Space", and other relevant National Academies reports, to enhance and facilitate their availability and widest possible use to ensure public access to accurate and current data on global warming.

SEC. 1110. SENSE OF CONGRESS REGARDING THE NEED FOR A ROBUST WORKFORCE.

It is the sense of Congress that—

(1) a robust and highly skilled workforce is critical to the success of NASA's programs;

(2) voluntary attrition, the retirement of many senior workers, and difficulties in recruiting could leave NASA without access to the intellectual capital necessary to compete with its global competitors; and

(3) NASA should work cooperatively with other agencies of the United States Government responsible for programs related to space and the aerospace industry to develop and implement policies, including those with an emphasis on improving science, technology, engineering, and mathematics education at all levels, to sustain and expand the diverse workforce available to NASA.

SEC. 1111. METHANE INVENTORY.

42 USC 17826.

Within 12 months after the date of enactment of this Act, the Director of OSTP, in conjunction with the Administrator, the Administrator of NOAA, and other appropriate Federal agencies and academic institutions, shall develop a plan, including a cost estimate and timetable, and initiate an inventory of natural methane stocks and fluxes in the polar region of the United States.

Deadline.
Plan.**SEC. 1112. EXCEPTION TO ALTERNATIVE FUEL PROCUREMENT REQUIREMENT.**

42 USC 17827.

Section 526(a) of the Energy Independence and Security Act of 2007 (42 U.S.C. 17142(a)) does not prohibit NASA from entering into a contract to purchase a generally available fuel that is not an alternative or synthetic fuel or predominantly produced from a nonconventional petroleum source, if—

(1) the contract does not specifically require the contractor to provide an alternative or synthetic fuel or fuel from a nonconventional petroleum source;

(2) the purpose of the contract is not to obtain an alternative or synthetic fuel or fuel from a nonconventional petroleum source; and

(3) the contract does not provide incentives for a refinery upgrade or expansion to allow a refinery to use or increase its use of fuel from a nonconventional petroleum source.

SEC. 1113. SENSE OF CONGRESS ON THE IMPORTANCE OF THE NASA OFFICE OF PROGRAM ANALYSIS AND EVALUATION.

(a) OFFICE OF PROGRAM ANALYSIS AND EVALUATION.—It is the sense of Congress that it is important for NASA to maintain an Office of Program Analysis and Evaluation that has as its mission:

(1) To develop strategic plans for NASA in accordance with section 306 of title 5, United States Code.

(2) To develop annual performance plans for NASA in accordance with section 1115 of title 31, United States Code.

(3) To provide analysis and recommendations to the Administrator on matters relating to the planning and programming phases of the Planning, Programming, Budgeting, and Execution system of NASA.

(4) To provide analysis and recommendations to the Administrator on matters relating to acquisition management and program oversight, including cost-estimating processes, contractor cost reporting processes, and contract performance assessments.

(b) OBJECTIVES.—It is further the sense of Congress that in performing those functions, the objectives of the Office should be the following:

(1) To align NASA's mission, strategic plan, budget, and performance plan with strategic goals and institutional requirements of NASA.

(2) To provide objective analysis of programs and institutions of NASA—

(A) to generate investment options for NASA; and

(B) to inform strategic decision making in NASA.

(3) To enable cost-effective, strategically aligned execution of programs and projects by NASA.

(4) To perform independent cost estimation in support of NASA decision making and establishment of standards for agency cost analysis.

(5) To ensure that budget formulation and execution are consistent with strategic investment decisions of NASA.

(6) To provide independent program and project reviews that address the credibility of technical, cost, schedule, risk, and management approaches with respect to available resources.

(7) To facilitate progress by NASA toward meeting the commitments of NASA.

SEC. 1114. SENSE OF CONGRESS ON ELEVATING THE IMPORTANCE OF SPACE AND AERONAUTICS WITHIN THE EXECUTIVE OFFICE OF THE PRESIDENT.

It is the sense of Congress that the President should elevate the importance of space and aeronautics within the Executive Office of the President by organizing the interagency focus on space and

aeronautics matters in as effective a manner as possible, such as by means of the National Space Council authorized by section 501 of the National Aeronautics and Space Administration Authorization Act, Fiscal Year 1989 (42 U.S.C. 2471) or other appropriate mechanisms.

SEC. 1115. STUDY ON LEASING PRACTICES OF FIELD CENTERS.

(a) **STUDY.**—Not later than 180 days after the date of enactment of this Act, the Administrator shall complete a study on the leasing practices of all field centers of NASA, including the Michoud Assembly Facility. Such study shall include the following: Deadline.

(1) The method by which overhead maintenance expenses are distributed among tenants of such field centers.

(2) Identification of the impacts of such method on attracting businesses and partnerships to such field centers.

(3) Identification of the steps that can be taken to mitigate any adverse impacts identified under paragraph (2).

(b) **REPORT.**—Not later than 180 days after the date of enactment of this Act, the Administrator shall submit to the Committee on Science and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report on the study required by subsection (a), including the following:

(1) The findings of the Administrator with respect to such study.

(2) A description of the impacts identified under subsection (a)(2).

(3) The steps identified under subsection (a)(3).

SEC. 1116. COOPERATIVE UNMANNED AERIAL VEHICLE ACTIVITIES. 42 USC 17828.

The Administrator, in cooperation with the Administrator of NOAA and in coordination with other agencies that have existing civil capabilities, shall continue to utilize the capabilities of unmanned aerial vehicles as appropriate in support of NASA and interagency cooperative missions. The Administrator may enter into cooperative agreements with universities with unmanned aerial vehicle programs and related assets to conduct collaborative research and development activities, including development of appropriate applications of small unmanned aerial vehicle technologies and systems in remote areas.

SEC. 1117. DEVELOPMENT OF ENHANCED-USE LEASE POLICY.

42 USC 17829.

(a) **IN GENERAL.**—The Administrator shall develop an agency-wide enhanced-use lease policy that—

(1) is based upon sound business practices and lessons learned from the demonstration centers; and

(2) establishes controls and procedures to ensure accountability and protect the interests of the Government.

(b) **CONTENTS.**—The policy required by subsection (a) shall include the following:

(1) Criteria for determining whether enhanced-use lease provides better economic value to the Government than other options, such as—

(A) Federal financing through appropriations; or

(B) sale of the property.

(2) Requirement for the identification of proposed physical and procedural changes needed to ensure security and restrict access to specified areas, coordination of proposed changes with

existing site tenants, and development of estimated costs of such changes.

(3) Measures of effectiveness for the enhanced-use lease program.

(4) Accounting controls and procedures to ensure accountability, such as an audit trail and documentation to readily support financial transactions.

(c) ANNUAL REPORT.—Section 315(f) of the National Aeronautics and Space Administration Act of 1958 (42 U.S.C. 2459j(f)) is amended to read as follows:

“(f) REPORTING REQUIREMENTS.—The Administrator shall submit an annual report by January 31st of each year. Such report shall include the following:

“(1) Information that identifies and quantifies the value of the arrangements and expenditures of revenues received under this section.

“(2) The availability and use of funds received under this section for the Agency’s operating plan.”.

(d) DISTRIBUTION OF CASH CONSIDERATION RECEIVED.—

(1) IN GENERAL.—Section 315(b)(3)(B) of such Act (42 U.S.C. 2459j(b)(3)(B)) is amended to read as follows:

“(B) Of any amounts of cash consideration received under this subsection that are not utilized in accordance with subparagraph (A)—

“(i) 35 percent shall be deposited in a capital asset account to be established by the Administrator, shall be available for maintenance, capital revitalization, and improvements of the real property assets and related personal property under the jurisdiction of the Administrator, and shall remain available until expended; and

“(ii) the remaining 65 percent shall be available to the respective center or facility of the Administration engaged in the lease of nonexcess real property, and shall remain available until expended for maintenance, capital revitalization, and improvements of the real property assets and related personal property at the respective center or facility subject to the concurrence of the Administrator.”.

(2) CONFORMING AMENDMENTS.—Section 533 of the Consolidated Appropriations Act, 2008 (Public Law 110-161; 121 Stat. 1931) is amended—

(A) by amending subsection (b)(4) to read as follows:

“(4) in paragraph (2), as redesignated by paragraph (3) of this subsection, by adding at the end the following new subparagraph:

“(C) Amounts utilized under subparagraph (B) may not be utilized for daily operating costs.”; and

(B) in subsection (d)—

(i) by striking “the following new subsection (f)” and inserting “the following new subsection”; and

(ii) in the quoted matter, by redesignating subsection (f) as subsection (g).

42 USC 2459j.

SEC. 1118. SENSE OF CONGRESS WITH RESPECT TO THE MICHLOUD ASSEMBLY FACILITY AND NASA'S OTHER CENTERS AND FACILITIES.

It is the sense of Congress that the Michoud Assembly Facility represents a unique resource in the facilitation of the Nation's exploration programs and that every effort should be made to ensure the effective utilization of that resource, as well as NASA's other centers and facilities.

SEC. 1119. REPORT ON U.S. INDUSTRIAL BASE FOR LAUNCH VEHICLE ENGINES.

Not later than 180 days after the date of Enactment of this Act, the Director of the Office of Science and Technology Policy shall submit to Congress a report setting forth the assessment of the Director as to the capacity of the United States industrial base for development and production of engines to meet United States Government and commercial requirements for space launch vehicles. The report required by this section shall include information regarding existing, pending, and planned engine developments across a broad spectrum of thrust capabilities, including propulsion for sub-orbital, small, medium, and heavy-lift space launch vehicles.

SEC. 1120. SENSE OF CONGRESS ON PRECURSOR INTERNATIONAL SPACE STATION RESEARCH.

It is the Sense of Congress that NASA is taking positive steps to utilize the Space Shuttle as a platform for precursor International Space Station research by maximizing to the extent practicable the use of middeck accommodations, including soft stowage, for near-term scientific and commercial applications on remaining Space Shuttle flights, and the Administrator is strongly encouraged to continue to promote the effective utilization of the Space Shuttle for precursor research within the constraints of the International Space Station assembly requirements.

SEC. 1121. LIMITATION ON FUNDING FOR CONFERENCES.

(a) IN GENERAL.—There are authorized to be appropriated not more than \$5,000,000 for any expenses related to conferences, including conference programs, travel costs, and related expenses. No funds authorized under this Act may be used to support a Space Flight Awareness Launch Honoree Event conference. The total amount of the funds available under this Act for other Space Flight Awareness Honoree-related activities in fiscal year 2009 may not exceed ½ of the total amount of funds from all sources obligated or expended on such activities in fiscal year 2008.

(b) QUARTERLY REPORTS.—The Administrator shall submit quarterly reports to the Inspector General of NASA regarding the costs and contracting procedures relating to each conference held by NASA during fiscal year 2009 for which the cost to the Government is more than \$20,000. Each report shall include, for each conference described in that subsection held during the applicable quarter—

(1) a description of the subject of and number of participants attending, the conference, including the number of NASA employees attending and the number of contractors attending at agency expense;

(2) a detailed statement of the costs to the Government relating to the conference, including—

(A) the cost of any food or beverages;

- (B) the cost of any audio-visual services; and
- (C) a discussion of the methodology used to determine which costs relate to the conference; and
- D) cost of any room, board, travel, and per diem expenses; and
- (3) a description of the contracting procedures relating to the conference, including—
 - (A) whether contracts were awarded on a competitive basis for that conference; and
 - (B) a discussion of any cost comparison conducted by NASA in evaluating potential contractors for that conference.

SEC. 1122. REPORT ON NASA EFFICIENCY AND PERFORMANCE.

(a) **IN GENERAL.**—Not later than 1 year after the date of enactment of this Act, the Comptroller General of the United States shall submit to Congress a report that contains a review of NASA programs and associated activities with an annual funding level of more than \$50,000,000 that appear to be similar in scope and purpose to other activities within the Federal government, that includes—

- (1) a brief description of each NASA program reviewed and its subordinate activities;
- (2) the annual and cumulative appropriation amounts expended for each program reviewed and its subordinate activities since fiscal year 2005;
- (3) a brief description of each Federal program and its subordinate activities that appears to have a similar scope and purpose to a NASA program; and
- (4) a review of the formal and informal processes by which NASA coordinates with other Federal agencies to ensure that its programs and activities are not duplicative of similar efforts within the Federal government and that the programs and activities meet the core mission of NASA, and the degree of transparency and accountability afforded by those processes.

(b) **DUPLICATIVE PROGRAMS.**—If the Comptroller General determines, under subsection (a)(4), that any deficiency exists in the NASA procedures intended to avoid or eliminate conflict or duplication with other Federal agency activities, the Comptroller General shall include a recommendation as to how such procedures should be modified to ensure similar programs and associated activities

can be consolidated, eliminated, or streamlined within NASA or within other Federal agencies to improve efficiency.

Approved October 15, 2008.

LEGISLATIVE HISTORY—H.R. 6063 (S. 3270):

HOUSE REPORTS: No. 110-702 (Comm. on Science and Technology).

SENATE REPORTS: No. 110-422 accompanying S. 3270 (Comm. on Commerce, Science, and Transportation).

CONGRESSIONAL RECORD, Vol. 154 (2008):

June 12, 18, considered and passed House.

Sept. 25, considered and passed Senate, amended.

Sept. 27, House concurred in Senate amendment.



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Committee Substitute for Senate Bill No. 2438

An act relating to informed consent for spaceflight; creating part III of ch. 331, F.S.; providing definitions; providing immunity from liability for injury to or death of certain participants in spaceflight activities if specified informed consent requirements are complied with; providing exceptions; requiring each participant to sign a warning statement; providing minimum requirements for a warning statement; providing for future expiration of the act; providing an effective date.

Be It Enacted by the Legislature of the State of Florida:

Section 1. Part III of chapter 331, Florida Statutes, consisting of section 331.501, is created to read:

PART III
SPACEFLIGHT

331.501 Spaceflight; informed consent.—

(1) For purposes of this section, the term:

(a) “Participant” means any space flight participant as that term is defined in 49 U.S.C. s. 70102.

(b) “Spaceflight activities” means launch services or reentry services as those terms are defined in 49 U.S.C. s. 70102.

(c) “Spaceflight entity” means any public or private entity holding a United States Federal Aviation Administration launch, reentry, operator, or launch site license for spaceflight activities.

(2)(a) Except as provided in paragraph (b), a spaceflight entity is not liable for injury to or death of a participant resulting from the inherent risks of spaceflight activities so long as the warning contained in subsection (3) is distributed and signed as required. Except as provided in paragraph (b), a participant or participant’s representative may not maintain an action against or recover from a spaceflight entity for the loss, damage, or death of the participant resulting exclusively from any of the inherent risks of spaceflight activities.

(b) Paragraph (a) does not prevent or limit the liability of a spaceflight entity if the spaceflight entity does any one or more of the following:

1. Commits an act or omission that constitutes gross negligence or willful or wanton disregard for the safety of the participant and that act or omission proximately causes injury, damage, or death to the participant;

2. Has actual knowledge or reasonably should have known of a dangerous condition on the land or in the facilities or equipment used in the

spaceflight activities and the danger proximately causes injury, damage, or death to the participant; or

3. Intentionally injures the participant.

(c) Any limitation on legal liability afforded by this subsection to a spaceflight entity is in addition to any other limitation of legal liability otherwise provided by law.

(3)(a) Every spaceflight entity providing spaceflight activities to a participant, whether such activities occur on or off the site of a facility capable of launching a suborbital flight, shall have each participant sign the warning statement specified in paragraph (b).

(b) The warning statement described in paragraph (a) shall contain, at a minimum, the following statement:

“WARNING: Under Florida law, there is no liability for an injury to or death of a participant in a spaceflight activity provided by a spaceflight entity if such injury or death results from the inherent risks of the spaceflight activity. Injuries caused by the inherent risks of spaceflight activities may include, among others, injury to land, equipment, persons, and animals, as well as the potential for you to act in a negligent manner that may contribute to your injury or death. You are assuming the risk of participating in this spaceflight activity.”

(c) Failure to comply with the warning statement requirements in this section shall prevent a spaceflight entity from invoking the privileges of immunity provided by this section.

(4) This section expires October 2, 2018, unless reviewed and saved from repeal through reenactment by the Legislature.

Section 2. This act shall take effect October 1, 2008.

Approved by the Governor June 17, 2008.

Filed in Office Secretary of State June 17, 2008.

A BILL FOR AN ACT

RELATING TO AEROSPACE DEVELOPMENT.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that outer space is the
2 next frontier and an industry in its infancy for the United
3 States. Four decades after the courageous efforts that put
4 human beings on the moon, advances in manufacturing are making
5 it possible for others to experience the thrill and joy of being
6 "weekend astronauts." Space tourism is a potential billion
7 dollar global industry. As a new industry, it holds tremendous
8 economic potential for Hawaii while preserving our precious
9 environment. Besides expanding our sources of revenue, space
10 tourism will provide Hawaii residents the opportunity of highly
11 skilled aerospace jobs without leaving home for the mainland.
12 The Federal Aviation Administration is expected to issue a
13 limited number of licenses for space ports, and accordingly, the
14 legislature finds that it is incumbent on the State to position
15 Hawaii for the economic advantages a license can bring.

16 SECTION 2. There is appropriated out of the general
17 revenues of the State of Hawaii the sum of \$ or so



1 much thereof as may be necessary for fiscal year 2008-2009 for
2 the office of aerospace development, department of business,
3 economic development, and tourism, to conduct feasibility
4 studies for a spaceport and to pay for consultation and other
5 expenses incurred in applying to the Federal Aviation
6 Administration for a commercial space transportation license.

7 The sum appropriated shall be expended by the department of
8 business, economic development, and tourism for the purposes of
9 this Act.

10 SECTION 3. This Act shall take effect on July 1, 2008.



Report Title:

Office of Aerospace Development; Appropriation

Description:

Appropriates funds for costs associated with applying for a commercial space transportation license from the Federal Aviation Administration. (SD1)



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VIRGINIA ACTS OF ASSEMBLY -- 2008 SESSION

CHAPTER 149

An Act to amend and reenact §§ 58.1-322 and 58.1-402 of the Code of Virginia, relating to income tax exemptions for spaceflight activities in Virginia.

[S 286]

Approved March 2, 2008

Be it enacted by the General Assembly of Virginia:

1. That §§ 58.1-322 and 58.1-402 of the Code of Virginia are amended and reenacted as follows:

§ 58.1-322. Virginia taxable income of residents.

A. The Virginia taxable income of a resident individual means his federal adjusted gross income for the taxable year, which excludes combat pay for certain members of the Armed Forces of the United States as provided in § 112 of the Internal Revenue Code, as amended, and with the modifications specified in this section.

B. To the extent excluded from federal adjusted gross income, there shall be added:

1. Interest, less related expenses to the extent not deducted in determining federal income, on obligations of any state other than Virginia, or of a political subdivision of any such other state unless created by compact or agreement to which Virginia is a party;

2. Interest or dividends, less related expenses to the extent not deducted in determining federal taxable income, on obligations or securities of any authority, commission or instrumentality of the United States, which the laws of the United States exempt from federal income tax but not from state income taxes;

3. Unrelated business taxable income as defined by § 512 of the Internal Revenue Code;

4. The amount of a lump sum distribution from a qualified retirement plan, less the minimum distribution allowance and any amount excludable for federal income tax purposes that is excluded from federal adjusted gross income solely by virtue of an individual's election to use the averaging provisions under § 402 of the Internal Revenue Code; and

5 through 8. [Repealed.]

9. The amount required to be included in income for the purpose of computing the partial tax on an accumulation distribution pursuant to § 667 of the Internal Revenue Code.

C. To the extent included in federal adjusted gross income, there shall be subtracted:

1. Income derived from obligations, or on the sale or exchange of obligations, of the United States and on obligations or securities of any authority, commission or instrumentality of the United States to the extent exempt from state income taxes under the laws of the United States including, but not limited to, stocks, bonds, treasury bills, and treasury notes, but not including interest on refunds of federal taxes, interest on equipment purchase contracts, or interest on other normal business transactions.

2. Income derived from obligations, or on the sale or exchange of obligations of this Commonwealth or of any political subdivision or instrumentality of the Commonwealth.

3. [Repealed.]

4. Benefits received under Title II of the Social Security Act and other benefits subject to federal income taxation solely pursuant to § 86 of the Internal Revenue Code.

4a. Through December 31, 2000, the same amount used in computing the federal credit allowed under § 22 of the Internal Revenue Code by a retiree under age 65 who qualified for such retirement on the basis of permanent and total disability and who is a qualified individual as defined in § 22 (b) (2) of the Internal Revenue Code; however, any person who claims a deduction under subdivision 5 of subsection D of this section may not also claim a subtraction under this subdivision.

4b. For taxable years beginning on or after January 1, 2001, up to \$20,000 of disability income, as defined in § 22 (c) (2) (B) (iii) of the Internal Revenue Code; however, any person who claims a deduction under subdivision 5 of subsection D of this section may not also claim a subtraction under this subdivision.

5. The amount of any refund or credit for overpayment of income taxes imposed by the Commonwealth or any other taxing jurisdiction.

6. The amount of wages or salaries eligible for the federal Targeted Jobs Credit which was not deducted for federal purposes on account of the provisions of § 280C (a) of the Internal Revenue Code.

7, 8. [Repealed.]

9. [Expired.]

10. Any amount included therein less than \$600 from a prize awarded by the State Lottery Department.

11. The wages or salaries received by any person for active and inactive service in the National Guard of the Commonwealth of Virginia, not to exceed the amount of income derived from 39 calendar

days of such service or \$3,000, whichever amount is less; however, only those persons in the ranks of O3 and below shall be entitled to the deductions specified herein.

12. Amounts received by an individual, not to exceed \$1,000 in any taxable year, as a reward for information provided to a law-enforcement official or agency, or to a nonprofit corporation created exclusively to assist such law-enforcement official or agency, in the apprehension and conviction of perpetrators of crimes. This provision shall not apply to the following: an individual who is an employee of, or under contract with, a law-enforcement agency, a victim or the perpetrator of the crime for which the reward was paid, or any person who is compensated for the investigation of crimes or accidents.

13. [Repealed.]

14. [Expired.]

15, 16. [Repealed.]

17. For taxable years beginning on and after January 1, 1995, the amount of "qualified research expenses" or "basic research expenses" eligible for deduction for federal purposes, but which were not deducted, on account of the provisions of § 280C (c) of the Internal Revenue Code and which shall be available to partners, shareholders of S corporations, and members of limited liability companies to the extent and in the same manner as other deductions may pass through to such partners, shareholders, and members.

18. For taxable years beginning on or after January 1, 1995, all military pay and allowances, not otherwise subtracted under this subsection, earned for any month during any part of which such member performed military service in any part of the former Yugoslavia, including the air space above such location or any waters subject to related naval operations, in support of Operation JOINT ENDEAVOR as part of the NATO Peace Keeping Force. Such subtraction shall be available until the taxpayer completes such service.

19. For taxable years beginning on and after January 1, 1996, any income received during the taxable year derived from a qualified pension, profit-sharing, or stock bonus plan as described by § 401 of the Internal Revenue Code, an individual retirement account or annuity established under § 408 of the Internal Revenue Code, a deferred compensation plan as defined by § 457 of the Internal Revenue Code, or any federal government retirement program, the contributions to which were deductible from the taxpayer's federal adjusted gross income, but only to the extent the contributions to such plan or program were subject to taxation under the income tax in another state.

20. For taxable years beginning on and after January 1, 1997, any income attributable to a distribution of benefits or a refund from a prepaid tuition contract or savings trust account with the Virginia College Savings Plan, created pursuant to Chapter 4.9 (§ 23-38.75 et seq.) of Title 23. The subtraction for any income attributable to a refund shall be limited to income attributable to a refund in the event of a beneficiary's death, disability, or receipt of a scholarship.

21. For taxable years beginning on or after January 1, 1998, all military pay and allowances, to the extent included in federal adjusted gross income and not otherwise subtracted, deducted or exempted under this section, earned by military personnel while serving by order of the President of the United States with the consent of Congress in a combat zone or qualified hazardous duty area which is treated as a combat zone for federal tax purposes pursuant to § 112 of the Internal Revenue Code.

22. For taxable years beginning on or after January 1, 2000, the gain derived from the sale or exchange of real property or the sale or exchange of an easement to real property which results in the real property or the easement thereto being devoted to open-space use, as that term is defined in § 58.1-3230, for a period of time not less than 30 years. To the extent a subtraction is taken in accordance with this subdivision, no tax credit under this chapter for donating land for its preservation shall be allowed for three years following the year in which the subtraction is taken.

23. Effective for all taxable years beginning on or after January 1, 2000, \$15,000 of military basic pay for military service personnel on extended active duty for periods in excess of 90 days; however, the subtraction amount shall be reduced dollar-for-dollar by the amount which the taxpayer's military basic pay exceeds \$15,000 and shall be reduced to zero if such military basic pay amount is equal to or exceeds \$30,000.

24. Effective for all taxable years beginning on and after January 1, 2000, the first \$15,000 of salary for each federal and state employee whose total annual salary from all employment for the taxable year is \$15,000 or less.

25. Unemployment benefits taxable pursuant to § 85 of the Internal Revenue Code.

26. For taxable years beginning on and after January 1, 2001, any amount received as military retirement income by an individual awarded the Congressional Medal of Honor.

27. Effective for all taxable years beginning on and after January 1, 1999, income received as a result of (i) the "Master Settlement Agreement," as defined in § 3.1-1106; (ii) the National Tobacco Grower Settlement Trust dated July 19, 1999; and (iii) the Tobacco Loss Assistance Program, pursuant to 7 C.F.R. Part 1464 (Subpart C, §§ 1464.201 through 1464.205), by (a) tobacco farmers; (b) any person holding a tobacco marketing quota, or tobacco farm acreage allotment, under the Agricultural Adjustment Act of 1938; or (c) any person having the right to grow tobacco pursuant to such a quota or allotment, but only to the extent that such income has not been subtracted pursuant to subdivision C 18

of § 58.1-402.

28. For taxable years beginning on and after January 1, 2000, items of income attributable to, derived from or in any way related to (i) assets stolen from, hidden from or otherwise lost by an individual who was a victim or target of Nazi persecution or (ii) damages, reparations, or other consideration received by a victim or target of Nazi persecution to compensate such individual for performing labor against his will under the threat of death, during World War II and its prelude and direct aftermath. This subtraction shall not apply to assets acquired with such items of income or with the proceeds from the sale of assets stolen from, hidden from or otherwise lost to, during World War II and its prelude and direct aftermath, a victim or target of Nazi persecution. The provisions of this subdivision shall only apply to an individual who was the first recipient of such items of income and who was a victim or target of Nazi persecution, or a spouse, widow, widower, or child or stepchild of such victim.

"Victim or target of Nazi persecution" means any individual persecuted or targeted for persecution by the Nazi regime who had assets stolen from, hidden from or otherwise lost as a result of any act or omission in any way relating to (i) the Holocaust; (ii) World War II and its prelude and direct aftermath; (iii) transactions with or actions of the Nazi regime; (iv) treatment of refugees fleeing Nazi persecution; or (v) the holding of such assets by entities or persons in the Swiss Confederation during World War II and its prelude and aftermath. A victim or target of Nazi persecution shall also include any individual forced into labor against his will, under the threat of death, during World War II and its prelude and direct aftermath. As used in this subdivision, "Nazi regime" means the country of Nazi Germany, areas occupied by Nazi Germany, those European countries allied with Nazi Germany, or any other neutral European country or area in Europe under the influence or threat of Nazi invasion.

29. For taxable years beginning on and after January 1, 2002, any gain recognized as a result of the Peanut Quota Buyout Program of the Farm Security and Rural Investment Act of 2002 pursuant to 7 C.F.R. Part 1412 (Subpart H, §§ 1412.801 through 1412.811) as follows:

a. If the payment is received in installment payments pursuant to 7 C.F.R. § 1412.807(a) (2), then the entire gain recognized may be subtracted.

b. If the payment is received in a single payment pursuant to 7 C.F.R. § 1412.807(a) (3), then 20 percent of the recognized gain may be subtracted. The taxpayer may then deduct an equal amount in each of the four succeeding taxable years.

30. Effective for all taxable years beginning on and after January 1, 2002, but before January 1, 2005, the indemnification payments received by contract poultry growers and table egg producers from the U.S. Department of Agriculture as a result of the depopulation of poultry flocks because of low pathogenic avian influenza in 2002. In no event shall indemnification payments made to owners of poultry who contract with poultry growers qualify for this subtraction.

31. Effective for all taxable years beginning on or after January 1, 2001, the military death gratuity payment made after September 11, 2001, to the survivor of deceased military personnel killed in the line of duty, pursuant to Chapter 75 of Title 10 of the United States Code; however, the subtraction amount shall be reduced dollar-for-dollar by the amount that the survivor may exclude from his federal gross income in accordance with § 134 of the Internal Revenue Code.

32. Effective for all taxable years beginning on or after January 1, 2007, the death benefit payments from an annuity contract that are received by a beneficiary of such contract and are subject to federal income taxation.

33. *For taxable years beginning on and after January 1, 2009, any gain recognized from the sale of launch services to space flight participants, as defined in 49 U.S.C. § 70102, or launch services intended to provide individuals the training or experience of a launch, without performing an actual launch. To qualify for a deduction under this subdivision, launch services must be performed in Virginia or originate from an airport or spaceport in Virginia.*

34. *For taxable years beginning on and after January 1, 2009, any gain recognized as a result of resupply services contracts for delivering payload, as defined in 49 U.S.C. § 70102, entered into with the Commercial Orbital Transportation Services division of the National Aeronautics and Space Administration or other space flight entity, as defined in § 8.01-227.8, and launched from an airport or spaceport in Virginia.*

D. In computing Virginia taxable income there shall be deducted from Virginia adjusted gross income as defined in § 58.1-321:

1. a. The amount allowable for itemized deductions for federal income tax purposes where the taxpayer has elected for the taxable year to itemize deductions on his federal return, but reduced by the amount of income taxes imposed by the Commonwealth or any other taxing jurisdiction and deducted on such federal return and increased by an amount which, when added to the amount deducted under § 170 of the Internal Revenue Code for mileage, results in a mileage deduction at the state level for such purposes at a rate of 18 cents per mile; or

b. Three thousand dollars for single individuals for taxable years beginning on and after January 1, 1989; \$5,000 for married persons (one-half of such amounts in the case of a married individual filing a separate return) for taxable years beginning on and after January 1, 1989, but before January 1, 2005;

and \$6,000 for married persons (one-half of such amounts in the case of a married individual filing a separate return) for taxable years beginning on and after January 1, 2005; provided that the taxpayer has not itemized deductions for the taxable year on his federal income tax return. For purposes of this section, any person who may be claimed as a dependent on another taxpayer's return for the taxable year may compute the deduction only with respect to earned income.

2. a. A deduction in the amount of \$800 for taxable years beginning on and after January 1, 1988, but before January 1, 2005; \$900 for taxable years beginning on and after January 1, 2005, but before January 1, 2008; and \$930 for taxable years beginning on and after January 1, 2008, for each personal exemption allowable to the taxpayer for federal income tax purposes.

b. For taxable years beginning on and after January 1, 1987, each blind or aged taxpayer as defined under § 63 (f) of the Internal Revenue Code shall be entitled to an additional personal exemption in the amount of \$800.

The additional deduction for blind or aged taxpayers allowed under this subdivision shall be allowable regardless of whether the taxpayer itemizes deductions for the taxable year for federal income tax purposes.

3. A deduction equal to the amount of employment-related expenses upon which the federal credit is based under § 21 of the Internal Revenue Code for expenses for household and dependent care services necessary for gainful employment.

4. An additional \$1,000 deduction for each child residing for the entire taxable year in a home under permanent foster care placement as defined in § 63.2-908, provided the taxpayer can also claim the child as a personal exemption under § 151 of the Internal Revenue Code.

5. a. Effective for all taxable years beginning on or after January 1, 1996, but before January 1, 2004, a deduction in the amount of \$12,000 for taxpayers age 65 or older, or \$6,000 for taxpayers age 62 through 64.

b. For taxable years beginning on and after January 1, 2004, a deduction in the amount of \$12,000 for individuals born on or before January 1, 1939.

c. For taxable years beginning January 1, 2004, but before January 1, 2005, a deduction in the amount of \$6,000 for individuals born on or between January 2, 1940, and January 1, 1942.

d. For taxable years beginning January 1, 2005, but before January 1, 2006, a deduction in the amount of \$6,000 for individuals born on or between January 2, 1941, and January 1, 1942.

e. For taxable years beginning on and after January 1, 2004, a deduction in the amount of \$12,000 for individuals born after January 1, 1939, who have attained the age of 65. This deduction shall be reduced by \$1 for every \$1 that the taxpayer's adjusted federal adjusted gross income exceeds \$50,000 for single taxpayers or \$75,000 for married taxpayers. For married taxpayers filing separately, the deduction will be reduced by \$1 for every \$1 the total combined adjusted federal adjusted gross income of both spouses exceeds \$75,000.

f. For the purposes of this subdivision, "adjusted federal adjusted gross income" means federal adjusted gross income minus any benefits received under Title II of the Social Security Act and other benefits subject to federal income taxation solely pursuant to § 86 of the Internal Revenue Code, as amended.

6. For taxable years beginning on and after January 1, 1997, the amount an individual pays as a fee for an initial screening to become a possible bone marrow donor, if (i) the individual is not reimbursed for such fee or (ii) the individual has not claimed a deduction for the payment of such fee on his federal income tax return.

7. a. (Applicable to taxable years beginning before January 1, 2009) A deduction shall be allowed to the purchaser or contributor for the amount paid or contributed during the taxable year for a prepaid tuition contract or savings trust account entered into with the Virginia College Savings Plan, pursuant to Chapter 4.9 (§ 23-38.75 et seq.) of Title 23. Except as provided in subdivision 7 c, the amount deducted on any individual income tax return in any taxable year shall be limited to \$2,000 per prepaid tuition contract or savings trust account. No deduction shall be allowed pursuant to this section if such payments or contributions are deducted on the purchaser's or contributor's federal income tax return. If the purchase price or annual contribution to a savings trust account exceeds \$2,000, the remainder may be carried forward and subtracted in future taxable years until the purchase price or savings trust contribution has been fully deducted; however, except as provided in subdivision 7 c, in no event shall the amount deducted in any taxable year exceed \$2,000 per contract or savings trust account. Notwithstanding the statute of limitations on assessments contained in § 58.1-312, any deduction taken hereunder shall be subject to recapture in the taxable year or years in which distributions or refunds are made for any reason other than (i) to pay qualified higher education expenses, as defined in § 529 of the Internal Revenue Code or (ii) the beneficiary's death, disability, or receipt of a scholarship. For the purposes of this subdivision, the term "purchaser" or "contributor" means the person shown as such on the records of the Virginia College Savings Plan as of December 31 of the taxable year. In the case of a transfer of ownership of a prepaid tuition contract or savings trust account, the transferee shall succeed to the transferor's tax attributes associated with a prepaid tuition contract or savings trust account, including, but not limited to, carryover and recapture of deductions.

b. The amount paid for a prepaid tuition contract during taxable years beginning on or after January 1, 1996, but before January 1, 1998, shall be deducted in taxable years beginning on or after January 1, 1998, and shall be subject to the limitations set out in subdivision 7 a.

c. A purchaser of a prepaid tuition contract or contributor to a savings trust account who has attained age 70 shall not be subject to the limitation that the amount of the deduction not exceed \$2,000 per prepaid tuition contract or savings trust account in any taxable year. Such taxpayer shall be allowed a deduction for the full amount paid for the contract or contributed to a savings trust account, less any amounts previously deducted. If a prepaid tuition contract was purchased by such taxpayer during taxable years beginning on or after January 1, 1996, but before January 1, 1998, such taxpayer may take the deduction for the full amount paid during such years, less any amounts previously deducted with respect to such payments, in taxable year 1999 or by filing an amended return for taxable year 1998.

7. a. (Applicable to taxable years beginning on or after January 1, 2009) A deduction shall be allowed to the purchaser or contributor for the amount paid or contributed during the taxable year for a prepaid tuition contract or savings trust account entered into with the Virginia College Savings Plan, pursuant to Chapter 4.9 (§ 23-38.75 et seq.) of Title 23. Except as provided in subdivision 7 c, the amount deducted on any individual income tax return in any taxable year shall be limited to \$4,000 per prepaid tuition contract or savings trust account. No deduction shall be allowed pursuant to this section if such payments or contributions are deducted on the purchaser's or contributor's federal income tax return. If the purchase price or annual contribution to a savings trust account exceeds \$4,000, the remainder may be carried forward and subtracted in future taxable years until the purchase price or savings trust contribution has been fully deducted; however, except as provided in subdivision 7 c, in no event shall the amount deducted in any taxable year exceed \$4,000 per contract or savings trust account. Notwithstanding the statute of limitations on assessments contained in § 58.1-312, any deduction taken hereunder shall be subject to recapture in the taxable year or years in which distributions or refunds are made for any reason other than (i) to pay qualified higher education expenses, as defined in § 529 of the Internal Revenue Code or (ii) the beneficiary's death, disability, or receipt of a scholarship. For the purposes of this subdivision, the term "purchaser" or "contributor" means the person shown as such on the records of the Virginia College Savings Plan as of December 31 of the taxable year. In the case of a transfer of ownership of a prepaid tuition contract or savings trust account, the transferee shall succeed to the transferor's tax attributes associated with a prepaid tuition contract or savings trust account, including, but not limited to, carryover and recapture of deductions.

b. The amount paid for a prepaid tuition contract during taxable years beginning on or after January 1, 1996, but before January 1, 1998, shall be deducted in taxable years beginning on or after January 1, 1998, and shall be subject to the limitations set out in subdivision 7 a.

c. A purchaser of a prepaid tuition contract or contributor to a savings trust account who has attained age 70 shall not be subject to the limitation that the amount of the deduction not exceed \$4,000 per prepaid tuition contract or savings trust account in any taxable year. Such taxpayer shall be allowed a deduction for the full amount paid for the contract or contributed to a savings trust account, less any amounts previously deducted. If a prepaid tuition contract was purchased by such taxpayer during taxable years beginning on or after January 1, 1996, but before January 1, 1998, such taxpayer may take the deduction for the full amount paid during such years, less any amounts previously deducted with respect to such payments, in taxable year 1999 or by filing an amended return for taxable year 1998.

8. For taxable years beginning on and after January 1, 2000, the total amount an individual actually contributed in funds to the Virginia Public School Construction Grants Program and Fund, established in Chapter 11.1 (§ 22.1-175.1 et seq.) of Title 22.1, provided the individual has not claimed a deduction for such amount on his federal income tax return.

9. For taxable years beginning on and after January 1, 1999, an amount equal to 20 percent of the tuition costs incurred by an individual employed as a primary or secondary school teacher licensed pursuant to Chapter 15 (§ 22.1-289.1 et seq.) of Title 22.1 to attend continuing teacher education courses that are required as a condition of employment; however, the deduction provided by this subsection shall be available only if (i) the individual is not reimbursed for such tuition costs and (ii) the individual has not claimed a deduction for the payment of such tuition costs on his federal income tax return.

10. For taxable years beginning on and after January 1, 2000, the amount an individual pays annually in premiums for long-term health care insurance, provided the individual has not claimed a deduction for federal income tax purposes, or a credit under § 58.1-339.11.

11. For taxable years beginning on and after January 1, 2006, contract payments to a producer of quota tobacco or a tobacco quota holder, or their spouses, as provided under the American Jobs Creation Act of 2004 (P.L. 108-357), but only to the extent that such payments have not been subtracted pursuant to subsection D of § 58.1-402, as follows:

a. If the payment is received in installment payments, then the recognized gain, including any gain recognized in taxable year 2005, may be subtracted in the taxable year immediately following the year in which the installment payment is received.

b. If the payment is received in a single payment, then 10% of the recognized gain may be subtracted in the taxable year immediately following the year in which the single payment is received.

The taxpayer may then deduct an equal amount in each of the nine succeeding taxable years.

12. For taxable years beginning on and after January 1, 2007, an amount equal to 20% of the sum paid by an individual pursuant to Chapter 6 (§ 58.1-600 et seq.) of this title, not to exceed \$500 in each taxable year, in purchasing for his own use the following items of tangible personal property: (i) any clothes washers, room air conditioners, dishwashers, and standard size refrigerators that meet or exceed the applicable energy star efficiency requirements developed by the United States Environmental Protection Agency and the United States Department of Energy; (ii) any fuel cell that (a) generates electricity using an electrochemical process, (b) has an electricity-only generation efficiency greater than 35%, and (c) has a generating capacity of at least two kilowatts; (iii) any gas heat pump that has a coefficient of performance of at least 1.25 for heating and at least 0.70 for cooling; (iv) any electric heat pump hot water heater that yields an energy factor of at least 1.7; (v) any electric heat pump that has a heating system performance factor of at least 8.0 and a cooling seasonal energy efficiency ratio of at least 13.0; (vi) any central air conditioner that has a cooling seasonal energy efficiency ratio of at least 13.5; (vii) any advanced gas or oil water heater that has an energy factor of at least 0.65; (viii) any advanced oil-fired boiler with a minimum annual fuel-utilization rating of 85; (ix) any advanced oil-fired furnace with a minimum annual fuel-utilization rating of 85; and (x) programmable thermostats.

13. For taxable years beginning on or after January 1, 2007, the lesser of \$5,000 or the amount actually paid by a living donor of an organ or other living tissue for unreimbursed out-of-pocket expenses directly related to the donation that arose within 12 months of such donation, provided the donor has not taken a medical deduction in accordance with the provisions of § 213 of the Internal Revenue Code for such expenses. The deduction may be taken in the taxable year in which the donation is made or the taxable year in which the 12-month period expires.

E. There shall be added to or subtracted from federal adjusted gross income, as the case may be, the individual's share, as beneficiary of an estate or trust, of the Virginia fiduciary adjustment determined under § 58.1-361.

F. There shall be added or subtracted, as the case may be, the amounts provided in § 58.1-315 as transitional modifications.

G. Effective for all taxable years beginning on or after January 1, 2007, to the extent included in federal adjusted gross income, there shall be (i) subtracted from federal adjusted gross income by a shareholder of an electing small business corporation (S corporation) that is subject to the bank franchise tax imposed under Chapter 12 (§ 58.1-1200 et seq.) for the calendar year in which such taxable year begins, the shareholder's allocable share of the income or gain of such electing small business corporation (S corporation), and (ii) added back to federal adjusted gross income such that, federal adjusted gross income shall be increased, by a shareholder of an electing small business corporation (S corporation) that is subject to the bank franchise tax imposed under Chapter 12 (§ 58.1-1200 et seq.) for the calendar year in which such taxable year begins, the shareholder's allocable share of the losses or deductions of such electing small business corporation (S corporation).

Effective for all taxable years beginning on or after January 1, 2007, to the extent excluded from federal adjusted gross income, there shall be added to federal adjusted gross income by a shareholder of an electing small business corporation (S corporation) that is subject to the bank franchise tax imposed under Chapter 12 (§ 58.1-1200 et seq.) for the calendar year in which such taxable year begins, the value of any distribution paid or distributed to the shareholder by such electing small business corporation (S corporation).

§ 58.1-402. Virginia taxable income.

A. For purposes of this article, Virginia taxable income for a taxable year means the federal taxable income and any other income taxable to the corporation under federal law for such year of a corporation adjusted as provided in subsections B, C, D, and E.

For a regulated investment company and a real estate investment trust, such term means the "investment company taxable income" and "real estate investment trust taxable income," respectively, to which shall be added in each case any amount of capital gains and any other income taxable to the corporation under federal law which shall be further adjusted as provided in subsections B, C, D, and E.

B. There shall be added to the extent excluded from federal taxable income:

1. Interest, less related expenses to the extent not deducted in determining federal taxable income, on obligations of any state other than Virginia, or of a political subdivision of any such other state unless created by compact or agreement to which the Commonwealth is a party;

2. Interest or dividends, less related expenses to the extent not deducted in determining federal taxable income, on obligations or securities of any authority, commission or instrumentality of the United States, which the laws of the United States exempt from federal income tax but not from state income taxes;

3. [Repealed.]

4. The amount of any net income taxes and other taxes, including franchise and excise taxes, which are based on, measured by, or computed with reference to net income, imposed by the Commonwealth or any other taxing jurisdiction, to the extent deducted in determining federal taxable income;

5. Unrelated business taxable income as defined by § 512 of the Internal Revenue Code;

6. The amount of employee stock ownership credit carry-over deducted by the corporation in computing federal taxable income under § 404 (i) of the Internal Revenue Code;

7. The amount required to be included in income for the purpose of computing the partial tax on an accumulation distribution pursuant to § 667 of the Internal Revenue Code;

8. a. For taxable years beginning on and after January 1, 2004, the amount of any intangible expenses and costs directly or indirectly paid, accrued, or incurred to, or in connection directly or indirectly with one or more direct or indirect transactions with one or more related members to the extent such expenses and costs were deductible or deducted in computing federal taxable income for Virginia purposes. This addition shall not be required for any portion of the intangible expenses and costs if one of the following applies:

(1) The corresponding item of income received by the related member is subject to a tax based on or measured by net income or capital imposed by Virginia, another state, or a foreign government that has entered into a comprehensive tax treaty with the United States government;

(2) The related member derives at least one-third of its gross revenues from the licensing of intangible property to parties who are not related members, and the transaction giving rise to the expenses and costs between the corporation and the related member was made at rates and terms comparable to the rates and terms of agreements that the related member has entered into with parties who are not related members for the licensing of intangible property; or

(3) The corporation can establish to the satisfaction of the Tax Commissioner that the intangible expenses and costs meet both of the following: (i) the related member during the same taxable year directly or indirectly paid, accrued or incurred such portion to a person who is not a related member, and (ii) the transaction giving rise to the intangible expenses and costs between the corporation and the related member did not have as a principal purpose the avoidance of any portion of the tax due under this chapter.

b. A corporation required to add to its federal taxable income intangible expenses and costs pursuant to subdivision a may petition the Tax Commissioner, after filing the related income tax return for the taxable year and remitting to the Tax Commissioner all taxes, penalties, and interest due under this article for such taxable year including tax upon any amount of intangible expenses and costs required to be added to federal taxable income pursuant to subdivision a, to consider evidence relating to the transaction or transactions between the corporation and a related member or members that resulted in the corporation's taxable income being increased, as required under subdivision a, for such intangible expenses and costs.

If the corporation can demonstrate to the Tax Commissioner's sole satisfaction, by clear and convincing evidence, that the transaction or transactions between the corporation and a related member or members resulting in such increase in taxable income pursuant to subdivision a had a valid business purpose other than the avoidance or reduction of the tax due under this chapter, the Tax Commissioner shall permit the corporation to file an amended return. For purposes of such amended return, the requirements of subdivision a shall not apply to any transaction for which the Tax Commissioner is satisfied (and has identified) that the transaction had a valid business purpose other than the avoidance or reduction of the tax due under this chapter. Such amended return shall be filed by the corporation within one year of the written permission granted by the Tax Commissioner and any refund of the tax imposed under this article shall include interest at a rate equal to the rate of interest established under § 58.1-15 and such interest shall accrue as provided under § 58.1-1833. However, upon the filing of such amended return, any related member of the corporation that subtracted from taxable income amounts received pursuant to subdivision C 21 shall be subject to the tax imposed under this article on that portion of such amounts for which the corporation has filed an amended return pursuant to this subdivision. In addition, for such transactions identified by the Tax Commissioner herein by which he has been satisfied by clear and convincing evidence, the Tax Commissioner may permit the corporation in filing income tax returns for subsequent taxable years to deduct the related intangible expenses and costs without making the adjustment under subdivision a.

The Tax Commissioner may charge a fee for all direct and indirect costs relating to the review of any petition pursuant to this subdivision, to include costs necessary to secure outside experts in evaluating the petition. The Tax Commissioner may condition the review of any petition pursuant to this subdivision upon payment of such fee.

No suit for the purpose of contesting any action of the Tax Commissioner under this subdivision shall be maintained in any court of this Commonwealth.

c. Nothing in subdivision B 8 shall be construed to limit or negate the Department's authority under § 58.1-446;

9. a. For taxable years beginning on and after January 1, 2004, the amount of any interest expenses and costs directly or indirectly paid, accrued, or incurred to, or in connection directly or indirectly with one or more direct or indirect transactions with one or more related members to the extent such expenses and costs were deductible or deducted in computing federal taxable income for Virginia purposes. This addition shall not be required for any portion of the interest expenses and costs, if:

(1) The related member has substantial business operations relating to interest-generating activities, in

which the related member pays expenses for at least five full-time employees who maintain, manage, defend or are otherwise responsible for operations or administration relating to the interest-generating activities; and

(2) The interest expenses and costs are not directly or indirectly for, related to or in connection with the direct or indirect acquisition, maintenance, management, sale, exchange, or disposition of intangible property; and

(3) The transaction giving rise to the expenses and costs between the corporation and the related member has a valid business purpose other than the avoidance or reduction of taxation and payments between the parties are made at arm's length rates and terms; and

(4) One of the following applies:

(i) The corresponding item of income received by the related member is subject to a tax based on or measured by net income or capital imposed by Virginia, another state, or a foreign government that has entered into a comprehensive tax treaty with the United States government;

(ii) Payments arise pursuant to a pre-existing contract entered into when the parties were not related members provided the payments continue to be made at arm's length rates and terms;

(iii) The related member engages in transactions with parties other than related members that generate revenue in excess of \$2 million annually; or

(iv) The transaction giving rise to the interest payments between the corporation and a related member was done at arm's length rates and terms and meets any of the following: (a) the related member uses funds that are borrowed from a party other than a related member or that are paid, incurred or passed-through to a person who is not a related member; (b) the debt is part of a regular and systematic funds management or portfolio investment activity conducted by the related member, whereby the funds of two or more related members are aggregated for the purpose of achieving economies of scale, the internal financing of the active business operations of members, or the benefit of centralized management of funds; (c) financing the expansion of the business operations; or (d) restructuring the debt of related members, or the pass-through of acquisition-related indebtedness to related members.

b. A corporation required to add to its federal taxable income interest expenses and costs pursuant to subdivision a may petition the Tax Commissioner, after filing the related income tax return for the taxable year and remitting to the Tax Commissioner all taxes, penalties, and interest due under this article for such taxable year including tax upon any amount of interest expenses and costs required to be added to federal taxable income pursuant to subdivision a, to consider evidence relating to the transaction or transactions between the corporation and a related member or members that resulted in the corporation's taxable income being increased, as required under subdivision a, for such interest expenses and costs.

If the corporation can demonstrate to the Tax Commissioner's sole satisfaction, by clear and convincing evidence, that the transaction or transactions between the corporation and a related member or members resulting in such increase in taxable income pursuant to subdivision a had a valid business purpose other than the avoidance or reduction of the tax due under this chapter and that the related payments between the parties were made at arm's length rates and terms, the Tax Commissioner shall permit the corporation to file an amended return. For purposes of such amended return, the requirements of subdivision a shall not apply to any transaction for which the Tax Commissioner is satisfied (and has identified) that the transaction had a valid business purpose other than the avoidance or reduction of the tax due under this chapter and that the related payments between the parties were made at arm's length rates and terms. Such amended return shall be filed by the corporation within one year of the written permission granted by the Tax Commissioner and any refund of the tax imposed under this article shall include interest at a rate equal to the rate of interest established under § 58.1-15 and such interest shall accrue as provided under § 58.1-1833. However, upon the filing of such amended return, any related member of the corporation that subtracted from taxable income amounts received pursuant to subdivision C 21 shall be subject to the tax imposed under this article on that portion of such amounts for which the corporation has filed an amended return pursuant to this subdivision. In addition, for such transactions identified by the Tax Commissioner herein by which he has been satisfied by clear and convincing evidence, the Tax Commissioner may permit the corporation in filing income tax returns for subsequent taxable years to deduct the related interest expenses and costs without making the adjustment under subdivision a.

The Tax Commissioner may charge a fee for all direct and indirect costs relating to the review of any petition pursuant to this subdivision, to include costs necessary to secure outside experts in evaluating the petition. The Tax Commissioner may condition the review of any petition pursuant to this subdivision upon payment of such fee.

No suit for the purpose of contesting any action of the Tax Commissioner under this subdivision shall be maintained in any court of this Commonwealth.

c. Nothing in subdivision B 9 shall be construed to limit or negate the Department's authority under § 58.1-446.

d. For purposes of subdivision B 9:

"Arm's length rates and terms" means that (i) two or more related members enter into a written

agreement for the transaction, (ii) such agreement is of a duration and contains payment terms substantially similar to those that the related member would be able to obtain from an unrelated entity, (iii) the interest is at or below the applicable federal rate compounded annually for debt instruments under § 1274(d) of the Internal Revenue Code that was in effect at the time of the agreement, and (iv) the borrower or payor adheres to the payment terms of the agreement governing the transaction or any amendments thereto.

"Valid business purpose" means one or more business purposes that alone or in combination constitute the motivation for some business activity or transaction, which activity or transaction improves, apart from tax effects, the economic position of the taxpayer, as further defined by regulation.

C. There shall be subtracted to the extent included in and not otherwise subtracted from federal taxable income:

1. Income derived from obligations, or on the sale or exchange of obligations, of the United States and on obligations or securities of any authority, commission or instrumentality of the United States to the extent exempt from state income taxes under the laws of the United States including, but not limited to, stocks, bonds, treasury bills, and treasury notes, but not including interest on refunds of federal taxes, interest on equipment purchase contracts, or interest on other normal business transactions.

2. Income derived from obligations, or on the sale or exchange of obligations of this Commonwealth or of any political subdivision or instrumentality of this Commonwealth.

3. Dividends upon stock in any domestic international sales corporation, as defined by § 992 of the Internal Revenue Code, 50 percent or more of the income of which was assessable for the preceding year, or the last year in which such corporation has income, under the provisions of the income tax laws of the Commonwealth.

4. The amount of any refund or credit for overpayment of income taxes imposed by this Commonwealth or any other taxing jurisdiction.

5. Any amount included therein by the operation of the provisions of § 78 of the Internal Revenue Code (foreign dividend gross-up).

6. The amount of wages or salaries eligible for the federal Targeted Jobs Credit which was not deducted for federal purposes on account of the provisions of § 280C (a) of the Internal Revenue Code.

7. Any amount included therein by the operation of § 951 of the Internal Revenue Code (subpart F income).

8. Any amount included therein which is foreign source income as defined in § 58.1-302.

9. [Repealed.]

10. The amount of any dividends received from corporations in which the taxpaying corporation owns 50 percent or more of the voting stock.

11. [Repealed.]

12, 13. [Expired.]

14. For taxable years beginning on or after January 1, 1995, the amount for "qualified research expenses" or "basic research expenses" eligible for deduction for federal purposes, but which were not deducted, on account of the provisions of § 280C (c) of the Internal Revenue Code.

15. For taxable years beginning on or after January 1, 2000, the total amount actually contributed in funds to the Virginia Public School Construction Grants Program and Fund established in Chapter 11.1 (§ 22.1-175.1 et seq.) of Title 22.1.

16. For taxable years beginning on or after January 1, 2000, the gain derived from the sale or exchange of real property or the sale or exchange of an easement to real property which results in the real property or the easement thereto being devoted to open-space use, as that term is defined in § 58.1-3230, for a period of time not less than 30 years. To the extent a subtraction is taken in accordance with this subdivision, no tax credit under this chapter for donating land for its preservation shall be allowed for three years following the year in which the subtraction is taken.

17. For taxable years beginning on and after January 1, 2001, any amount included therein with respect to § 58.1-440.1.

18. For taxable years beginning on and after January 1, 1999, income received as a result of (i) the "Master Settlement Agreement," as defined in § 3.1-1106; (ii) the National Tobacco Grower Settlement Trust dated July 19, 1999; and (iii) the Tobacco Loss Assistance Program, pursuant to 7 C.F.R. Part 1464 (Subpart C, §§ 1464.201 through 1464.205), by (a) tobacco farming businesses; (b) any business holding a tobacco marketing quota, or tobacco farm acreage allotment, under the Agricultural Adjustment Act of 1938; or (c) any business having the right to grow tobacco pursuant to such a quota allotment.

19. Effective for all taxable years beginning on and after January 1, 2002, but before January 1, 2005, the indemnification payments received by contract poultry growers and table egg producers from the U.S. Department of Agriculture as a result of the depopulation of poultry flocks because of low pathogenic avian influenza in 2002. In no event shall indemnification payments made to owners of poultry who contract with poultry growers qualify for this subtraction.

20. For taxable years beginning on and after January 1, 2002, any gain recognized as a result of the Peanut Quota Buyout Program of the Farm Security and Rural Investment Act of 2002 pursuant to 7

C.F.R. Part 1412 (Subpart H, §§ 1412.801 through 1412.811) as follows:

a. If the payment is received in installment payments pursuant to 7 C.F.R. § 1412.807(a) (2), then the entire gain recognized may be subtracted.

b. If the payment is received in a single payment pursuant to 7 C.F.R. § 1412.807(a) (3), then 20 percent of the recognized gain may be subtracted. The taxpayer may then deduct an equal amount in each of the four succeeding taxable years.

21. For taxable years beginning on and after January 1, 2004, any amount of intangible expenses and costs or interest expenses and costs added to the federal taxable income of a corporation pursuant to subdivision B 8 or B 9 shall be subtracted from the federal taxable income of the related member that received such amount if such related member is subject to Virginia income tax on the same amount.

22. *For taxable years beginning on and after January 1, 2009, any gain recognized from the sale of launch services to space flight participants, as defined in 49 U.S.C. § 70102, or launch services intended to provide individuals the training or experience of a launch, without performing an actual launch. To qualify for a deduction under this subdivision, launch services must be performed in Virginia or originate from an airport or spaceport in Virginia.*

23. *For taxable years beginning on and after January 1, 2009, any gain recognized as a result of resupply services contracts for delivering payload, as defined in 49 U.S.C. § 70102, entered into with the Commercial Orbital Transportation Services division of the National Aeronautics and Space Administration or other space flight entity, as defined in § 8.01-227.8, and launched from an airport or spaceport in Virginia.*

D. For taxable years beginning on and after January 1, 2006, there shall be subtracted from federal taxable income contract payments to a producer of quota tobacco or a tobacco quota holder as provided under the American Jobs Creation Act of 2004 (P.L. 108-357) as follows:

1. If the payment is received in installment payments, then the recognized gain, including any gain recognized in taxable year 2005, may be subtracted in the taxable year immediately following the year in which the installment payment is received.

2. If the payment is received in a single payment, then 10% of the recognized gain may be subtracted in the taxable year immediately following the year in which the single payment is received. The taxpayer may then deduct an equal amount in each of the nine succeeding taxable years.

E. Adjustments to federal taxable income shall be made to reflect the transitional modifications provided in § 58.1-315.



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

AUG 15 2008

MEMORANDUM FOR DEPUTY SECRETARY OF DEFENSE PRINCIPAL DEPUTY DIRECTOR OF NATIONAL INTELLIGENCE

SUBJECT: ODNI Tier 2 Memorandum Coordination

The Office of the Director for National Intelligence (DNI) issued a memorandum on the BASIC program for coordination. I non-concur with multiple aspects of the memorandum.

While the draft memorandum directs the National Geospatial-Intelligence Agency (NGA) to develop a Capability Development Document (CDD) defining the requirements for the BASIC Tasking, Processing, Exploitation, and Dissemination (TPED) effort, it does not provide similar direction for the BASIC space segment. An element of the DAWG decision surrounded the ambiguity in Intelligence Community (IC) and Department of Defense (DoD) requirements supporting the purchase of two satellites, considering the substantial contribution of current on-orbit systems and existing or planned near-term CDP capability. DoD and ODNI should clearly document the requirements associated with the government purchase and operation of two satellites. The space segment requirement should similarly consider and document data purchases from Commercial Data Providers (CDPs) satisfying Tier 2 requirements. A CDD containing all of these aspects will provide a firm foundation for this acquisition.

Under procurement law governing the Department of Defense (DoD), specifically the Bona-fide Needs Clause, the Department cannot procure two satellites on firm, fixed price contracts until the Fiscal Year 2010 budget is approved by the President and the Congress. The FY 2009 budget request does not adequately fund two satellites based on the independent Office of the Secretary of Defense (OSD) Cost Analysis Improvement Group (CAIG) estimate. While the Department is committed to the acquisition of two satellites and will ensure the acquisition has sufficient funding, the total budget request and phasing was one of the factors in the Deputy's Advisory Working Group (DAWG) decision to compete for the award of one satellite with an option to purchase a second satellite, anticipating that the second satellite would be awarded at the start of Fiscal Year 2010.

Key Decision Point B cannot be mandated and only may be accomplished if the program process and technical maturity supports such a milestone. Indeed, recent criticism of the acquisition process has stemmed from premature approval of program milestones.



Elements of the draft memo are covered by two Acquisition Decision Memoranda (ADMs) which are the proper method for directing acquisition decisions. These have been in coordination for over two months as the DoD staff sought to address the competing and inconsistent concerns of elements of various stakeholders. The BASIC program could be underway if every decision was not constantly being re-litigated and if key stakeholders would collaboratively work the issues. Indeed, the last month has been spent reconsidering a DAWG decision on BASIC which included full participation by senior DoD and ODNI representatives.

Not unlike other programs today, the DAWG decision left open the possibility of commercial operation of the government owned BASIC satellites. This is not reflected in the memorandum. Indeed, government ownership and operation of two commercial-class satellites is inconsistent with the Presidential Directive (NSPD-27) and will almost certainly compete with planned Tier 3 purchases.

The draft memo fails to make clear the need to ensure that Tier 3 imagery, being purchased consistent with Presidential Directive and at a cost of over \$1.5 billion over the FYDP, is fully integrated into the processing architecture. Indeed, there is a tremendous need for coordinated TPED between Tier 2 and Tier 3.

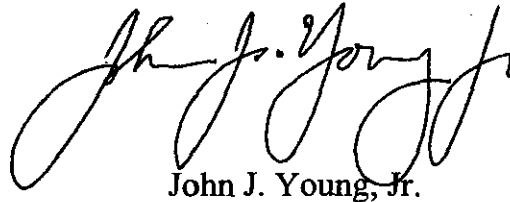
The BASIC space segment will be fully funded within the DoD budget, the Under Secretary of Defense for Acquisition, Technology and Logistics ((USD(ATL))) is fully accountable for the contract and expenditure of these funds. Consistent with the DoD/DNI MoA and DoD funding of the BASIC space segment, the BASIC space segment milestone decision authority should be exercised by USD(ATL). I non-concur on splitting the acquisition milestone decision authority.

The ODNI timeline for this draft provides woefully insufficient time to coordinate, allocating only one half business day on an issue which is complex, is interagency, and has been presented at separate times to the Deputies and Principals of the respective organizations to make decisions. Had this level of urgency been present two months ago, current ADMs would be completed and the acquisition in an execution phase.

The ground ADM currently in coordination discusses the cooperation between NGA and the Air Force through a program office structure. The ODNI memorandum does not address this cooperation and raises the concern about equitable DoD participation in the development of an integrated ground infrastructure that includes DoD's needs.

There are no unique elements of this \$1.7B, fixed priced acquisition of commercial-class satellites that would require or benefit from departure from the normal acquisition process, bypassing participation of both the DoD and Intelligence Communities' most senior acquisition executives and seeking instead signatures from the DNI and the SECDEF. To the contrary, I have outlined several reasons above why the acquisition community should ensure the integrity and quality of this process.

As noted, I non-concur with multiple elements of this draft memorandum. DoD and ODNI should complete coordination on the existing ADMs which have already been worked extensively to address the concerns of multiple stakeholders. These partially coordinated ADMs include appropriate acquisition program direction, represent the proper, collaborative way forward on BASIC and a Tier 2 capability, and ensure the continued growth and strength of DoD and IC processes and cooperation.



John J. Young, Jr.

CC:

Vice Chairman Joint Chiefs of Staff
Secretary of the Air Force
Under Secretary of Defense for Intelligence
Commander, Air Force Space Command
Director, Space Policy, National Security Council
Director, Bureau of Intelligence and Research, Department of State
Deputy Director National Intelligence for Acquisition
Deputy Director National Intelligence for Collection
Director, National Geospatial-intelligence Agency
Director, National Reconnaissance Office

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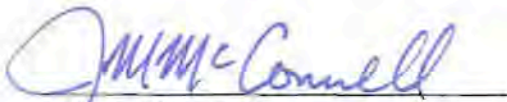
UNCLASSIFIED

MEMORANDUM FOR Under Secretary of Defense for Acquisition, Technology,
and Logistics
Deputy Director of National Intelligence for Acquisition
Director, National Geospatial-Intelligence Agency
Director, National Reconnaissance Office

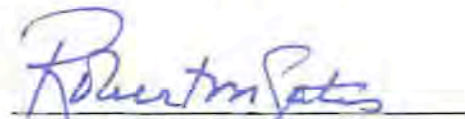
SUBJECT: BASIC System Guidance Memorandum

The Broad Area Space-based Imagery Collector (BASIC) is an integral element of the National Imagery Collection Architecture and intended to meet both Department of Defense (DoD) and Intelligence Community (IC) needs. As such, the BASIC program, to include space and ground-related efforts, will be jointly managed by the DoD and IC consistent with the DoD/IC Acquisition Memorandum of Agreement. This memorandum records our agreement regarding the BASIC system and Tier 2 capability.

The National Reconnaissance Office (NRO) will procure two 1.1M commercial-class satellite vehicles, launch, and space-associated ground command and control equipment using Military Intelligence Program funds. The National Geospatial-Intelligence Agency (NGA) will develop the BASIC ground interfaces; system tasking, processing, exploitation, dissemination; and data storage to support all users using National Intelligence Program funds. NGA will ensure integration of BASIC into the National System for Geospatial Intelligence (NSG) and establish key BASIC user interfaces within the NSG to include the Distributed Common Ground System Enterprise enabling responsive tasking and dissemination turnaround to all users. In addition, NGA will develop an implementation plan for commercial data providers to deliver products/services that augment the BASIC system.


J. M. McConnell
Director of National Intelligence

8 SEP 08
Date


Robert M. Gates
Secretary of Defense

Sept. 8, 2008
Date

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Subject: BASIC System Guidance Memorandum

External Distribution:

Deputy Secretary of Defense
Under Secretary of Defense for Acquisition, Technology, and Logistics
Under Secretary of Defense for Intelligence
Deputy Director of National Intelligence for Acquisition
Director, National Geospatial-Intelligence Agency
Director, National Reconnaissance Office
Chairman of the Joint Chiefs of Staff
Secretary of the Army
Secretary of the Navy
Secretary of the Air Force
Principal Deputy Director of National Intelligence
Deputy Director of National Intelligence for Collection

UNCLASSIFIED

MARCH 24, 2008

**Statement of the Department of Justice Antitrust Division on its Decision
to Close its Investigation of XM Satellite Radio Holdings Inc.'s Merger
with Sirius Satellite Radio Inc.**

**Evidence Does Not Establish that Combination of
Satellite Radio Providers Would Substantially Reduce Competition**

WASHINGTON — The Department of Justice's Antitrust Division issued the following statement today after announcing the closing of its investigation into the proposed merger of XM Satellite Radio Holdings Inc. with Sirius Satellite Radio Inc.:

"After a careful and thorough review of the proposed transaction, the Division concluded that the evidence does not demonstrate that the proposed merger of XM and Sirius is likely to substantially lessen competition, and that the transaction therefore is not likely to harm consumers. The Division reached this conclusion because the evidence did not show that the merger would enable the parties to profitably increase prices to satellite radio customers for several reasons, including: a lack of competition between the parties in important segments even without the merger; the competitive alternative services available to consumers; technological change that is expected to make those alternatives increasingly attractive over time; and efficiencies likely to flow from the transaction that could benefit consumers.

"The Division's investigation indicated that the parties are not likely to compete with respect to many segments of the satellite radio business even in the absence of the merger. Because customers must acquire equipment that is specialized to the satellite radio service to which they subscribe, and which cannot receive the other provider's signal, there has never been significant competition for customers who have already subscribed to one or the other service. For potential new subscribers, past competition has resulted in XM and Sirius entering long-term, sole-source contracts that provide incentives to all of the major auto manufacturers to install their radios in new vehicles. The car manufacturer channel accounts for a large and growing share of all satellite radio sales; yet, as a result of these contracts, there is not likely to be significant further competition between the parties for satellite radio equipment and service sold through this channel for many years. In the retail channel, where the parties likely would continue to compete to attract new subscribers absent the merger, the Division found that the evidence did not support defining a market limited to the two satellite radio firms that would exclude various alternative sources for audio entertainment, and similarly did not establish that the combined firm could profitably sustain an increased price to satellite radio consumers. Substantial cost savings likely to flow from the transaction also undermined any inference of competitive harm. Finally, the likely evolution of technology in the future, including the expected introduction in the next several years of mobile broadband Internet devices, made it even more unlikely that the transaction would harm consumers in the longer term. Accordingly, the Division has closed its investigation of the proposed merger."

ANALYSIS

During the course of its investigation, the Division reviewed millions of pages of documents, analyzed large amounts of data related to sales of satellite radios and subscriptions for satellite radio service, and interviewed scores of industry participants.

Extent of Likely Future Competition between XM and Sirius

The Division's analysis considered the extent to which the two satellite radio providers compete with one another. Although the firms in the past competed to attract new subscribers, there has never been significant competition between them for customers who have already subscribed to one or the other service and purchased the requisite equipment. Also, competition for new subscribers is likely to be substantially more limited in the future than it was in the past.

As to existing subscribers, the Division found that satellite radio equipment sold by each company is customized to each network and will not function with the other service. XM and Sirius made some efforts to develop an interoperable radio capable of receiving both sets of satellite signals. Depending on how such a radio would be configured, it could enable consumers to switch between providers without incurring the costs of new equipment. The Division's investigation revealed, however, that no such interoperable radio is on the market and that such a radio likely would not be introduced in the near term. For example, in the important automotive channel, such a radio could not be introduced in the near term due to the engineering required to integrate radios into new vehicles. The need for equipment customized to each network means that in order to switch from XM to Sirius, or vice versa, a subscriber would have to purchase new equipment designed for the other service. In the case of a factory-installed car radio, switching satellite radio providers would have the additional disadvantage of requiring an aftermarket radio that would be less integrated into the vehicle's systems. Data analyzed by the Division confirmed that subscribers rarely switch between XM and Sirius.

As to new subscribers, XM and Sirius sell satellite radios and service primarily through two distribution channels: (1) car manufacturers that install the equipment in new cars and (2) mass-market retailers that sell automobile aftermarket equipment and other stand-alone equipment. Car manufacturers account for an increasingly large portion of XM and Sirius sales, and the parties have focused more and more of their resources on attracting subscribers through the car manufacturer channel. Historically, XM and Sirius engaged in head-to-head competition for the right to distribute their products and services through each car company. As a result of this competitive process, XM and Sirius have provided car manufacturers with subsidies and other payments that indirectly reduce the equipment prices paid by car buyers to obtain a satellite radio. However, XM and Sirius have entered into sole-source contracts with all the major automobile manufacturers that fix the amount of these subsidies and other pertinent terms through 2012 or beyond. Moreover, there was no evidence that competition between XM or Sirius beyond the terms of these contracts would affect customers' choices of which car to buy. As a result, there is not likely to be significant competition between XM and Sirius for satellite radio equipment and service sold through the car manufacturer channel for many years.

The Division's investigation identified the mass-market retail channel as an arena in which XM and Sirius would compete with one another for the foreseeable future. Both XM and Sirius devote substantial effort and expense to attracting subscribers in this arena, with both companies

offering discounts, most commonly in the form of equipment rebates, to attract consumers. Retail channel sales have dropped significantly since 2005, and the parties contended that the decline was accelerating. However, retail outlets still account for a large portion of the firms' sales, and the Division was unable to determine with any certainty that this channel would not continue to be important in the future.

Effect on Competition in the Retail Channel

Because XM and Sirius would no longer compete with one another in the retail channel following the merger, the Division examined what alternatives, if any, were available to consumers interested in purchasing satellite radio service, and specifically whether the relevant market was limited to the two satellite radio providers, such that their combination would create a monopoly. The parties contended that they compete with a variety of other sources of audio entertainment, including traditional AM/FM radio, HD Radio, MP3 players (e.g., iPods®), and audio offerings delivered through wireless telephones. Those options, used individually or in combination, offer many consumers attributes of satellite radio service that they may find attractive. The parties further contended that these audio entertainment alternatives were sufficient to prevent the merged company from profitably raising prices to consumers in the retail channel – for example, through less discounting of equipment prices, increased subscription prices, or reductions in the quality of equipment or service.

The Division found that evidence developed in the investigation did not support defining a market limited to the two satellite radio firms, and similarly did not establish that the combined firm could profitably sustain an increased price to satellite radio consumers. XM and Sirius seek to attract subscribers in a wide variety of ways, including by offering commercial-free music (with digital sound quality), exclusive programming (such as Howard Stern on Sirius and “Oprah & Friends” on XM), niche music formats, out-of-market sporting events, and a variety of news and talk formats in a service that is accessible nationwide. The variety of these offerings reflects an effort to attract consumers with highly differentiated interests and tastes. Thus, while the satellite radio offerings of XM and Sirius likely are the closest substitutes for some current or potential customers, the two offerings do not appear to be the closest substitutes for other current or potential customers. For example, a potential customer considering purchasing XM service primarily to listen to Major League Baseball games or one considering purchasing Sirius service primarily to listen to Howard Stern may not view the other satellite radio service, which lacks the desired content, as a particularly close substitute. Similarly, many customers buying radios in the retail channel are acquiring an additional receiver to add to an existing XM or Sirius subscription for their car radio, and these customers likely would not respond to a price increase by choosing a radio linked to the other satellite radio provider. The evidence did not demonstrate that the number of current or potential customers that view XM and Sirius as the closest alternatives is large enough to make a price increase profitable. Importantly in this regard, the parties do not appear to have the ability to identify and price discriminate against those actual or potential customers that view XM and Sirius as the closest substitutes.

Likely Efficiencies

To the extent there were some concern that the combined firm might be able profitably to increase prices in the mass-market retail channel, efficiencies flowing from the transaction likely would undermine any such concern. The Division's investigation confirmed that the parties are likely to realize significant variable and fixed cost savings through the merger. It was not possible to estimate the magnitude of the efficiencies with precision due to the lack of evidentiary support provided by XM and Sirius, and many of the efficiencies claimed by the parties were not credited or were discounted because they did not reflect improvements in economic welfare, could have been achieved without the proposed transaction, or were not likely to be realized within the next several years. Nevertheless, the Division estimated the likely variable cost savings – those savings most likely to be passed on to consumers in the form of lower prices – to be substantial. For example, the merger is likely to allow the parties to consolidate development, production and distribution efforts on a single line of radios and thereby eliminate duplicative costs and realize economies of scale. These efficiencies alone likely would be sufficient to undermine an inference of competitive harm.

Effect of Technological Change

Any inference of a competitive concern was further limited by the fact that a number of technology platforms are under development that are likely to offer new or improved alternatives to satellite radio. Most notable is the expected introduction within several years of next-generation wireless networks capable of streaming Internet radio to mobile devices. While it is difficult to predict which of these alternatives will be successful and the precise timing of their availability as an attractive alternative, a significant number of consumers in the future are likely to consider one or more of these platforms as an attractive alternative to satellite radio. The likely evolution of technology played an important role in the Division's assessment of competitive effects in the longer term because, for example, consumers are likely to have access to new alternatives, including mobile broadband Internet devices, by the time the current long-term contracts between the parties and car manufacturers expire.

The Division's Closing Statement Policy The Division provides this statement under its policy of issuing statements concerning the closing of investigations in appropriate cases. This statement is limited by the Division's obligation to protect the confidentiality of certain information obtained in its investigations. As in most of its investigations, the Division's evaluation has been highly fact-specific, and many of the relevant underlying facts are not public. Consequently, readers should not draw overly broad conclusions regarding how the Division is likely in the future to analyze other collaborations or activities, or transactions involving particular firms. Enforcement decisions are made on a case-by-case basis, and the analysis and conclusions discussed in this statement do not bind the Division in any future enforcement actions. Guidance on the Division's policy regarding closing statements is available at: <http://www.usdoj.gov/atr/public/guidelines/201888.htm>.

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08-226



U.S. Department
of Transportation
**Federal Aviation
Administration**

Commercial Space Transportation
800 Independence Ave., SW.
Washington, DC 20591

JUN 20 2008

Dear Lunar Lander Competitors,

On June 9, 2008, the X PRIZE Foundation announced that the 2008 Lunar Lander Challenge (LLC) will take place at Holloman Air Force Base in Alamogordo, New Mexico on October 24-25, 2008. The purpose of this special notice is to inform potential competitors that the launch operations as described in the LLC rules are regulated under the authority of the FAA Office of Commercial Space Transportation.

The most common type of FAA authorization sought for the LLC is the experimental permit. The FAA's statutory review period for an experimental permit is 120 days, plus 30 days to comply with financial responsibility regulations. Therefore, permit applicants should submit a complete enough application 150 days before their first launch. In addition, an applicant must allow time for pre-application consultation. If you are a new applicant, please contact the AST-100 Division Manager at (202) 267-7859, to begin pre-application consultation. For a permit application not timely submitted, the FAA will strive to make, but cannot guarantee, a permit determination prior to the LLC competition.

In order to facilitate the most efficient processing of your experimental permit application, it is of the utmost importance to respond in a timely manner to requests for additional information. For that reason, the FAA encourages you to maintain open and frequent communication with your established FAA point of contact.

Sincerely,

Stewart W. Jackson
Manager, Systems Engineering and Training Division

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DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****Office of Commercial Space
Transportation; Finding of No
Significant Impact**

AGENCY: The Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTIONS: Finding of No Significant Impact.

SUMMARY: The Federal Aviation Administration (FAA), in cooperation with the United States Air Force (USAF), prepared an Environmental Assessment (EA) to evaluate Space Florida's proposal to operate a commercial launch site at Launch Complex 46 (LC-46) at Cape Canaveral Air Force Station (CCAFS) in Florida. The EA evaluated the potential environmental impacts associated with the Proposed Action and alternatives regarding the issuance of a Launch Site Operator License to Space Florida for LC-46 at CCAFS. After reviewing and analyzing currently available data and information on existing conditions and project impacts, the FAA has determined that issuing a Launch Site Operator License to Space Florida for the operation of a commercial launch site at LC-46 would not significantly impact the quality of the human environment within the meaning of the National Environmental Policy Act. Therefore, the preparation of an Environmental Impact Statement is not required, and the FAA is issuing a Finding of No Significant Impact. The FAA made this determination in accordance with all applicable environmental laws.

For a Copy of the Environmental Assessment: Visit the following Internet address: http://www.faa.gov/about/office_org/headquarters_offices/ast/licenses_permits/launch_site/environmental/ or contact Ms. Stacey M. Zee, FAA Environmental Specialist, 800 Independence Avenue, SW., Room 331, Washington, DC 20591. You may also send e-mail requests to Stacey.Zee@faa.gov or via telephone to (202) 267-9305.

Purpose and Need: The purpose of the FAA's action in issuing the Launch Site Operator License is to ensure compliance with international obligations of the United States and to protect the public health and safety, safety of property, and national security and foreign policy interest of the United States during commercial launch or reentry activities; to encourage, facilitate, and promote commercial

space launches and re-entries by the private sector; and to facilitate the strengthening and expansion of the United States space transportation infrastructure, in accordance with the requirements of the Commercial Space Launch Amendments Act of 2004, the Commercial Space Transportation Act of 2000, Executive Order (EO) 12465, 14 Code of Federal Regulations (CFR) Parts 400–450, the National Space Transportation Policy, and the National Space Policy.

The Proposed Action is needed to meet the demand for lower cost access to space. Less expensive space launch capability is necessary to support rising industries, such as more cost-effective commercial, governmental, and scientific satellite launches. Given the infrastructure and development costs associated with constructing launch facilities, the Federal government has been the owner/operator or has leased/sold unused or excess infrastructure and provided expertise to commercial launch operators for the majority of commercial launches. The Secretary of Transportation has assigned the FAA Office of Commercial Space Transportation responsibility, under the Commercial Space Launch Amendment Acts and EO 12465, for oversight of commercial space launch activities, including licensing of launch and reentry sites.

Proposed Action: Under the Proposed Action, the FAA would issue a Launch Site Operator License for LC-46 to Space Florida. LC-46 is owned by the USAF's 45th Space Wing. Space Florida and the 45th Space Wing have a Memorandum of Agreement and Joint Operating Procedures, which allow Space Florida to conduct launch activities at the site. A Launch Site Operator License, which is valid for five years, would allow Space Florida to offer the site for launches of solid- and liquid-propellant launch vehicles. Potential commercial launch vehicle operators would be required to obtain a Launch License from the FAA to conduct launch operations at LC-46 on CCAFS.

Under the Proposed Action, Space Florida would offer the launch site to launch operators for several types of vertical launch vehicles, including Athena-1 and Athena-2, Minotaur, Taurus, Falcon 1, Alliant Techsystems small launch vehicles and launches of other Castor® 120-based or Minuteman-derivative booster vehicles. Space Florida proposes to support a maximum of 24 annual launches, including 12 solid propellant launches and 12 liquid propellant launches. The proposed launch vehicles and their payloads

would be launched into low earth orbit or geostationary orbit. All vehicles are expected to carry payloads, including satellites.

The Proposed Action does not include any construction or modification to the site. Launches would be conducted using existing infrastructure. Periodic maintenance, such as mowing or repairs, would occur on the site to ensure launch safety. To ensure the safety of all launch activities, the site would require minor repairs.

Alternatives Considered: Alternatives analyzed in the EA include (1) the Proposed Action and (2) the No Action Alternative. Under the No Action Alternative, the FAA would not issue the Launch Site Operator License to Space Florida. Launch operators may be able to conduct launch activities at LC-46; however, operations would be controlled by the 45th Space Wing of the USAF. Other activities, such as military exercises at CCAFS would not be impacted.

Environmental Impacts

Air Quality

Emissions of any criteria pollutants associated with the Proposed Action would be well below Federal *de minimis* levels and would not be expected to cause exceedances of the National Ambient Air Quality Standards or Florida Ambient Air Quality Standards. Emissions of carbon dioxide (CO₂) to the stratosphere under the Proposed Action would be negligible in comparison with U.S. annual emissions of CO₂, and therefore would not have a significant impact on global climate change. Emissions of water vapor (H₂O) to the stratosphere under the Proposed Action would not have a significant impact on global climate change due to the large number of natural and anthropogenic sources of H₂O. Carbon monoxide (CO) and nitrogen oxides (NO_x) emissions in the stratosphere would be extremely small relative to U.S. annual emissions; therefore, the presence of these chemicals in rocket emissions associated with the Proposed Action would have a negligible impact on global climate change. Significant impacts to ozone from particulate (aluminum oxide) emissions and hydrochloric acid are not anticipated under the Proposed Action.

Biological Resources—Fish, Wildlife, Plants, and Special Status Species

The Proposed Action would not have a significant impact on terrestrial vegetation and wildlife. Localized foliar scorching and spotting would not be expected to cause long-term damage to

vegetation. Birds and terrestrial mammals in the immediate area could suffer startle responses during launch activities. However, it is expected that birds and terrestrial mammals would return to pre-launch conditions soon after the launch. Terrestrial mammals could also experience temporary threshold shift effects. However, these effects would be temporary and would not have significant impacts on local populations.

Acidification of nearby surface water due to launch emissions would not be expected to adversely affect aquatic habitats since the area is subjected to wind-blown salt spray and mixing with the open ocean. In the unlikely event of a launch failure, remaining propellant would be quickly diluted within the ocean. Direct strikes on aquatic species, such as marine mammal, turtle, or fish, due to a launch failure or an aborted launch relating to the Proposed Action are very unlikely. Sonic booms would not be expected to negatively impact the survival of any marine species because of their low frequency, the low density of marine species in the ocean's surface water, and the distance of the sonic boom footprint from CCAFS.

Minimal impacts on endangered, threatened, and special status species are anticipated under the Proposed Action. No native habitats would be cleared or directly impacted. Lights from launch activities may adversely affect the sea turtle population along the Atlantic coastline. Light management plans would be developed to minimize these impacts. The majority of effects from launch activities would be short-term, of relatively low intensity, and would occur relatively infrequently due to the launch rate.

Water Resources (Surface Water, Ground Water, Floodplains, and Wetlands)

Short-term and long-term adverse impacts to surface water quality resulting from the launch exhaust cloud would not be significant due to the relatively high salinities and predictable pH stabilities of estuarine and ocean waters. The pH level of near-field surface water may decline for a period of time. However, pre-launch conditions are expected to return within several hours. Short-term impacts to near shore environments could occur as a result of contamination from rocket propellant associated with a launch anomaly. However, long-term impacts would not be significant due to the buffering capacity of the Atlantic Ocean and Banana River. Release of residual propellant from the Falcon 1's recoverable first stage upon impact with

the ocean would not significantly affect water quality because of the small volume of this release into the open ocean. Emergency response and clean-up procedures would reduce the magnitude and duration of any impacts to ground water from an on-pad accidental or emergency propellant release.

Ground water is not expected to be impacted by the Proposed Action. The proposed launches are not expected to interfere with the current remedial action occurring on the site. Additionally, potential emission deposition of hydrochloric acid from the launches is expected to be relatively minor. Leaching acid storm water would be diluted quickly in the ground water system.

Major short-term and long-term impacts to floodplains and wetlands from the launch exhaust cloud would not be expected due to the low probability of a storm event after a launch. Emergency response and clean-up procedures would reduce the magnitude and duration of any impacts to floodplains and wetlands from accidental propellant releases.

Noise

The annual Day Night Average Sound Level (DNL) of the Proposed Action at the City of Cape Canaveral would be substantially lower than 65 DNL. The Proposed Action is not expected to have a significant noise impact on the surrounding areas. The annual C-weighted DNL (CDNL) of the Proposed Action at the City of Cape Canaveral would be substantially lower than 61 CDNL. Sonic booms associated with the Proposed Action are not expected to have a significant impact on the surrounding areas. The magnitude of sonic booms associated with the Proposed Action would be well below 10 pounds per square foot and would occur over the ocean; therefore, no structural damage impacts are expected. Additionally, sonic booms would not have a significant impact on marine animals.

Compatible Land Use (Section 4(f) Lands, Light Emissions, and Visual Resources, and Coastal Resources)

Implementation of the Proposed Action would not change any planned or existing land use designations. There are no Section 4(f) lands located at LC-46. The nearest site is located five miles southwest of the launch site. Launch activities and effects would be contained within the boundaries of LC-46; therefore, no impacts are expected on Section 4(f) lands. The Proposed Action does not involve construction or

development, and is similar to existing activities at LC-46; therefore, there would not be any new or additional visual resource impacts, or any coastal resource impacts. Light emissions would be minimized through the use of low-pressure sodium light fixtures, shielding of lights, and special light management steps where lights are visible from the beach.

Socioeconomic Resources

Additional personnel for launch-related activities would not increase the demand for existing services, including housing, hotels, restaurants, and transportation, in Brevard County. The Proposed Action would not necessitate the relocation of local residents or businesses. Traffic would not be significantly affected during pre- and post-launch activities. Launches may increase tourism in the region, and there may be a slight short-term positive impact on socioeconomic resources from additional tourism.

Hazardous Materials, Solid Waste, and Pollution Prevention

The primary hazardous materials used under the Proposed Action would be propellants. In addition to the propellants, other hazardous materials (e.g., various composites, synthetics, and metals) may be used for rocket operation, including solvents, oils, and paints. All hazardous materials and hazardous waste would be handled and disposed of in accordance with the CCAFS Environmental Standards and Safety Standards and Space Florida's Hazardous Waste Management Plan. Hazardous waste streams anticipated to be generated by the Proposed Action are typical of other hazardous waste streams in Florida. The Proposed Action would not be expected to generate more hazardous waste than can be safely handled by CCAFS and existing hazardous waste management plans would not be expected to change.

Solid waste would be expected to increase slightly with the increase in launches. The amount of solid waste generated would be handled under existing collection and disposal operations.

Space Florida would develop a Pollution Prevention Management Plan, in coordination with CCAFS' pollution prevention plans and goals, to comply with all local, State, and Federal regulations.

Cumulative Impacts

Cumulative impacts are "the incremental impact of the actions when added to other past, present, and reasonably foreseeable future action

regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7). For this analysis, cumulative impacts include impacts from the vehicles that would be launched under Space Florida's license and the past, present, and reasonably foreseeable future activities that would affect the resources impacted by the Proposed Action. The following summary discusses the cumulative impacts from present and reasonably foreseeable actions at CCAFS and in the surrounding areas, including Kennedy Space Center and the Merritt Island National Wildlife Refuge. These activities may potentially affect the same resources as the Proposed Action within the life of the Proposed Action (2008–2013).

Air Quality

The Proposed Action, in addition to the past, present, and reasonably foreseeable actions in the project area, would result in a minor, temporary increase in air emissions in an area that is currently in attainment for all criteria pollutants. The emissions of greenhouse gases and ozone depleting substances would be extremely small in the context of national and global emissions. Because these impacts would be minor and temporary, the incremental contribution to cumulative air quality impacts from the Proposed Action would not be significant.

Biological Resources (Fish, Wildlife, Plants, and Special Status Species)

The impacts from the Proposed Action would likely be less than at other launch pads since the vehicles are relatively small, resulting in less noise, air emissions, and scorching, and would only be launched approximately twice per month. Because the Proposed Action would create minimal artificial light at night, it would not significantly impact nearby sea turtle hatchlings. The impacts to biological resources would be temporary and relatively infrequent; therefore, the incremental contribution to cumulative biological impacts from the Proposed Action would not be significant.

Water Resources (Surface Water, Ground Water, Floodplains, and Wetlands)

The Proposed Action's water requirements would not affect operating requirements of other programs in the project's vicinity, and would have a minimal effect on cumulative water supply. Because the Proposed Action would have a minor and temporary impact on the water resources of the affected region, the incremental

contribution to cumulative water resource impacts from the Proposed Action would not be significant.

Noise

The area surrounding the project has a long history of commercial space rocket and NASA space shuttle launches resulting launch-related noise. Noise impacts associated with launch activities in the area would be brief and temporary. Because these projects have minor and temporary noise impacts, the incremental contribution to cumulative noise impacts from the Proposed Action would not be significant.

Land Use (Section 4(f), Visual Resources, and Coastal Resources)

The area surrounding the project has historically been used for launching rockets and NASA space shuttles and contains launch infrastructure and associated facilities for those past and present actions. The Proposed Action would have no effect on coastal resources, Section 4(f) resources, or compatible land use; therefore, the incremental contribution to cumulative land use impacts from the Proposed Action would not be significant.

Socioeconomic Resources

The project area has long been used by the commercial space industry and NASA for space shuttle launches. All projects in the Proposed Action area would have small, positive socioeconomic impacts. The incremental contribution to cumulative socioeconomic impacts from the Proposed Action would not be significant.

Hazardous Materials, Solid Waste, and Pollution Prevention

The area surrounding the project has a long history of commercial space rocket and NASA space shuttle launches, and past and present actions have required the use and handling of hazardous materials. Cumulative impacts from hazardous materials and hazardous waste management could occur on the portions of CCAFS with historic soil and ground water contamination, including LC-46. However, significant cumulative impacts are not expected due to the remediation activities that have been completed at the site.

Relationship between Short-Term Uses and Long-Term Productivity

Under the Proposed Action, there would be short-term impacts to the environment; however, none of these impacts would be long-term or significant. As a result, the Proposed

Action is not expected to narrow the range of beneficial uses of the environment in the long-term or pose a long-term risk to human health or safety.

Irreversible and Irretrievable Commitment of Resources

Under the Proposed Action, no irreversible or irretrievable commitment of resources is expected to occur in any of the environmental resource areas analyzed in this EA. The Proposed Action would expend solid and liquid propellants; however, the amounts of propellants and other materials that would be expended as part of the Proposed Action are negligible compared to the quantities routinely produced. No construction activities would occur and launches at the site would be of a small-scale and would occur relatively infrequently. As a result, no significant irreversible or irretrievable commitment of resources is expected.

Determination: An analysis of the Proposed Action has concluded that there are no significant short-term, long-term, or cumulative effects to the environment or surrounding populations. After careful and thorough consideration of the facts herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives set forth in Section 101(a) of the National Environmental Policy Act of 1969 and that it will not significantly affect the quality of the human environment or otherwise include any condition requiring additional consultation pursuant to Section 102(2)(c) of the National Environmental Policy Act. Therefore, an Environmental Impact Statement for the Proposed Action is not required.

Issued in Washington, DC on September 2, 2008.

George Nield,

Associate Administrator for Commercial Space Transportation.

[FR Doc. E8-22020 Filed 9-19-08; 8:45 am]

BILLING CODE 4910-13-P

DEPARTMENT OF TRANSPORTATION**Federal Aviation Administration****Office of Commercial Space
Transportation; Notice of Approval on
a Record of Decision (ROD) for the
Spaceport America Commercial
Launch Site, Sierra County, NM**

AGENCY: The Federal Aviation
Administration (FAA), Department of
Transportation.

ACTION: Notice of Approval of Record of
Decision.

SUMMARY: In accordance with National
Environmental Policy Act (NEPA)
regulations and FAA Order 1050.1E,
Change 1, the FAA is announcing the
availability of the ROD for the Spaceport
America Commercial Launch Site,
Sierra County, New Mexico. The ROD
provides the FAA's final environmental
determination and approval to support

the issuance of a Launch Site Operator License to the New Mexico Spaceport Authority (NMSA) to operate Spaceport America, as proposed in the Final Environmental Impact Statement (EIS) published in November 2008.

The ROD provides a description of the applicant's Proposed Action and reasonable alternatives, and identifies the FAA's preferred and the environmentally preferred alternative. It includes a discussion of environmental impacts associated with the Proposed Action in each resource area, as analyzed in the Final EIS. The ROD summarizes the mitigation and enforcement actions that would be made the subject of the terms and conditions of the Launch Site Operator License issued to NMSA, as well as other conservation and enhancement measures described in the Final EIS and presented for consideration.

The Final EIS, prepared by the FAA for the Spaceport America Commercial Launch Site, serves as the primary reference and basis for preparation of the ROD. The Final EIS documents the analysis of environmental consequences associated with the construction and operation of Spaceport America and reasonable alternatives to the Proposed Action. The FAA is the lead Federal agency responsible for the preparation of the EIS and ROD for the proposed Spaceport America. Cooperating agencies include the Bureau of Land Management, the National Park Service, the U.S. Army's White Sands Missile Range (WSMR), and the National Aeronautics and Space Administration. The EIS and ROD were prepared pursuant to the requirements of the National Environmental Policy Act of 1969 as amended (42 U.S.C. 4321, *et seq.*), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500–1508), and FAA Order 1050.1E, Change 1, *Environmental Impacts: Policies and Procedures*.

The FAA has posted the ROD on the FAA Web site at <http://ast.faa.gov>. In addition, paper copies of the ROD will be sent out with the signed Programmatic Agreement to persons and agencies on the distribution list (found in Chapter 8 of the Final EIS). The Programmatic Agreement addresses significant impacts to Historical, Architectural, Archaeological, and Cultural Resources from the Proposed Action.

Additional Information: Under the Proposed Action, and the alternative selected by the FAA for implementation, the FAA would issue a Launch Site Operator License to NMSA

that would allow the State to operate the proposed Spaceport America Commercial Launch Site. The EIS analyzed launching both horizontal and vertical launch vehicle (LV) launches. Horizontal LVs would launch and land at the proposed Spaceport America airfield. Vertical LVs would launch from Spaceport America and either land at Spaceport America or at WSMR. Rocket-powered vertical landing vehicles would land on either the Spaceport America airfield or a vertical launch/landing pad.

In addition, the Proposed Action includes construction of facilities needed to support the licensed launch activities at the proposed launch site. Development of Spaceport America infrastructure would occur in two phases. The total area of land disturbed by construction would be approximately 970 acres; the total area of the final facilities footprint would be approximately 145 acres. The proposed Spaceport America boundary would encompass approximately 26 square miles. This area currently contains both State and private land.

Operational activities in support of the Proposed Action would begin as soon as the phased construction activities related to the Proposed Action were completed. The operational activities that may have environmental consequences and would support, either directly or indirectly, licensed launches include:

- Transport of Launch Vehicles to the Assembly or Staging Areas
- Transport and Storage of Rocket Propellants and Other Fuels
- Launch, Landing and Recovery Activities for Horizontal Vehicles
- Launch, Landing and Recovery Activities for Vertical Vehicles
- Other Activities
 - Ground-Based Tests and Static Firings
 - Training
 - X Prize Cup Events

The FAA identified two alternatives and the No Action Alternative to the Proposed Action, which are considered in the Final EIS. Under Alternative 1, FAA would consider issuing a Launch Site Operator License only for the operation of a launch site to support horizontal launches. This is considered a feasible alternative because a significant number of launches of horizontal LVs are projected, and most X Prize Cup activities would be located at the airfield.

Under Alternative 2, FAA would consider issuing a Launch Site Operator License only for the operation of a launch site to support vertical launches.

This is considered a feasible alternative because a significant number of launches are projected to be of vertical LVs.

Under the No Action Alternative, the FAA would not issue a Launch Site Operator License to the NMSA. Subsequently, the need to support commercial launches and host the X Prize Cup would not be met by the State of New Mexico.

Resource areas were considered to provide a context for understanding and assessing the potential environmental effects of the Proposed Action, with attention focused on key issues. The resource areas considered included compatible land use; Section 4(f) lands and farmlands; noise; visual resources and light emissions; historical, architectural, archaeological, and cultural resources; air quality; water quality, wetlands, wild and scenic rivers, coastal resources, and floodplains; fish, wildlife, and plants; hazardous materials, pollution prevention, and solid waste; socioeconomic, environmental justice, and children's environmental health and safety risks; and energy supply and natural resources. Construction impacts and secondary (induced) impacts are also considered. Additional analyses considered in the appendices include geology and soils; mineral resources; air space; health and safety; and transportation.

As stated in the ROD and supported by the Final EIS, Alternatives 1 and 2 and the No Action Alternative would result in restrictive licensing that would impede the FAA's ability to assist the commercial space transportation industry in meeting projected demand for services and expansion into new markets. The Preferred Alternative, the applicant's Proposed Action, would allow the greatest development and growth of the U.S. commercial space launch industry. In addition, although implementation of the Preferred Alternative would result in slightly greater environmental impacts than the overall impacts associated with the alternatives including the No Action Alternative, the impacts are still expected to be less than significant, in all but one resource area. Therefore, the FAA has selected the Preferred Alternative.

FOR FURTHER INFORMATION CONTACT: Stacey M. Zee (AST-100), Office of Commercial Space Transportation, 800 Independence Avenue SW., Room 331, Washington, DC 20591, telephone (202) 267-9305; E-mail stacey.zee@faa.gov.

Issued in Washington, DC on December 18, 2008.

Michael McElligott,
*Manager, Space Systems Development
Division.*

[FR Doc. E8-30845 Filed 12-24-08; 8:45 am]

BILLING CODE 4910-13-P

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**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Applications for Consent to the)	MB Docket No. 07-57
Transfer of Control of Licenses)	
)	
XM Satellite Radio Holdings Inc.,)	
Transferor)	
)	
To)	
)	
Sirius Satellite Radio Inc.,)	
Transferee)	

MEMORANDUM OPINION AND ORDER AND REPORT AND ORDER

Adopted: July 25, 2008

Released: August 5, 2008

By the Commission: Chairman Martin and Commissioners Tate and McDowell issuing separate statements; Commissioners Cops and Adelstein dissenting and issuing separate statements.

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APPENDIX C: Timeline of Commitments	

I. INTRODUCTION

1. In this Memorandum Opinion and Order and Report and Order ("Order"), we consider the consolidated application of Sirius Satellite Radio Inc. ("Sirius") and XM Satellite Radio Holdings Inc. ("XM," or jointly, the "Applicants") for consent to the transfer of control of the licenses and authorizations held by Sirius and XM, and their subsidiaries, for the provision of satellite digital audio radio service (or "SDARS") in the United States.¹ The Application is filed pursuant to section 310(d) of

¹ Consolidated Application for Authority to Transfer Control of XM Radio Inc. and Sirius Satellite Radio Inc., XM Satellite Radio Holdings Inc., Transferor, and Sirius Satellite Radio Inc., Transferee (Mar. 20, 2007) ("Application"). The Media Bureau placed the Application on public notice on June 8, 2007, establishing a comment cycle for this proceeding. *See Sirius Satellite Radio Inc. and XM Satellite Radio Holdings Inc. Seek Approval to Transfer Control of FCC Authorizations and Licenses*, 22 FCC Rcd 1032 (2007) ("Jun. 8, 2007 Public Notice"). On June 25, 2007, Applicants supplemented their Application with a further license transfer application. *See Letter from Jennifer D. Hindin, Wiley Rein LLP, on behalf of Applicants, to Marlene H. Dortch, Secretary, FCC* (June 25, 2007), attaching Form 312, Call Sign E060363. The supplemental application was accepted for filing on September 26, 2007. *See Report No. SES-00966 (Earth Station Application SES-T/C-20070625-00863)*. That supplemental filing is deemed associated with the Application, which incorporates by reference the applications for approval of the transfer of control of those facilities listed in Appendix A hereto. On March 29, 2007, the Commission released a public notice designating this proceeding as "permit but disclose" for purposes of the Commission's *ex parte* rules. *See XM Satellite Radio Holdings, Inc. and Sirius Satellite Radio, Inc. Seek Approval To Transfer Control Of Licensee Entities Holding FCC Licenses and Other Authorizations*, 22 FCC Rcd 5548 (2007). On June 27, 2007, the Media Bureau initiated a rulemaking proceeding in MB Docket No. 07-57 seeking comment on whether language included in the 1997 Order establishing SDARS, which prohibited the transfer of (continued....)

the Communications Act of 1934, as amended (“Communications Act” or “Act”), and Sections 1.948 and 25.119 of the Commission’s rules.² Applicants assert that grant of the Application will generate substantial, merger-specific public interest benefits and will not harm competition in any market because a combined satellite radio provider will have no market power.³ Based on the review of the record as set forth in the discussion below, we find that grant of the Application, with Applicants’ voluntary commitments⁴ and other conditions discussed herein, is in the public interest.

2. Applicants operate satellite digital audio radio services in the 2320 to 2345 MHz spectrum band as authorized by the Commission after auction in 1997.⁵ XM commenced service in September 2001, and Sirius began service in February 2002.⁶ In order to establish fully a nationwide

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control of one SDARS licensee to the other, constitutes a binding rule. *Applications for Consent to the Transfer of Control of Licenses, XM Satellite Radio Holdings, Inc., Transferor, to Sirius Satellite Radio Inc., Transferee*, Notice of Proposed Rule Making, 22 FCC Rcd 12018 (2007) (“2007 SDARS NPRM”). See Section VII.A. for discussion of the rulemaking proceeding. On December 7, 2007, Sirius filed an informational Form 312 application for a new space station license that was granted to Sirius on April 16, 2007, approximately one month after the Application was filed. Sirius requests that the Commission take the new license into account in its processing of the Application. See Letter from Jennifer D. Hindin, Wiley Rein LLP, Counsel for Sirius, to Marlene H. Dortch, Secretary, FCC (Dec. 7, 2007). We grant the request and associate the new space station license with all other authorizations and licenses as identified in Appendix A.

² 47 U.S.C. § 310(d); 47 C.F.R. §§ 1.948, 25.119.

³ Application at 2.

⁴ Letter from Richard E. Wiley, Robert L. Pettit, Wiley Rein LLC, Counsel for Sirius, and Gary M. Epstein, James H. Barker, Latham & Watkins LLP, Counsel for XM, to Kevin J. Martin, Chairman, FCC (June 16, 2008), Attachment, Letter dated June 13, 2008 from Richard E. Wiley, Robert L. Pettit, Wiley Rein LLP, Counsel for Sirius and Gary M. Epstein, James H. Barker, Latham & Watkins LLP, Counsel for XM, to Kevin J. Martin, Chairman, FCC (June 13, 2008) (“Applicants’ June 13, 2008 Ex Parte”); Letter from Richard E. Wiley, Counsel for Sirius and Gary M. Epstein, Counsel for XM, to Kevin J. Martin, Chairman, Michael Copps, Commissioner, Jonathan Adelstein, Commissioner, Deborah Tate, Commissioner, and Robert McDowell, Commissioner, FCC (July 25, 2008), transmitted by Letter from Robert L. Pettit, on behalf of Applicants, to Marlene H. Dortch, Secretary, FCC (July 25, 2008) (“Applicants’ July 25, 2008 Ex Parte”).

⁵ See *American Mobile Radio Corporation Application for Authority to Construct, Launch, and Operate Two Satellites in the Satellite Digital Audio Radio Service*, Order and Authorization, 13 FCC Rcd 8829 (Int’l Bur. 1997) (“1997 XM Authorization Order”), modified by 16 FCC Rcd 18484, application for review denied, 16 FCC Rcd 21431 (2001), *aff’d sub nom. Primosphere Ltd. Partnership v. FCC* (Case Nos. 01-1526 and 1527), 2003 WL 472239 (C.A.D.C. Feb. 21, 2003); *XM Radio Inc., Order and Authorization*, 20 FCC Rcd 1620 (Int’l Bur. 2005) (“2005 XM Authorization Order”). The Commission originally licensed Sirius to launch and operate two satellites in geostationary orbit at the 80° and 110° West Longitude orbital locations. See *Satellite CD Radio, Inc. Application for Authority to Construct, Launch, and Operate Two Satellites in the Satellite Digital Audio Radio Service*, Order and Authorization, 13 FCC Rcd 7971 (Int’l Bur. 1997) (“1997 Sirius Authorization Order”), application for review denied, 16 FCC Rcd 21458 (2001), *aff’d sub nom. Primosphere Ltd. Partnership v. FCC* (Case Nos. 01-1526 and 1527), 2003 WL 472239 (C.A.D.C. Feb. 21, 2003). Sirius later requested, and was granted, authority to change its satellite configuration from two geostationary satellites to three satellites in non-geostationary satellite orbits (NGSO). See *Sirius Satellite Radio Inc., Application for Minor Modification of License to Construct, Launch and Operate a Non-Geostationary Satellite Digital Audio Radio Service System*, Order and Authorization, 16 FCC Rcd 5419 (Int’l Bur. 2001). SDARS is commonly referred to as “satellite radio.” The Commission’s rules define SDARS as “[a] radio communication service in which audio programming is digitally transmitted by one or more space stations directly to fixed, mobile, and/or portable stations, and which may involve complementary repeating terrestrial transmitters, telemetry, tracking and control facilities.” 47 C.F.R. § 25.201. The term “DARS” refers to the same service that we refer to in this document as “SDARS.”

⁶ Application at 3, 5.

radio service, both SDARS licensees operate terrestrial repeaters in areas where satellite signal reception is blocked by trees, buildings, or tunnels.⁷ Together, Sirius and XM offer hundreds of channels of music, entertainment, news, and sports programming, as well as weather and data information services for maritime, aeronautical and other purposes. In addition, Sirius offers video service in select vehicles equipped with a Sirius Backseat TV receiver.⁸ As of December 31, 2007, Applicants, collectively, had approximately 17.3 million subscribers in the United States.⁹ SDARS radio receivers are used in cars, trucks, boats, aircraft, and homes, and are available for portable use. Applicants also provide content to subscribers using streaming audio over the Internet as well as direct broadcast satellite (“DBS”) and wireless networks.¹⁰ The current fee charged by each of Applicants for its basic SDARS service is \$12.95 per month.¹¹

3. As a result of the merger, Applicants maintain that consumers will be able to customize their programming options by selecting among several new and smaller programming packages, as well as two a la carte packages.¹² Applicants assert that these new programming features will provide greater discretion to parents to control the programming their children receive because parents may individually select which programs to receive or may select programming packages that do not include any adult or other objectionable content.¹³ Applicants indicate that, post-merger, subscribers will not pay more for the content they currently receive.¹⁴ Thus, subscribers who choose to do so may continue to receive the same content for \$12.95 per month and will not be harmed by the introduction of the a la carte and smaller programming packages proposed by Applicants. Applicants claim that permitting consumers to individually select channels will allow the combined company to make choices about content based on the choices made by subscribers, thus leading to the creation of more programming that consumers actually want.¹⁵ Applicants further voluntarily commit to not raising the rates for either their current packages or these new packages for three years.¹⁶ In addition, we are prohibiting Applicants from

⁷ *Id.* at 4, 6.

⁸ Sirius “Backseat TV” is currently offered in Dodge, Chrysler and Jeep vehicles. The service includes live television from three networks: Nickelodeon, Disney Channel and Cartoon Network. *See* Sirius, <http://www.sirius.com/backseattv> (visited June 24, 2008).

⁹ XM Radio reported 9.03 million subscribers as of December 31, 2007. *See* XM Radio Holdings Inc. SEC Form 10-K for the Fiscal Year Ended Dec. 31, 2007 (“XM Form 10-K”) at 34. Sirius reported 8,321,785 subscribers as of that date. Sirius Satellite Radio, Inc. SEC Form 10-K for the Fiscal Year Ended Dec. 31, 2007 (“Sirius Form 10-K”) at 3.

¹⁰ *See* Sections II.A-B for a complete description of the services offered by Applicants.

¹¹ Application at ii.

¹² *See* Section V.B.1. for discussion of new programming packages and prices, including A La Carte I and A La Carte II options. Applicants indicate that in the near term, subscribers will have to own two legacy receivers (one Sirius receiver and one XM receiver) to receive the complete offerings of both services because the combined company must continue to operate both legacy systems. Application at 12 n.27. The a la carte programming features will be available to customers who select their channels through the Internet and purchase next-generation radios. Joint Opposition at 11; *see also* Applicants’ Supplemental Comments Regarding the Benefits of A La Carte (“Supp. Comments”) at 2; Applicants’ June 13, 2008 Ex Parte.

¹³ Applicants indicate that the combined company will provide subscribers a credit or rebate on their subscription fee if they choose to block adult programming. Application at 10, n.25, 12; *see also* Supp. Comments at 4.

¹⁴ Supp. Comments at 10.

¹⁵ *Id.* at 5.

¹⁶ Applicants’ June 13, 2008 Ex Parte at 5. Applicants state that they may pass on some increases in programming costs after the first anniversary of the merger’s consummation. *Id.*

reducing the number of channels in either their current packages or these new packages for three years.

4. To obtain Commission approval, Applicants must demonstrate that the proposed transaction will serve the public interest, convenience, and necessity pursuant to Section 310(d) of the Act.¹⁷ The Commission weighs any potential public interest harms of proposed transactions against any potential public interest benefits.¹⁸ Applicants have the burden of proving that the proposed transaction, on balance, serves the public interest by a preponderance of the evidence.¹⁹

5. We note that the Commission had been investigating Applicants' compliance with certain Commission regulations. On July 25, 2008, the Commission adopted Orders which adopted the Consent Decrees entered into between the Commission and XM, and the Commission and Sirius. These Consent Decrees terminated our investigations into Applicants' compliance with the Commission's regulations governing FM modulators and terrestrial repeaters. These issues are discussed in Section VII, below.

6. Based on the record before us, we conclude that the proposed transfer of control would violate our rule against one licensee controlling both SDARS licenses. We also conclude that, absent Applicants' voluntary commitments and other conditions discussed below, the proposed transaction would increase the likelihood of harms to competition and diversity. As discussed below, assuming a satellite radio product market, Applicants would have the incentive and ability to raise prices for an extended period of time. This is more likely given the spectrum and cost barriers which prevent entry by new SDARS providers that could offer consumers an alternative outlet for satellite radio service. In particular, additional spectrum is not available at this time without spectrum divestiture, which we have determined is inappropriate in light of the considerable financial investment needed to successfully operate an SDARS service, as well as the technical complications that might result from such divestiture.²⁰ Additionally, the regulatory and other business aspects involved in the start-up of such a cost-intensive operation make effective competitive entry unlikely within any relevant time horizon.

7. Applicants, however, have proposed significant voluntary commitments regarding steps the merged company would take to mitigate harms and achieve public interest benefits. We find that absent those voluntary commitments and other conditions, the harms of the transaction would outweigh the potential public interest benefits. On balance, however, we find that with Applicants' voluntary commitments and other conditions, the potential public interest benefits outweigh the harms. Accordingly, we conclude that repeal of the 1997 rule barring common ownership of SDARS licensees will serve the public interest. We also conclude that the transaction, with all of Applicants' voluntary commitments and other conditions, will serve the public interest, and we condition grant of the Applications on the merged firm's fulfillment of Applicants' voluntary commitments and other

¹⁷ 47 U.S.C. § 310(d); *see also Applications for Consent to the Assignment And/Or Transfer of Control of Licenses, Adelphia Comm. Corp., (and Subsidiaries, Debtors-In-Possession), Assignors, to Time Warner Cable Inc. (Subsidiaries), Assignees, Adelphia Comm. Corp., (and Subsidiaries, Debtors-In-Possession), Assignors and Transferors, to Comcast Corp. (Subsidiaries), Assignees and Transferees*, 21 FCC Rcd 8203, 8217 ¶ 23 (2006) ("Adelphia Order"); *General Motors Corp. and Hughes Elec. Corp., Transferors, and The News Corp. Ltd., Transferee, for Authority to Transfer Control*, 19 FCC Rcd 473, 485 ¶ 18 (2004) ("News Corp.-Hughes Order"); *Application of EchoStar Comm. Corp., General Motors Corp., Hughes Elec. Corp., (Transferors), and EchoStar Comm. Corp., (Transferee)*, Hearing Designation Order, 17 FCC Rcd 20559, 20574 ¶ 25 (2002) ("EchoStar-DIRECTV HDO").

¹⁸ *News Corp.-Hughes Order*, 19 FCC Rcd at 477 ¶ 5.

¹⁹ *Id.* at 483 ¶ 15.

²⁰ *See* Section VI.C.1.

conditions.²¹ Although we find it unnecessary to impose a condition requiring the inclusion of chips for digital audio broadcast (“DAB”) or HD Radio™ in SDARS receivers,²² we believe that important questions have been raised about DAB that warrant further examination in a separate proceeding. As discussed in Section VI.B.4, the Commission commits to initiating a notice of inquiry within 30 days after adoption of this Order to gather additional information on the issue.

II. DESCRIPTION OF APPLICANTS

A. XM Satellite Radio Holdings Inc.

8. XM is a publicly traded Delaware corporation²³ headquartered in Washington, D.C. XM stock is traded on the NASDAQ Global Select Market under the symbol “XMSR.”²⁴ XM operates using 12.5 MHz of spectrum in the 2332.5-2345 MHz frequency band.²⁵ This represents half of the available 25 MHz of SDARS spectrum.²⁶ XM obtained a license to use this half of the available 25 MHz of SDARS spectrum through Commission auction conducted in April 1997.²⁷

9. XM commenced operations in September 2001 and currently offers over 170 channels of music (including some commercial-free music channels), sports, news, talk and entertainment to its subscribers.²⁸ As of December 31, 2007, XM reported having over 9.03 million subscribers in the United States.²⁹ XM’s programming includes channels devoted to broadcasts of Major League Baseball (MLB),

²¹ *Compare Applications of Ameritech Corp., Transferor, and SBC Comm., Inc., Transferee*, 14 FCC Rcd 14712, 14712 ¶ 2 (1999) (“SBC-Ameritech Order”).

²² In 2002, the Commission adopted a single DAB transmission standard referred to as in-band, on-channel (“IBOC”), developed by iBiquity Digital Corp. (“iBiquity”), as the technology that would permit AM and FM radio broadcasters to introduce digital operations. “HD Radio” is part of iBiquity’s brand name for its digital AM and FM radio technology. HD Radio, <http://www.hdradio.com/faq.php>. The term “HD Radio” in this Order refers to DAB operations. See Section VI.B.4, *infra*.

²³ Application at 4.

²⁴ XM Form 10-K at 29.

²⁵ Application at 4.

²⁶ SDARS is a domestic implementation of the Broadcasting Satellite Service (sound) (BSS (sound)) that was created as a result of the 1992 World Administrative Radio Conference. See International Telecommunications Union, *Final Acts of the World Admin. Radio Conf.* (Malaga-Torremolinos, 1992). The Commission originally allocated 50 megahertz of spectrum for SDARS on a primary basis in the 2310-2360 MHz frequency band to match the international allocation for BSS (sound) in this band. See *Amendment of the Commission’s Rules with Regard to the Establishment and Regulation of New Digital Audio Radio Services*, Report and Order, 10 FCC Rcd 2310 (1995) (“SDARS Allocation Order”). Congress, however, subsequently directed the Commission to reallocate spectrum at 2310-2320 MHz and 2345-2360 MHz for terrestrial wireless services. See Omnibus Consolidated Appropriations Act, 1997, Pub. L. 104-208, 110 Stat. 3009 (1996). As a result, 25 MHz of spectrum at 2320-2345 MHz remains allocated exclusively for SDARS, although the Commission retained SDARS as a primary allocation throughout the 2310-2360 MHz frequency bands. See U.S. Table of Frequency Allocations, 47 C.F.R. § 2.106.

²⁷ See Public Notice, “FCC Announces Auction Winners for Digital Audio Radio Service,” 12 FCC Rcd 18727 (1997) (“1997 SDARS Public Notice”).

²⁸ XM Form 10-K at 2. In addition, XM states that it has advertising sales offices in several major media markets to sell directly to advertising agencies and media buying groups, and has sold advertising programs and sponsorships to hundreds of advertisers and agencies, including many Fortune 500 companies. *Id.* at 7.

²⁹ *Id.* at 34. “XM Canada” launched its satellite radio service in Canada in November 2005, offering over 130 channels for a monthly subscription fee of CDN \$14.99. Subscribers to XM Canada are not included in the subscriber totals for the United States. *Id.* at 6.

National Hockey League (NHL), Indy Racing League and college sports.³⁰ XM also carries ESPN Radio, ESPN News, Fox Sports, and XM Sports Nation (XMSN).³¹ Some of XM's programming is available in languages other than English and targets niche audiences. XM provides 21 dedicated traffic and weather channels for several large U.S. metropolitan areas,³² and offers a "free-to-air" channel for which no subscription is required that broadcasts emergency alerts, safety information, and Amber alerts on a 24-hour/7-days-a-week basis.³³ XM also offers content to subscribers using streaming audio over the Internet. XM original music, news and sports series are available as free podcasts for download through xmradio.com and Apple Inc.'s iTunes Store.³⁴ XM is available at participating Avis, National, and Alamo car rental locations, and on certain AirTran, JetBlue, and United airplanes.³⁵

10. XM has agreements to include an SDARS receiver as a factory-installed feature or a dealer-installed option in over 140 different vehicle models for model year 2008 with General Motors, Honda/Acura, Toyota/Lexus/Scion, Hyundai and Nissan/Infiniti, among others.³⁶ XM's receivers are also available aftermarket at retailers nationwide and through XM's website.³⁷

11. XM reports that it transmits content throughout the contiguous United States to vehicles, portable receivers, home and plug-and-play radios, some of which are capable of receiving both XM content and traditional AM/FM terrestrial radio stations.³⁸ XM's portable, handheld products include the Inno®, which allows consumers to "bookmark" songs heard on XM, connect the Inno® to a personal computer, and purchase the songs from the XM + Napster® online service.³⁹ XM plug-and-play radios include the "Xpress,®" which features split screen display and 30-minute pause and replay.⁴⁰ XM-ready

³⁰ XM's college sports programming includes the Atlantic Coast Conference, Pacific-10 Conference, Big Ten Conference, Big 12 Conference, Southeastern Conference and Big East Conference, PGA Tour, U.S. Open Tennis, and XM Deportivo. *Id.* at 3.

³¹ XM offers a variety of talk formats, news and religious programming, such as "Oprah & Friends," the "Dr. Laura Show," the Food Network, HGTV, the "Good Morning America Radio Show," Fox News, CNN, and C-Span. XM offers comedy channels, including the "Opie & Anthony Show," and a medical information channel called ReachMD. XM has additional news/talk/information/entertainment programming, including CNBC, Bloomberg, Fox Talk, CNN Headline News, The Bob Edwards Show, BBC Worldservice, The Power and CNN en Español. *Id.* at 3-4.

³² *Id.* at 4.

³³ Application at 5.

³⁴ XM Form 10-K at 7. XM Online, a subset of XM's satellite radio service, is available over the Internet as part of the basic radio subscription price of \$12.95 per month, and can also be purchased as a standalone service for \$7.99 per month. XM Online includes many of the commercial-free music channels available on XM's satellite radio service, several channels which are exclusively programmed for XM Online and various XM original news/talk/information channels, including XM Kids, P.O.T.U.S. '08, The Bob Edwards Show, XM Comedy, Laugh USA, Oprah & Friends, and The Virus, featuring Opie & Anthony. *Id.* at 6. Through DIRECTV, XM offers several channels of XM's music, children's and talk programming to DIRECTV's customers. *Id.*

³⁵ *Id.* at 7.

³⁶ *Id.* at 4. XM also has agreements with automotive manufacturers Ferrari, Isuzu, Lotus, Subaru, Suzuki, Porsche and Harley-Davidson as either a dealer and/or factory-installed option in several models. *Id.* at 5.

³⁷ *Id.* at 5.

³⁸ *Id.* at 7.

³⁹ *Id.* at 5.

⁴⁰ *Id.*

and Mini-Tuner technologies integrate into a broad range of home devices such as stereo receivers and DVD players by allowing consumers to connect an XM Mini-Tuner into an XM-ready receiver.⁴¹ XM's advanced technology applications include XM NavTraffic® which provides continuously updated real-time traffic information for 80 major metropolitan areas across the United States for a monthly fee.⁴² XM aviation and marine applications include the XM WX® weather service, which provides real-time graphical weather data.⁴³

12. XM primarily provides its service directly to subscribers via satellite. XM, through its 100 percent owned subsidiary, XM Radio Inc. ("XM Radio"),⁴⁴ is licensed to operate four satellites in geostationary orbit at or near the 85° W.L. and 115° W.L. orbital locations.⁴⁵ From these orbital locations, XM is able to provide service to the contiguous United States, or "CONUS," as well as parts of Alaska.⁴⁶ XM operates a network of terrestrial repeaters, pursuant to grants of special temporary authority, in order to improve the quality of its signal in areas in which the signal may be obstructed, such as by tall buildings and tunnels.⁴⁷

13. XM Radio holds three authorizations for transmit/receive earth stations that are licensed to communicate with XM's satellites in the S- (2320-2345 MHz), C- (4/6 GHz), and X- (7025-7075 GHz) bands.⁴⁸ XM Radio also holds an experimental license under Part 5 of the Commission's rules.⁴⁹

B. Sirius Satellite Radio Inc.

14. Sirius is a publicly traded Delaware corporation and is headquartered in New York City, New York.⁵⁰ Sirius stock is traded on the NASDAQ Global Select Market under the symbol "SIRI."⁵¹ Sirius operates using 12.5 MHz of spectrum in the 2320-2332.5 MHz frequency band. Sirius obtained a license to use its half of this spectrum through an auction conducted in April 1997.⁵²

15. Sirius commenced service in February 2002, and currently offers over 130 channels, including 69 channels of commercial-free music, 54 channels of sports, news, talk, and entertainment, and 11 channels of traffic, weather, and informational data services.⁵³ As of December 31, 2007, Sirius

⁴¹ *Id.*

⁴² *Id.*

⁴³ *Id.*

⁴⁴ Application, Attachment A.

⁴⁵ *1997 XM Authorization Order*, 13 FCC Rcd at 8850 ¶¶ 51-52; *2005 XM Authorization Order*, 20 FCC Rcd at 1620 ¶ 1.

⁴⁶ Application at 6.

⁴⁷ *Id.* See also *XM Radio Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complementary Terrestrial Repeaters*, Order and Authorization, 16 FCC Rcd 16781 (Int'l Bur. 2001) ("*XM Radio STA Order*"); *XM Radio, Inc.*, Order, FCC 08-177 (adopted July 25, 2008) ("*XM Consent Decree Order*"), as discussed in Section VII.B., *infra*.

⁴⁸ Application at 53.

⁴⁹ *Id.* (call sign WB2XCA).

⁵⁰ Sirius Form 10-K at 13.

⁵¹ *Id.* at 24.

⁵² See 1997 SDARS Public Notice.

⁵³ Application at 3; see also Sirius Form 10-K at 5.

reported 8,321,785 subscribers in the United States.⁵⁴ Sirius's musical offerings consist of channels dedicated to genres such as pop, rock, electronic, hip hop, rhythm and blues, country, Christian, blues, jazz, classical, Latin, big band, and show tunes.⁵⁵ Sports programming includes coverage of the National Football League (NFL), National Basketball Association (NBA), National Association of Stock Car Auto Racing (NASCAR), and college sports and other sports programming, such as ESPN Radio, ESPN News and ESPN Deportes, which is ESPN's Spanish language programming.⁵⁶

16. Several of Sirius's music, news, and talk channels are available in languages other than English or target niche audiences, and include, among other programs, Howard Stern, Martha Stewart, and Barbara Walters.⁵⁷ Sirius news and information channels include BBC World Service News, Bloomberg Radio and CNBC.⁵⁸ Sirius reports that its 11 channels of traffic and weather cover 20 metropolitan markets throughout the United States, and include one channel dedicated to emergency information and the transmission of emergency messages as part of the Emergency Alert System (EAS).⁵⁹

17. In 2007, Sirius introduced Sirius Backseat TV, a television service offering content designed primarily for children from Nickelodeon, Disney Channel and Cartoon Network in the backseat of vehicles.⁶⁰ Sirius also provides streaming audio content to subscribers via the Internet, and music channels to DISH satellite television and Sprint mobile telephone subscribers.⁶¹

⁵⁴ Sirius Form 10-K at 3. In 2005, Sirius Canada launched its service in Canada offering 110 channels of commercial music and news, sports, talk and entertainment programming, including 11 channels of Canadian content and the Howard Stern 100 channel for CDN \$14.99 per month. As of October 2007, Sirius Canada had more than 500,000 subscribers. Subscribers to Sirius Canada are not included in the subscriber total for the United States. *Id.* at 10.

⁵⁵ Application at 3.

⁵⁶ Sirius Form 10-K at 5-6. Sirius carries play-by-play coverage of football, basketball and other sports from 18 NCAA Division I Conferences, and has the right to broadcast all games of the NCAA Division I men's basketball tournament through 2009. Sirius also airs Wimbledon Championships, Arena Football League, National Lacrosse League and horse racing. *Id.* at 6.

⁵⁷ *Id.* Religious programming includes the Catholic Channel, programmed with the assistance of the Archdiocese of New York. Other religious programming includes EWTN Global Catholic Radio Network and Family Net Radio, programmed by Family Net, an affiliate of the Southern Baptist Convention. *Id.*

⁵⁸ *Id.* Sirius also carries CNN, Fox News, National Public Radio and the World Radio Network. *Id.* Additional content services offered by Sirius include Sirius Music for Business, a music service for commercial entities available through Applied Media Corporation, Dynamic Media, Turn Key Media and Info Hold Inc. *Id.* at 10. Sirius's marine weather service features information on weather and wave heights to sea surface temperatures for recreational boaters and covers the 48 contiguous states and waters extending hundreds of miles into the Atlantic and Pacific Oceans, Gulf of Mexico and Caribbean. *Id.*

⁵⁹ *Id.* at 6; *see also* Application at 3. The metropolitan areas covered are New York, Boston, Philadelphia, Los Angeles, Chicago, St. Louis, Washington D.C., Baltimore, Atlanta, Miami, Dallas, Houston, Detroit, Las Vegas, San Francisco, Seattle, Phoenix, San Diego, Tampa, and Orlando. SIRIUS, <http://www.sirius.com/trafficweather> (visited June 17, 2008).

⁶⁰ *See* Sirius, SIRIUS Satellite Radio Launches the First Aftermarket Satellite Radio Tuner That Can Receive SIRIUS Backseat TVTM (press release) Aug. 15, 2007.

⁶¹ *See* Application at 3. Sirius offers graphic information on road closings, traffic flow and incident data to consumers with in-vehicle navigation systems, and a marine weather service that provides a range of information, including sea surface temperatures, wave heights and extended forecasts to recreational boaters. *See* Sirius Form 10-K at 4. Sirius states that it intends to launch Sirius Travel Link, a suite of data services that includes real-time traffic, tabular and graphical weather, fuel prices, sports schedules and scores, and movie listings. Sirius Travel (continued....)

18. Sirius has agreements with automobile manufacturers to include an SDARS receiver in vehicles as a factory or dealer-installed option in 116 vehicle models, and as a dealer only installed option in 37 vehicle models.⁶² Sirius receivers are also available for installation in homes, automobiles, boats, and aircraft, and may be purchased through its website, as well as through retailers nationwide.⁶³ Sirius radios are also offered to renters of Hertz vehicles at airport locations nationwide.⁶⁴

19. Sirius primarily provides its service directly to subscribers via satellite. Sirius, through its 100 percent owned subsidiary, Satellite CD Radio, Inc. ("Satellite CD Radio"),⁶⁵ holds a license from the Commission to operate a fleet of three satellites in highly-elliptical orbits ("HEO").⁶⁶ Sirius also holds an authorization to launch and operate a satellite in geostationary satellite orbit ("GSO") at the 96° West Longitude (W.L.) orbital location in conjunction with Sirius's three HEO satellites, but has not yet launched this satellite.⁶⁷ Sirius serves subscribers throughout the 48 contiguous United States via its satellite system. Sirius operates a network of terrestrial repeaters in urban areas, pursuant to grants of special temporary authority, in order to improve the quality of reception in areas where there is interference to the satellite signal from tall buildings, tunnels, heavy foliage or other obstructions.⁶⁸ In addition to its satellite licenses, Sirius holds four authorizations for transmit/receive earth stations that are licensed to communicate with Sirius's satellites in the S- (2320-2345 MHz), C- (4/6 GHz), X- (7025-7075

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Link is expected to be standard on Ford's next generation navigation system and offered on select Ford, Lincoln and Mercury vehicles in 2008. *Id.*

⁶² Sirius Form 10-K at 7. Sirius satellite radio is available in Chrysler, Dodge, Jeep, Mercedes-Benz, Ford, Mitsubishi, BMW, Freightliner LLC, Volkswagen, Kia, Audi, Lincoln, Mercury, Mazda, Land Rover, Jaguar, Aston Martin, MINI, Maybach, Bentley Motors Inc., Rolls-Royce, Toyota, Sterling, Peterbilt, Kenworth, Volvo, International and Scion vehicles. *Id.* at 7-8.

⁶³ *Id.* at 3. Sirius also offers a variety of portable radios. *Id.* at 3.

⁶⁴ Sirius Form 10-K at 4.

⁶⁵ Application at Attachment A.

⁶⁶ The Commission originally licensed Sirius to launch and operate two satellites in geostationary orbit at the 80° and 110° West Longitude orbital locations. *1997 Sirius Authorization Order*, 13 FCC Rcd at 7971, 7994. Sirius later requested, and was granted, authority to change its satellite configuration from two geostationary satellites to three satellites in a highly elliptical non-geostationary orbit (NGSO). *Sirius Satellite Radio Inc., Minor Modification of License to Construct, Launch and Operate a Non-Geostationary Satellite Digital Audio Radio Service System*, Order and Authorization, 16 FCC Rcd 5419 (Int'l Bur. 2001).

⁶⁷ See *Sirius Satellite Radio Inc., Application for Authority to Launch and Operate SIRIUS FM-5, a Geostationary Satellite, to Provide Satellite Digital Audio Radio Services*, IBFS File No. SAT-LOA-20060901-00096 (granted April 16, 2007). The Commission had not yet granted this application at the time of filing of the Transfer Application, but Applicants specifically request that the Commission include authority to transfer control of any applications issued during the period between submission of the Transfer Application and Commission action on the same. See Application at Part VI.B. In addition, Sirius subsequently filed an "informative" Form 312 to include this authorization as part of the transfer of control application. See n.1, *supra*.

⁶⁸ See, e.g., *Sirius Satellite Radio, Inc., Application for Special Temporary Authority to Operate Satellite Digital Audio Radio Service Complementary Terrestrial Repeaters*, Order and Authorization, 16 FCC Rcd 16773 (Int'l Bur. 2001) ("*Sirius STA Order*"). See also *Sirius Satellite Radio Inc.*, Order, FCC 08-176 (adopted July 25, 2008) ("*Sirius Consent Decree Order*"), as discussed in Section VII.B., *infra*. Sirius states that it plans to deploy a significant number of additional terrestrial repeaters in the future. Sirius Form 10-K at 18.

GHz), and Ku- (12/14 GHz) bands.⁶⁹ Sirius also holds a Commission wireless license.⁷⁰

C. The Proposed Transaction

20. On February 19, 2007, Applicants, the only entities authorized by the Commission to provide satellite digital audio radio service in the United States, entered into an Agreement and Plan of Merger.⁷¹ The surviving corporation after all the transactional steps are completed will be Sirius Satellite Radio, Inc. It will hold, through its subsidiaries Satellite CD Radio, Inc. and XM Satellite Radio Holdings Inc., all of the Commission licenses and authorizations Sirius and XM respectively hold prior to the merger.⁷² The merged corporation will be controlled by a new Board of Directors, selected by both Sirius and XM, and its equity ownership will be represented equally by former shareholders of Sirius and XM.⁷³

21. Applicants propose that the merged company will offer a range of programming packages at lower prices than are currently available from the individual companies.⁷⁴ In their Joint Opposition, Applicants state that some packages will be offered beginning within six months of the consummation of the merger, including “best of both” packages, discounted “family friendly” packages, and a “best of both” package that excludes adult-themed content.⁷⁵ Beginning one year following the merger, Applicants state they will offer a la carte packages of 50 or 100 channels to those subscribers who purchase next-generation radios.⁷⁶ Applicants state that no satellite radio subscriber will have to pay

⁶⁹ See Application at 54; *see also* Application to Transfer Control of Sirius Satellite Radio Inc. Earth Station Authorizations to Sirius Satellite Radio Inc., IBFS File No. SES-T/C-20070320-00379 (Call Signs E990291, E040363, E060276, E060277); File No. SES-T/C-20070625-00863 (Call Sign E060363).

⁷⁰ See ULS File No. 0002948781 (filed Mar. 20, 2007) (seeking Commission consent to the transfer of control of an Industrial/Business Pool license, call sign WPTX369, from Sirius Satellite Radio Inc. to the merged entity); *see also* Application at 54.

⁷¹ Agreement and Plan of Merger dated as of February 19, 2007, by and among Sirius Satellite Radio Inc., Vernon Merger Corporation, and XM Satellite Radio Holdings Inc. (“Merger Agreement”). Application at 1, 6. Pursuant to the Merger Agreement, a wholly owned subsidiary of Sirius, Vernon Merger Corporation, will be merged with and into XM, with Sirius being the surviving corporation of the subsidiary merger. At the effective time of the merger, each outstanding share of XM common stock will generally be converted into the right to receive 4.6 shares of common stock of Sirius, and each outstanding share of XM Series A Convertible Preferred Stock will be similarly converted into the right to receive 4.6 shares of a newly designated series of preferred stock of Sirius having substantially the same qualifications as the stock so converted. XM will continue to hold the stock of its subsidiaries, and XM and its subsidiaries will continue to hold all of the FCC authorizations that they held prior to the merger. *Id.* at 6.

⁷² Application at 6-7, Attachment A. These licenses are held pursuant to Section 310(d) of the Communications Act.

⁷³ See Application at 6-7. Following the merger, the surviving company’s Board of Directors will consist of the following: four members selected by Sirius and four members selected by XM, each of whom shall qualify as an independent director pursuant to NASDAQ Market Rules; the Chief Executive Officer; the Chairman of the Board of Directors; and two additional members, one of whom is expected to be designated by General Motors and the other by American Honda. See Application at 7. See Slacker, Inc. Comments at n.413, *infra*.

⁷⁴ See Applicants’ Joint Opposition to Petitions to Deny and Reply Comments (“Joint Opposition”).

⁷⁵ *Id.* at 10-14. See also XM and Sirius, *XM and SIRIUS to Offer A La Carte Programming* (press release) Jul. 23, 2007.

⁷⁶ Joint Opposition at 11-14.

more for monthly services as a result of the merger.⁷⁷

22. On June 13, 2008 and July 25, 2008, Applicants provided letters detailing and further modifying a number of voluntary commitments they were willing to implement to “further demonstrate” that the approval of their transaction would serve the public interest.⁷⁸ With regard to programming, the Applicants state that within three months of consummation of the merger, the combined company will offer (1) two a la carte options and introduce a la carte capable radios, (2) a “Best of Both” programming package, (3) a “mostly music” package and a “mostly news, sports and talk” package, and (4) a discounted “family-friendly” package. Applicants also state that the merged entity will set aside 4 percent of its full-time audio channels for noncommercial educational and informational programming, and will lease another 4 percent of its channels to “qualified entities.”⁷⁹ With regard to rates, Applicants state that they will not raise their current rates nor the rates for their new services for at least 36 months after the consummation of the merger (except that after one year, Applicants may pass on cost increases to their subscribers).⁸⁰ Six months prior to the expiration of the commitment period, the Commission will seek public comment on whether the cap continues to be necessary in the public interest. The Commission will then determine whether it should be modified, removed, or extended. With regard to equipment, within nine months after consummation of the merger, Applicants state that the merged entity will offer for sale at retail an interoperable satellite radio receiver (i.e., one that is capable of receiving both the full Sirius and the full XM programming).⁸¹ They state that the merged entity also will (1) permit any manufacturer to develop equipment that can deliver their satellite radio service and (2) permit manufacturers to incorporate in any satellite radio receivers other technology (so long as it does not result in harmful interference), including HD Radio technology.⁸² To this end, immediately after consummation of the merger, Applicants will offer for license to bona fide third parties the intellectual property they own and control of the basic functionality of satellite radios (not including chip set and encryption technology). Applicants also voluntarily commit that the merged entity would not enter into any agreements that would bar others from including other (non-interfering) audio technology in any device or vehicle.⁸³ Finally, Applicants voluntarily commit to providing Sirius satellite radio service to Puerto Rico using terrestrial repeaters.⁸⁴

D. Post-Merger Operations

23. Applicants state that, post merger, they will continue to operate the XM and Sirius infrastructures as separate, legacy systems in the near term, and that neither system currently has

⁷⁷ *Id.* at 13-14.

⁷⁸ Applicants’ June 13, 2008 Ex Parte at 1; Applicants’ July 25, 2008 Ex Parte at 1.

⁷⁹ Applicants define a “qualified entity” as any entity that is majority-owned by persons who are African American, not of Hispanic origin; Asian or Pacific Islanders; American Indians or Alaskan Natives; or Hispanics. Applicants’ June 13, 2008 Ex Parte at 1 at 3 n.2.

⁸⁰ Applicants state that they “may pass through cost increases incurred since the filing of the combined company’s FCC merger application as a result of statutorily or contractually required payments to the music, recording and publishing industries for the performance of musical works and sound recordings or for device recording fees.” Applicants’ June 13, 2008 Ex Parte at 4. *See* ¶ 107, *infra*.

⁸¹ Applicants’ July 25, 2008 Ex Parte at 2.

⁸² Applicants’ June 13, 2008 Ex Parte at 3.

⁸³ *Id.*

⁸⁴ *Id.* at 4.

sufficient capacity to offer both companies' full programming line-ups.⁸⁵ Although Applicants state that some aspects of the two legacy infrastructures could be integrated into a common platform in a relatively short time frame, combining all aspects of the two infrastructures will take much longer.⁸⁶ Consequently, Applicants state that subscribers of the merged entity would have to own two legacy receivers (one XM receiver and one Sirius receiver) in order to receive the complete offerings of the combined entity.⁸⁷ The need for two separate receivers results from the significant engineering differences between the XM and Sirius systems and the lack of an interoperable receiver capable of accessing all licensed SDARS systems.⁸⁸ As discussed below, the need to operate two separate legacy systems post-merger delays realization of some of the spectrum efficiency benefits claimed by Applicants.⁸⁹

24. Applicants identify significant engineering differences in their existing platforms that would make integration difficult in the short term.⁹⁰ Both Applicants use satellites and terrestrial repeaters to deliver programming to subscribers, but each has taken a different approach in implementing its system. For example, XM operates its system using two active satellites in geostationary orbit,⁹¹ whereas Sirius uses three satellites in a highly inclined, elliptical non-geostationary orbit.⁹² The difference in orbital constellations affects the design of the antennas used to receive the satellite signal,⁹³ the terrestrial repeater network used to augment the satellite service,⁹⁴ and the uplink antennas used to communicate with the satellites.⁹⁵ Each Applicant has invested significantly in its existing infrastructure with the expectation of operating its infrastructure for years to come.⁹⁶

⁸⁵ Application at 12 n.27.

⁸⁶ XM Nov. 16, 2007 Response to Information and Document Request, Narrative at 25 (XM filed a duplicate submission on Dec. 4, 2007 to correct a formatting issue with the Nov. 16, 2007 filing. In this Order, we cite to the Nov. 16, 2007 filing).

⁸⁷ Application at 12, n.27.

⁸⁸ See *infra* Section VI.B.3; see also Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 67 ("it is anticipated that consumers who want to access all of the programming offered by the merged company will have to purchase new interoperable radios capable of receiving signals on the spectrum now licensed separately to Sirius and XM").

⁸⁹ See *infra* Section V.B.4.

⁹⁰ XM Nov. 16, 2007 Response to Information and Document Request, Narrative at 25-29; Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 37-40.

⁹¹ 2005 XM Authorization Order, 20 FCC Rcd at 1620 ¶ 1 (authorizing XM to launch and operate the XM-3 and XM-4 satellites and to operate the XM-1 and XM-2 satellites as in-orbit spares).

⁹² Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 38.

⁹³ Sirius states that the receive antennas of XM's and Sirius' radios are optimized differently in order to provide the best reception given the different elevation angles needed to view XM's satellites in geostationary orbit and Sirius's satellites in highly-elliptical orbits. See Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 38-39.

⁹⁴ Sirius states that it needs fewer repeaters than XM due to the high angle of elevation of Sirius' satellites in highly-elliptical orbit. See Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 39.

⁹⁵ Sirius states that its satellites in highly-elliptical orbits require uplink antennas with full motion to track the satellites across the sky, whereas XM's satellites in geostationary orbit do not. See *id.*

⁹⁶ XM's two operational satellites, XM-3 and XM-4, were launched in 2005 and 2006, respectively, and have expected operational lifetimes of 15 years. See XM, *XM Radio's XM-4 Satellite Successfully Delivered to Transfer Orbit* (press release) Oct. 30, 2006; XM, *XM Radio's Satellite Successfully Delivered to Orbit* (press release) Mar. 1, (continued....)

25. Besides differences in satellite infrastructure, Applicants currently use different technology for transmission and reception of their programming to subscribers that makes integration to a common platform difficult in the short term. XM and Sirius are assigned 12.5 MHz of spectrum each, but Sirius divides its spectrum into three identical carriers of approximately 4 MHz each, whereas XM divides its spectrum into six carriers.⁹⁷ As a result, current XM receivers are not designed to receive Sirius's programming, and vice versa. Furthermore, although XM and Sirius have used a common manufacturer for some of the chipsets used in their receivers, they also use a number of different chipset manufacturers, and the chipsets are highly tuned to address only the transmissions of Sirius or XM, respectively.⁹⁸ Applicants state that any migration to a common platform will likely require the development of new chipsets.⁹⁹ Applicants state that if the combined company were to migrate to a common platform while a significant number of single-platform devices were still in use, then the combined company would either risk losing millions of customers by forcing the purchase of new radios, or face prohibitive costs to replace millions of single-platform radios, most of which will be hard-wired into cars.¹⁰⁰ Thus, Applicants indicate that it is unlikely that the merged company would convert to a common platform until nearly all subscribers have migrated to receivers with new chipsets capable of operating under a common platform.¹⁰¹

E. Applications and Review Process

1. Commission Review

26. On March 20, 2007, Applicants submitted the Consolidated Application to the Commission seeking consent to transfer control of Commission licenses and authorizations held by Sirius, XM and their subsidiaries pursuant to Section 310(d) of the Communications Act of 1934, as amended.¹⁰² On June 8, 2007, the Media Bureau accepted the Consolidated Application for filing and released a Public Notice establishing the pleading cycle for parties to file comments with respect to the transfer of control.¹⁰³

27. On June 25, 2007, the Commission adopted the *2007 SDARS NPRM*, seeking public comment as to whether language included in the *1997 SDARS Service Rules Order* establishing SDARS

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2005. Sirius' current operational satellites were launched in 2000, and Sirius is in the process of implementing replacement satellites. See Satellite CD Radio, Inc., Application for Modification of Authority, IBFS File No. SAT-MOD-20080521-00110 (filed May 21, 2008) (requesting authority to launch and operate the FM-6 satellite as an eventual replacement for two in-orbit Sirius NGSO satellites). Because SDARS is the only commercial satellite service authorized to use the 2320-2345 MHz frequency band in the United States, it is unlikely that either Applicant would be able to sell its satellite infrastructure to a non-SDARS provider.

⁹⁷ XM Nov. 16, 2007 Response to Information and Document Request, Narrative at 29; Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 37.

⁹⁸ Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 40.

⁹⁹ *Id.* at 44-45.

¹⁰⁰ XM Nov. 16, 2007 Response to Information and Document Request, Narrative at 26. In addition, Applicants have committed to the public that no customer will need to purchase a new radio to keep "substantially similar service" after the merger. *Id.* at 27 n.11.

¹⁰¹ See Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 41, 44-45.

¹⁰² See 47 U.S.C. § 310(d); Consolidated Application.

¹⁰³ Jun. 8, 2007 Public Notice, 22 FCC Rcd at 1032. Comments were due July 9, 2007, and responses and oppositions were due on July 24, 2007.

service, which prohibits the transfer of control of one SDARS licensee to the other,¹⁰⁴ constitutes a binding rule.¹⁰⁵ In the event the Commission was to determine that the language in the *1997 SDARS Service Rules Order* is a binding rule, the *2007 SDARS NPRM* sought comment on whether the Commission should waive, modify, or repeal the transfer prohibition if the Commission subsequently determined that the proposed merger of XM and Sirius, on balance, serves the public interest.¹⁰⁶

28. Many entities filed comments in support of the transfer of control application, including Competitive Enterprise Institute (“CEI”); The Heritage Foundation (“Heritage”); Progress and Freedom Foundation (“PFF”); National Association for the Advancement of Colored People (“NAACP”); Hispanic Federation; General Motors Corp. (“GM”); Circuit City; Sen. John Ensign; Rep. Rick Boucher; and Former Sen. Bill Bradley. In addition, nine parties filed petitions to deny the application: Mt. Wilson FM Broadcasters, Inc. (“Mt. Wilson”); the National Association of Broadcasters (“NAB”); Common Cause, Consumer Federation of America, Consumers Union and Free Press (“Common Cause”); American Women in Radio and Television, Inc. (“AWRT”); the Consumer Coalition for Competition in Satellite Radio (“C3SR”); The Telecommunications Advocacy Project (“TAP”); The National Association of Black Owned Broadcasters (“NABOB”); National Public Radio (“NPR”); and Forty-Six Broadcasting Organizations.¹⁰⁷ An “informal objection” was filed by Prometheus Radio Project, U.S. Public Interest Research Group, and Media Access Project (“Prometheus Radio”).¹⁰⁸ The Commission also received almost 17,000 formal and informal comments on the proposed transfer of control. In addition, comments and reply comments were filed with regard to issues raised in the *2007 SDARS NPRM* by 18 parties. The Commission also requested additional information from Applicants.¹⁰⁹ Applicants’ separately-filed

¹⁰⁴ *Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, Report and Order, Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, 12 FCC Rcd 5754, 5823 ¶ 170 (1997) (“*1997 SDARS Service Rules Order*”).

¹⁰⁵ *2007 SDARS NPRM*, 22 FCC Rcd at 12018 ¶ 1.

¹⁰⁶ A summary of the *2007 SDARS NPRM* was published in the Federal Register on July 12, 2007, 72 FR 38055 (July 12, 2007). The following day, the Media Bureau issued the Public Notice setting forth deadlines for filing comments and reply comments to the *2007 SDARS NPRM*. Public Notice, *Media Bureau Announces Comment and Reply Comment Dates for the Notice of Proposed Rule Making Regarding Applications for Consent to the Transfer of Control of Licenses, XM Satellite Radio Holdings Inc., Transferor, to Sirius Satellite Radio Inc., Transferee*, 22 FCC Rcd 13036 (Med. Bur. 2007). Comments were due by August 13, 2007, and reply comments were due by August 27, 2007.

¹⁰⁷ See Petition to Deny filed by Mt. Wilson FM Broadcasters, Inc. (“Mt. Wilson Petition”); Petition to Deny filed by the National Association of Broadcasters (“NAB Petition”); Petition to Deny filed by Common Cause, Consumer Federation of America, Consumers Union and Free Press (“Common Cause Petition”); Petition to Deny filed by American Women in Radio and Television, Inc. (“AWRT Petition”); Petition to Deny filed by the Consumer Coalition for Competition in Satellite Radio (“C3SR Petition”); Petition to Deny filed by The Telecommunications Advocacy Project (“TAP Petition”); Petition to Deny filed by The National Association of Black Owned Broadcasters (“NABOB Petition”); Petition to Deny filed by National Public Radio (“NPR Petition”), and Petition to Deny filed by Forty-Six Broadcasting Organizations (“46 Broadcasters Petition”). An untimely Petition to Deny was filed by the National Association of Telecommunications Officers and Advisors (“NATOA”). The NATOA Petition will be considered as a comment in the proceeding.

¹⁰⁸ See Informal Objection filed by Prometheus Radio Project, U.S. Public Interest Research Group, and Media Access Project (“Prometheus Radio Objection”). This filing will be considered as a comment in the proceeding.

¹⁰⁹ On July 11, 2007, the Media Bureau adopted a Protective Order under which third parties were allowed to review confidential or proprietary filings and documents submitted by Applicants. See Applications of Sirius Satellite Radio, Inc. and XM Satellite Radio Holdings Inc. For Approval to Transfer Control, Protective Order, 22 FCC Rcd 12822 (Med. Bur. 2007) (“*First Protective Order*”). On November 2, 2007, the Bureau issued a request for information from Sirius and XM. Letter from Monica Shah Desai, Chief, Media Bureau, FCC, to Richard E. Wiley, (continued....)

responses to those requests are included in the record.¹¹⁰

2. Department of Justice Review

29. In addition to Commission review, the proposed transaction is subject to review by federal antitrust authorities, in this instance by the U.S. Department of Justice (“DOJ”). The DOJ reviews communications mergers and transactions pursuant to section 7 of the Clayton Act, which prohibits mergers that may substantially lessen competition in any line of commerce.¹¹¹ On March 24, 2008, the DOJ announced that it had “close[d] its investigation of the transaction” without taking any enforcement action against the proposed merger.¹¹²

III. STANDARD OF REVIEW AND PUBLIC INTEREST FRAMEWORK

30. Pursuant to section 310(d) of the Communications Act, we must determine whether Applicants have demonstrated that the proposed transfers of control of the licenses and authorizations held by XM and Sirius will serve the public interest, convenience, and necessity.¹¹³ In making this assessment, we evaluate whether the proposed transaction complies with the specific provisions of the

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Robert L. Pettit, Peter D. Shields and Jennifer D. Hindin, Wiley Rein LLP, Counsel for Sirius (Nov. 2, 2007) (“Sirius Information Request”); Letter from Monica Shah Desai, Chief, Media Bureau, FCC, to Gary M. Epstein, James H. Barker and Brian W. Murray, Latham & Watkins LLP, Counsel for XM (Nov. 2, 2007) (“XM Information Request”). On November 16, 2007, the Bureau issued a second Protective Order regarding additional conditions applicable to third party review of highly confidential competitively sensitive documents. *See Applications of Sirius Satellite Radio, Inc. and XM Satellite Radio Holdings Inc. For Approval to Transfer Control*, Protective Order, 22 FCC Rcd 19924 (Med. Bur. 2007) (“*Second Protective Order*”).

¹¹⁰ *See* Letter from Peter D. Shields, Wiley Rein LLP, Counsel for Sirius, to Marlene H. Dortch, Secretary, FCC (Nov. 16, 2007); Letter from Gary M. Epstein, Latham & Watkins LLP, Counsel for XM, to Marlene H. Dortch, Secretary, FCC (Nov. 16, 2007); Letter from Gary M. Epstein, Latham & Watkins LLP, Counsel for XM, to Marlene H. Dortch, Secretary, FCC (Mar. 3, 2008); Letter from Jennifer D. Hindin, Wiley Rein LLP, Counsel for Sirius, to Marlene H. Dortch, Secretary, FCC (Mar. 4, 2008); Letter from Gary M. Epstein, Latham & Watkins LLP, Counsel for XM, to Marlene H. Dortch, Secretary, FCC (Mar. 18, 2008); Letter from Jennifer D. Hindin, Wiley Rein LLP, Counsel for Sirius, to Marlene H. Dortch, Secretary, FCC (Mar. 18, 2008); Letter from Gary M. Epstein, Latham & Watkins LLP, Counsel for XM, to Marlene H. Dortch, Secretary, FCC (Apr. 10, 2008); Letter from Jennifer D. Hindin, Wiley Rein LLP, Counsel for Sirius, to Marlene H. Dortch, Secretary, FCC (Apr. 10, 2008).

C3SR asks that Applicants provide them in electronic form with documents submitted as Highly Confidential under the Second Protective Order. Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Monica Shah Desai, Chief, Media Bureau, FCC (Dec. 4, 2007). However, those documents were marked “Copying Prohibited” and C3SR stated that it did not want to argue about whether the documents were correctly designated. *Id.* at 2. Further, C3SR did not contend that it was unable to review the documents in paper form. Accordingly, we deny C3SR’s request.

¹¹¹ 15 U.S.C. § 18.

¹¹² DOJ, *Statement of the Department of Justice Antitrust Division on its Decision to Close its Investigation of XM Satellite Radio Holdings Inc.’s Merger with Sirius Satellite Radio Inc.* (press release) (March 24, 2008), http://www.justice.gov/opa/pr/2008/March/08_at_226.html (“Mar. 24, 2008 DOJ Press Release”).

¹¹³ 47 U.S.C. § 310(d).

Act,¹¹⁴ other applicable statutes, and the Commission's rules.¹¹⁵ We also consider whether it could result in public interest harms by substantially frustrating or impairing the objectives or implementation of the Act or related statutes.¹¹⁶ We employ a balancing process, weighing any potential public interest harms of the proposed transaction against any potential public interest benefits.¹¹⁷ Applicants bear the burden of proving, by a preponderance of the evidence, that the proposed transaction, on balance, will serve the public interest.¹¹⁸ If we are unable to find that the proposed transaction serves the public interest, or if the record presents a substantial and material question of fact, we must designate the application for hearing under section 309(e) of the Act.¹¹⁹

31. The Commission's public interest evaluation necessarily encompasses the "broad aims of the Communications Act,"¹²⁰ which include, among other things, a deeply rooted preference for

¹¹⁴ Section 310(d) requires that the Commission consider the applications as if the proposed transferee were applying for the licenses directly. 47 U.S.C. § 310(d). See *News Corp. and DIRECTV Group, Inc. and Liberty Media Corp. for Authority to Transfer Control*, 23 FCC Rcd 3265, 3276 ¶ 22 (2008) ("Liberty Media-DIRECTV Order"); *SBC Comm. Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, 20 FCC Rcd 18290, 18300 ¶ 16 (2005) ("SBC-AT&T Order"); *Verizon Comm., Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, 20 FCC Rcd 18433, 18443 ¶ 16 (2005) ("Verizon-MCI Order"); *Applications of Nextel Comm., Inc. and Sprint Corp., for Consent to Transfer Control*, 20 FCC Rcd 13967, 13976 ¶ 20 (2005) ("Sprint-Nextel Order"); *News Corp.-Hughes Order*, 19 FCC Rcd at 483 ¶ 15; *Applications for Consent to the Transfer of Control of Licenses from Comcast Corp. and AT&T Corp., Transferors, to AT&T Comcast Corp., Transferee*, 17 FCC Rcd 23246, 23255 ¶ 26 (2002) ("Comcast-AT&T Order").

¹¹⁵ See, e.g., *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3276 ¶ 22; *SBC-AT&T Order*, 20 FCC Rcd at 18300 ¶ 16; *Verizon-MCI Order*, 20 FCC Rcd at 18442-43 ¶ 16; *Applications for Consent to the Assignment of Licenses Pursuant to Section 310(d) of the Communications Act from NextWave Personal Comm., Inc., Debtor-in-Possession, and NextWave Power Partners, Inc., Debtor-in-Possession, to Subsidiaries of Cingular Wireless LLC*, 19 FCC Rcd 2570, 2581 ¶ 24 (2004) ("Cingular-NextWave Order"); *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20574 ¶ 25.

¹¹⁶ See *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3276-77 ¶ 22; *SBC-AT&T Order*, 20 FCC Rcd at 18300 ¶ 16; *Verizon-MCI Order*, 20 FCC Rcd at 18443 ¶ 16; *Sprint-Nextel Order*, 20 FCC Rcd at 13976 ¶ 20.

¹¹⁷ See *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3277 ¶ 22; *SBC-AT&T Order*, 20 FCC Rcd at 18300 ¶ 16; *Verizon-MCI Order*, 20 FCC Rcd at 18443 ¶ 16; *Sprint-Nextel Order*, 20 FCC Rcd at 13976 ¶ 20; *News Corp.-Hughes Order*, 19 FCC Rcd at 483 ¶ 15; *Comcast-AT&T Order*, 17 FCC Rcd at 23255 ¶ 26.

¹¹⁸ See *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3277 ¶ 22; *SBC-AT&T Order*, 20 FCC Rcd at 18300 ¶ 16; *Verizon-MCI Order*, 20 FCC Rcd at 18443 ¶ 16; *Comcast-AT&T Order*, 17 FCC Rcd at 23255 ¶ 26; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20574 ¶ 25.

¹¹⁹ 47 U.S.C. § 309(e); see also *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3277 ¶ 22; *News Corp.-Hughes Order*, 19 FCC Rcd at 483 n.49; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20574 ¶ 25.

¹²⁰ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3277 ¶ 23; *AT&T Wireless Services, Inc. and Cingular Wireless Corp. for Consent to Transfer Control of Licenses and Authorizations*, 19 FCC Rcd 21522, 21544 ¶ 41 (2004) ("Cingular-AT&T Wireless Order"); *News Corp.-Hughes Order*, 19 FCC Rcd at 483 ¶ 16; *Comcast-AT&T Order*, 17 FCC Rcd at 23255 ¶ 27; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20575 ¶ 26; *MediaOne Group, Inc., Consent to the Transfer of Control (Transferor) to AT&T Corp. (Transferee)*, 15 FCC Rcd 9816, 9821 ¶ 11 (2000) ("AT&T-MediaOne Order"); *Applications of VoiceStream Wireless Corp. or Omnipoint Corp., Transferors, and VoiceStream Wireless Holding Company, Cook Inlet/VIS GSM II PCS, LLC, or Cook Inlet/VIS GSM III PCS, LLC, Transferees*, 15 FCC Rcd 3341, 3346-47 ¶ 11 (2000); *AT&T Corp., British Telecomm., PLC, VLT Co. L.L.C., Violet License Co. LLC, and TNV [Bahamas] Limited Applications*, 14 FCC Rcd 19140, 19146 ¶ 14 (1999) ("AT&T Corp.-British Telecom. Order"); *Application of WorldCom, Inc., and MCI Comm. Corp. for Transfer of Control of MCI Comm. Corp. to WorldCom, Inc.*, 13 FCC Rcd 18025, 18030 ¶ 9 (1998) ("WorldCom-MCI Order").

preserving and enhancing competition in relevant markets,¹²¹ accelerating private sector deployment of advanced services,¹²² ensuring a diversity of information sources and services to the public,¹²³ and generally managing the spectrum in the public interest. This public interest analysis may also entail assessing whether a transaction will affect the quality of communications services or will result in the provision of new or additional services to consumers.¹²⁴ In conducting this analysis, we may consider technological and market changes, and the nature, complexity, and speed of change of, as well as trends within, the communications industry.¹²⁵

32. Our competitive analysis, which forms an important part of the public interest evaluation, is informed by, but not limited to, traditional antitrust principles.¹²⁶ The Commission and the DOJ each have independent authority to examine the competitive impacts of proposed communications mergers involving transfers of FCC licenses, but the standards governing the Commission's competitive review differ somewhat from those applied by the DOJ.¹²⁷ Like the DOJ, the Commission considers how a transaction will affect competition by defining a relevant market, looking at the market power of incumbent competitors, and analyzing barriers to entry, potential competition and the efficiencies, if any, that may result from the transaction. The Antitrust Division of the DOJ, however, reviews telecommunications mergers pursuant to section 7 of the Clayton Act, which prohibits mergers that may substantially lessen competition.¹²⁸ The Commission's competitive analysis under the public interest

¹²¹ 47 U.S.C. § 521(6) (one purpose of statute is to "promote competition in cable communications and minimize unnecessary regulation"); 47 U.S.C. § 532(a) (purpose of section is "to promote competition in the delivery of diverse sources of video programming and to assure that the widest possible diversity of information sources are made available to the public from cable systems in a manner consistent with growth and development of cable systems"); see also *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3277 ¶ 23; *Applications for Consent to the Transfer of Control of Licenses and Authorizations by Time Warner, Inc. and America Online, Inc. to AOL Time Warner Inc.*, 16 FCC Rcd 6547, 6555-56 ¶ 22 (2001) ("AOL-Time Warner Order").

¹²² See, e.g., Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 § 706 (1996) (providing for the deployment of advanced telecommunications capabilities).

¹²³ 47 U.S.C. § 521(4); see also 47 U.S.C. § 532(a).

¹²⁴ See *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3277-78 ¶ 23; *Cingular-AT&T Wireless Order*, 19 FCC Rcd at 21544 ¶ 41; *Comcast-AT&T Order*, 17 FCC Rcd at 23255 ¶ 27; *AT&T-MediaOne Order*, 15 FCC Rcd at 9821-22 ¶ 11; *WorldCom-MCI Order*, 13 FCC Rcd at 18031 ¶ 9.

¹²⁵ See *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3278 ¶ 23; *Comcast-AT&T Order*, 17 FCC Rcd at 23255-27; *AT&T-MediaOne Order*, 15 FCC Rcd at 9821-22 ¶ 11; *WorldCom-MCI Order*, 13 FCC Rcd at 18031 ¶ 9.

¹²⁶ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3278 ¶ 24; *Cingular-AT&T Wireless Order*, 19 FCC Rcd at 21544 ¶ 42; *News Corp.-Hughes Order*, 19 FCC Rcd at 484 ¶ 17; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20575 ¶ 27; *Application of GTE Corp. and Bell Atlantic Corp. for Consent to Transfer Control of Domestic and International Authorizations and Application to Transfer Control of a Submarine Landing License*, 15 FCC Rcd 14032, 14046 ¶ 23 (2000) ("Bell Atlantic-GTE Order"); *Comcast-AT&T Order*, 17 FCC Rcd at 23256 ¶ 28; *WorldCom-MCI Order*, 13 FCC Rcd at 18033 ¶ 13.

¹²⁷ See, e.g., *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3278 ¶ 24; *Verizon-MCI Order*, 20 FCC Rcd at 18444 ¶ 18; *SBC-AT&T Order*, 20 FCC Rcd at 18302 ¶ 18; *Rainbow DBS Company LLC, Assignor, and EchoStar Satellite L.L.C., Assignee, Consolidated Application for Consent to Assignment of Space Station and Earth Station Licenses, and Related Special Temporary Authorization*, 20 FCC Rcd 16868, 16874 ¶ 12 (2005); *Sprint-Nextel Order*, 20 FCC Rcd at 13978 ¶ 22; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20575 ¶ 27. See also *Satellite Business Systems*, 62 FCC 2d 997, 1088 (1977), *aff'd sub nom. United States v. FCC*, 652 F.2d 72 (D.C. Cir. 1980) (*en banc*); *Northern Utilities Service Co. v. FERC*, 993 F.2d 937, 947-48 (1st Cir. 1993) (public interest standard does not require agencies "to analyze proposed mergers under the same standards that the Department of Justice . . . must apply").

¹²⁸ 15 U.S.C. § 18.

standard is somewhat broader, for example, considering whether a transaction will enhance, rather than merely preserve, existing competition, and takes a more expansive view of potential and future competition and its impact on the relevant market.¹²⁹ The DOJ's review is also limited solely to an examination of the competitive effects of the acquisition, without reference to diversity, localism, or other public interest considerations.

33. Our analysis recognizes that a proposed transaction may lead to both beneficial and harmful consequences. For instance, combining assets may allow a firm to reduce transaction costs and offer new products, but it may also create market power, create or enhance barriers to entry by potential competitors, or create opportunities to disadvantage rivals in anticompetitive ways.¹³⁰ The Commission's public interest authority enables us, where appropriate, to impose and enforce narrowly tailored, transaction-specific conditions that ensure that the public interest is served by the transaction.¹³¹ Section 303(r) of the Communications Act authorizes the Commission to prescribe restrictions or conditions, not inconsistent with law, which may be necessary to carry out the provisions of the Act.¹³² Indeed, our public interest authority enables us to rely upon our extensive regulatory and enforcement experience to impose and enforce conditions to ensure that a transaction will yield overall public interest benefits.¹³³

34. The Order is set forth, as follows, in four principal components. First, we assess the potential horizontal and vertical harms presented by the transaction, including the impact on diversity. Second, we evaluate the public interest benefits that Applicants claim will result from the transaction. Next, we balance the public interest harms posed by, and the benefits to be gained from, the merger. We conclude by examining whether the proposed transaction complies with the Communications Act, other applicable statutes and the Commission's rules and policies, as modified herein.

IV. POTENTIAL PUBLIC INTEREST HARMS

A. Introduction

35. In this section, we gauge the potential public interest harms that are likely to result from

¹²⁹ See *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3278 ¶ 25; *Bell Atlantic-GTE Order*, 15 FCC Rcd at 14047 ¶ 23; *AT&T Corp.-British Telecom. Order*, 14 FCC Rcd at 19147-48 ¶ 15; *Comcast-AT&T Order*, 17 FCC Rcd at 23256 ¶ 28.

¹³⁰ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3278-79 ¶ 25; *Cingular-AT&T Wireless Order*, 19 FCC Rcd at 21545 ¶ 42; *AOL-Time Warner Order*, 16 FCC Rcd at 6550, 6553 ¶¶ 5, 15.

¹³¹ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3279 ¶ 26; *Cingular-AT&T Wireless Order*, 19 FCC Rcd at 21545 ¶ 43; *Bell Atlantic-GTE Order*, 15 FCC Rcd at 14047 ¶ 24; *AT&T Corp.-British Telecom. Order*, 14 FCC Rcd at 19148 ¶ 15; see also *WorldCom-MCI Order*, 13 FCC Rcd at 18032 ¶ 10 (stating that the Commission may attach conditions to the transfers); *Applications of VoiceStream Wireless Corp., Powertel Inc. and Deutsche Telekom AG for Consent to Transfer Control of Licenses and Authorizations*, 16 FCC Rcd 9779, 9782 (2001) (conditioning approval on compliance with agreements with Department of Justice and Federal Bureau of Investigation addressing national security, law enforcement, and public safety concerns).

¹³² 47 U.S.C. § 303(r). See *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3279 ¶ 26; *Cingular-AT&T Wireless Order*, 19 FCC Rcd at 21545 ¶ 43; *Bell Atlantic-GTE Order*, 15 FCC Rcd at 14047 ¶ 24; *WorldCom-MCI Order*, 13 FCC Rcd at 18032 ¶ 10 (citing *FCC v. Nat'l Citizens Comm. for Broadcasting*, 436 U.S. 775 (1978) (upholding broadcast-newspaper cross-ownership rules adopted pursuant to section 303(r)); *U.S. v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968) (holding that section 303(r) permits the Commission to order a cable company not to carry broadcast signal beyond station's primary market); *United Video, Inc. v. FCC*, 890 F.2d 1173, 1182-83 (D.C. Cir. 1989) (affirming syndicated exclusivity rules adopted pursuant to section 303(r) authority).

¹³³ See, e.g., *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3279 ¶ 26; *Cingular-AT&T Wireless Order*, 19 FCC Rcd at 21545 ¶ 43; *News Corp.-Hughes Order*, 19 FCC Rcd at 477 ¶ 5; *Bell Atlantic-GTE Order*, 15 FCC Rcd at 14047-48 ¶ 24; *WorldCom-MCI Order*, 13 FCC Rcd at 18034-35 ¶ 14.

this transaction. We conclude that there is insufficient evidence in the record to predict the likelihood of anticompetitive harms. Thus, we will evaluate the potential harms to competition, diversity, and localism under assumptions that maximize the likelihood of harm. This approach is necessary to protect consumers from any potential adverse effects of the transaction while simultaneously allowing us to balance potential harms against potential public interest benefits. As a result of our competitive analysis under “worst-case” assumptions, we conclude that the merger, absent Applicants’ voluntary commitments and other conditions, would result in potential harms. However, Applicants have committed voluntarily to take steps that will mitigate these harms.

B. Potential Competitive Harms

36. Transactions involving the acquisition of a full or partial interest in another company may give rise to concerns regarding “horizontal” concentration and/or “vertical” integration, depending on the lines of business in which the two firms are engaged. A transaction is said to be horizontal when the firms in the transaction sell or buy products that are in the same relevant product and geographic markets and are viewed as reasonable substitutes.¹³⁴ Horizontal transactions can eliminate competition between the firms and increase concentration in the relevant markets. The reduction in overall competition in the relevant markets may lead to substantial increases in prices paid by purchasers of products in the markets.¹³⁵ Vertical transactions raise slightly different competitive concerns. Vertical relationships exist when upstream firms produce inputs that downstream firms use to create finished goods. Transactions are said to be vertical when upstream firms and downstream firms are combined.¹³⁶ In this section, we analyze the potential horizontal and vertical effects of the proposed transaction.

1. Potential Horizontal Effects

a. Record Evidence on Defining the Relevant Markets

37. Consistent with the *DOJ/FTC Guidelines*, the Commission typically begins its analysis of horizontal effects by defining the relevant product and geographic markets. The *DOJ/FTC Guidelines* define the relevant product market as the smallest group of competing products for which a hypothetical monopoly provider of the products would profitably impose at least a “small but significant and non-transitory increase in price,” presuming no change in the terms of sale of other products.¹³⁷ (This procedure is often called the “SSNIP Test” for market definition.¹³⁸) Thus, when one product is a

¹³⁴ See *News Corp.-Hughes Order*, 19 FCC Rcd at 507 ¶ 69.

¹³⁵ See ABA Sec. of Antitrust Law, *Antitrust Law Developments* 327 (5th ed. 2002); KIP VISCUSI, JOHN M. VERNON AND JOSEPH E. HARRINGTON, JR., *ECON. OF REG. AND ANTITRUST* 192 (3d ed. 2000) (“VISCUSI, *et al.*”).

¹³⁶ See VISCUSI, *et al.* at 233. A merging of the firms, however, is not required for a vertical relationship to exist. Exclusive dealing arrangements between upstream and downstream firms, referred to as “vertical restraints,” can accomplish the objectives of vertical integration. *Id.*

¹³⁷ See *DOJ/FTC Horizontal Merger Guidelines*, 57 Fed. Reg. 41552, §§ 1.11, 1.12 (Sept. 10, 1992), revised, 4 Trade Reg. Rep. (CCH) ¶ 13104 (Apr. 8, 1997). The *Guidelines* similarly define the relevant geographic market as “a region such that a hypothetical monopolist that was the only present or future producer of the relevant product at locations in that region would profitably impose at least a ‘small but significant and nontransitory’ increase in price, holding constant the terms of sale for all products produced elsewhere.” *Id.* at § 1.21.

¹³⁸ One generally starts with a small relevant product market and asks if a hypothetical monopolist could profitably increase price in that market. If the price increase is not profitable because consumers will substitute to another competing product (i.e., if the cross-price elasticity between the products is large), then the SSNIP test is repeated, but the potential product market is expanded to include the next-best substitutes. The procedure continues until a hypothetical monopolist over all the included products can profitably raise price, identifying that set of products as the relevant product market. *DOJ/FTC Horizontal Merger Guidelines* at § 1.11.

reasonable substitute for the other in the eyes of a sufficiently large number of consumers, it is included in the relevant product market even though the products themselves are not identical.

38. *Product Market.* The commenters in this proceeding disagree as to the exact boundaries of the relevant product market. Applicants contend that the relevant product market is the relatively broad product market for “audio entertainment services,” which includes terrestrial radio, HD Radio, wireless phones, iPods and other MP3 players.¹³⁹ They emphasize that substantial demand substitution exists “particularly between satellite radio and terrestrial radio.”¹⁴⁰ Commenters opposing the transaction contend that SDARS constitutes a distinct relevant product market, separate from other audio entertainment services.¹⁴¹

39. In order to quantitatively determine the market, we must have certain statistical data, in particular the “elasticity” of demand for SDARS and other potentially competing products.¹⁴² No

¹³⁹ Joint Opposition at 36-37; Joint Opposition, Exh. A, CRA International, Economic Analysis of the Competitive Effects of the Sirius-XM Merger at 9-10 (“Joint Opposition, CRA Study”).

¹⁴⁰ Joint Opposition at 37. *See also* Americans for Tax Reform Comments at 4; Citizen Outreach Project Comments at 1 (arguing that SDARS competes with terrestrial radio); CEI Comments at 6-10 (arguing that the product market should include anything that delivers audio entertainment services); Crutchfield Corp. Comments at 1-2 (arguing that HD Radio and Internet radio are competitors to SDARS); Foust Comments at 3-4 (arguing that SDARS competes with broadcast radio, smart phones, PDAs, and iPods); Free State Foundation Comments at 2-6 (arguing that SDARS is part of a larger audio entertainment and information services market); Heritage Foundation Comments at 2-3 (arguing that SDARS competes in a dynamic market, including broadcast radio and MP3 devices, because all offer audio entertainment); Public Knowledge Comments at 3, 10 (arguing that the relevant product market includes terrestrial radio, HD Radio, Internet radio, MP3 players, mobile/cellular telephones, and emerging mobile Internet radio services); League of Rural Voters Comments at 2-5 (arguing that consumers have numerous choices, including broadcast radio, if XM and Sirius merged); Letter from Brent Wiles, Exec. Dir., League of United Latin American Citizens, to Marlene H. Dortch, Secretary, FCC (May 11, 2007) at 2 (arguing that the relevant product market includes terrestrial radio and downloadable music devices).

¹⁴¹ *See, e.g.*, C3SR Petition at 13-14; Decl. by J. Gregory Sidak Concerning the Competitive Consequences of the Proposed Merger of Sirius Satellite Radio, Inc. and XM Satellite Radio, Inc. (Mar. 16, 2007) at 25-32, transmitted by Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR (“C3SR, Sidak Decl.”); NAB Petition at 11-23; NPR Petition at 9-15 (arguing that consumers have no other alternatives to SDARS for 100 plus channels of unregulated music, news, entertainment, and talk formats); Common Cause Petition at 36; AWRT Petition at 3-4 (arguing that no other product is a true substitute for SDARS); NATOA Petition at 6-9 (arguing that other audio entertainment services are not comparable to the services offered by SDARS); AAI Comments at 22-24 (arguing that alternatives to SDARS have significant limitations in constraining an SDARS monopolist from exercising market power, and lack some or all of SDARS unique attributes); Blue Sky Comments at 6 (arguing that, when compared with SDARS, no other service offers comparable program diversity, portability, or sound quality); Entravision Comments at 8-15 (arguing that other audio services will not provide an adequate check against anti-competitive harms arising from the merger); Prometheus Comments at 2 (arguing that HD Radio, MP3 players, terrestrial broadcast stations and Internet radio are complementary products, not substitutes for SDARS); Letter from U.S. Sen. Herb Kohl, Chairman, Subcommittee on Antitrust, Competition Policy, and Consumer Rights, to Kevin J. Martin, Chairman, FCC (May 23, 2007) at 1-2 (arguing that SDARS is the only medium offering hundreds of channels, programming on a national basis with superior sound quality, commercial free programming, and portable capabilities); Letter from U.S. Reps. James T. Walsh and John McHugh, to Kevin J. Martin, Chairman, FCC (May 9, 2007) at 1 (arguing that SDARS is a separate product market because it is a national multichannel audio service that users can use anywhere whereas local radio stations provided limited signal reach).

¹⁴² Elasticity is a measure of how much the sales of a product will rise or fall in response to a change in price. The own-price elasticity of demand is the percentage change in the quantity demanded of good A divided by the percentage change in the price of good A. The cross-price elasticity of demand is the percentage change in the quantity demanded of good A divided by the percentage change in the price of good B.

commenter in this proceeding has provided detailed quantitative estimates of the own-price and cross-price elasticities of demand for the services that might be included within the relevant product market. We note that in its announcement of its intent not to block the transaction, the Antitrust Division of the Department of Justice did not discuss any such evidence from its investigation, nor did the Antitrust Division define a relevant product market.¹⁴³ Moreover, we are unable to perform our own analysis. This is chiefly because there has been little or no variation in prices for the various services at issue. Since SDARS services were launched in 2002, XM has changed its monthly recurring price only once, from \$9.99 to \$12.95 in April, 2005, and Sirius has not changed its corresponding price at all.¹⁴⁴ Terrestrial (broadcast) radio has a zero (and thus unchanging) price. Without price variation, it is not possible for us to develop our own estimates of the elasticities of demand required for a quantitative definition of the market.¹⁴⁵

40. While there is other evidence and data in the record that shed some light on the relative substitutability of various audio entertainment services, as well as evidence concerning the product characteristics and prices of the various services that might be included in the relevant product market, this evidence is insufficient in this case for us to delineate the boundaries of the relevant product market with any precision or confidence. Most significantly, it is insufficient for us to quantitatively estimate whether and by how much prices might rise or fall if we were to approve this transaction without a voluntary commitment by Applicants not to raise prices.

41. The only systematic empirical analysis of substitutability between SDARS and any of its potential substitutes was provided in a study conducted by Charles River Associates (“CRA”) on behalf of Applicants (the “CRA Study”). Applicants commissioned BIA Research, Inc. to provide data on the number of AM/FM radio stations reaching each census block in the lower 48 U.S. states. CRA used these data to estimate the average number of AM/FM stations received in each ZCTA (a Census Bureau area approximating a ZIP code). The CRA study examined the relationship between the total subscriptions to satellite radio and the number of available terrestrial broadcast stations. After controlling for a number of factors, such as income, gender mix, and the percentage of population commuting by car, the study finds a statistically significant inverse relationship between SDARS penetration and the number of terrestrial

¹⁴³ See Mar. 24, 2008 DOJ Press Release, n.112, *supra*.

¹⁴⁴ In addition to the price of a monthly subscription, subscribers listening to XM or Sirius programming in their automobile must also obtain a receiver and have it installed. XM and Sirius often subsidize the price of the receiver and the price of installation. C3SR, Sidak Decl. at 55.

¹⁴⁵ We find unpersuasive Sidak’s estimated own-price elasticity of demand. While Sidak estimates a “critical” own-price elasticity of demand for SDARS of -1.52 using current operating margins of 65 percent and an assumption of constant own-price elasticity of demand. Sidak then explains why the “actual” own-price elasticity of demand is less than -1.52 (in absolute terms) using information from XM’s price increase from \$9.95 to \$12.95, churn rates, conversion rates, and marquee content (specifically, indecent content). Sidak concludes that this is evidence that SDARS represents a distinct product market. C3SR, Sidak Decl. at 9-14. Hazlett asserts that there are several deficiencies in Sidak’s approach and conclusions. Specifically, Hazlett argues that “there is no measurement of the actual, purportedly ‘low’ elasticity, and therefore nothing to specifically compare to the critical elasticity.” See Thomas W. Hazlett, *The Economics of the Satellite Radio Merger* (June 14, 2007) at 29-32, transmitted by Letter, on behalf of Applicants, from Thomas Hazlett, Prof. of Law & Econ., George Mason Univ., to Marlene H. Dortch, Secretary, FCC (June 14, 2007) (“Hazlett Study”). CRA also disagrees with Sidak’s estimates and conclusions regarding SDARS own-price elasticity. CRA argues that (1) Sidak’s approach does not employ an objective and appropriate benchmark for XM’s growth in the absence of the price increase from \$9.95 to \$12.95; (2) there were numerous other changes affecting demand that occurred around the same time as the price increase; (3) a finding that XM’s demand is inelastic is inconsistent with standard profit-maximization conditions; and (4) Sidak’s analysis was based only on the near-term impact on subscribers and profitability, not on the longer-term impact that is more relevant in growing market like this one. Joint Opposition, CRA Study at 44-45, n.170.

radio signals. In other words, as the number of terrestrial radio stations increases, SDARS penetration decreases. CRA uses this result to argue that SDARS and terrestrial radio are substitutes.¹⁴⁶

42. We find that this study does not provide the evidence required to determine whether SDARS should be considered to be in the same product market as terrestrial radio. This indirect means of measuring substitutability of SDARS and terrestrial radio (as opposed to directly measuring cross-price elasticities)¹⁴⁷ leaves open the possibility that other unidentified (and possibly unobservable) factors could be the cause of this inverse relationship. The problem of unobserved confounding factors (i.e., omitted variables) is a well-known problem in the econometrics literature.¹⁴⁸ The most obvious potential factor is the density of the population of the area, since the number of radio stations will likely depend on the number of potential listeners. Density may be related in some direct or indirect way to factors affecting SDARS subscribership, such as the length of the driving commute (as opposed to the number of people who drive to work, which was included in CRA's analysis), or the number of professional truckers, deliverymen and other people in the area who spend the day driving, or demographic variation by race or age. In other words, we might expect that areas of the country where people spend less time in their vehicles have lower subscription rates to SDARS. Thus the inverse relationship between SDARS penetration and terrestrial radio station availability might not be because they are substitutes, as CRA contends, but because of other factors that are affected by population density and size.¹⁴⁹

43. In addition to these theoretical problems with CRA's analysis, there is survey data available from Arbitron that indicates SDARS listeners are also heavy listeners of AM/FM radio. This suggests that AM/FM radio might be a complement rather than a substitute to SDARS.¹⁵⁰ Also, an analysis performed by C3SR finds that the results of the CRA study are not "robust" (the results do not hold) when the data are analyzed by Arbitron market instead of by ZCTA, with the analysis limited to just subscribers in Arbitron markets. Indeed, in this analysis a positive relationship was found between terrestrial radio station availability and SDARS penetration.¹⁵¹ Finally, and perhaps most importantly,

¹⁴⁶ Joint Opposition, CRA Study at 14-16; *also see* Timothy H. Savage, Martino De Stefano, and Steven R. Brenner, CRA, *Further Analysis of Econometric Evidence that Satellite and Terrestrial Radio are Demand Substitutes*, transmitted by Letter from Jennifer D. Hindin, Wiley Rein LLP, on behalf of Applicants, to Marlene H. Dortch, Secretary, FCC (Jan. 11, 2008) ("Applicants, CRA Further Analysis").

¹⁴⁷ Sidak points out that this analysis is not measuring the cross-price elasticity of demand for SDARS with respect to terrestrial radio, but is instead attempting to observe the elasticity of demand for SDARS with respect to changes in the number of terrestrial radio stations. Third Supplemental Decl. of J. Gregory Sidak, transmitted by Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Marlene H. Dortch, Secretary, FCC (Oct. 1, 2007) at 21 ("C3SR, Sidak Third Supp. Decl.").

¹⁴⁸ *See, e.g.*, JEFFREY WOOLDRIDGE, *INTRO. ECONOMETRICS: A MODERN APPROACH* 95-99 (3d ed. 2005). PETER KENNEDY, *A GUIDE TO ECONOMETRICS* 3, 78-80, 88 (4th ed. 1998); WILLIAM H. GREENE, *ECONOMETRIC ANALYSIS* 401-04 (3d ed. 1997); and JACK JOHNSON AND JOHN DI NARDO, *ECONOMETRIC METHODS* 110 (4th ed. 1997).

¹⁴⁹ C3SR, Sidak Third Supp. Decl. at 22; Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Marlene H. Dortch, Secretary, FCC, Att. Preliminary Review of CRA Regression Analysis, J. Gregory Sidak, Georgetown Univ. Law Center, and Hal J. Singer and Allan Ingraham, Criterion Eon. (Dec. 7, 2007) ("C3SR, Review of CRA Analysis").

¹⁵⁰ Arbitron, "Satellite Radio Channels Account For 3.4 Percent of All Radio Listening In Fall 2006 Arbitron Survey" (press release), Feb. 27, 2007 (stating that "satellite listeners spent an average of 33 hours a week with radio compared with the typical listener who listened approximately 19 hours a week to radio. Also, people who listened to satellite spent more time with AM/FM radio (14 hours) than they did with satellite radio (10 hours 45 minutes) or Internet (8 hours 15 minutes)"); *see also* C3SR, Review of CRA Analysis at 13.

¹⁵¹ C3SR, Review of CRA Analysis. C3SR asked that we seek the data underlying CRA's study. Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Marcia Glauber, Deputy Chief, Industry Analysis Division, (continued....)

even if we accept that the CRA study's results indicate that there is some substitutability between SDARS and terrestrial radio,¹⁵² they do not demonstrate that SDARS and terrestrial radio are sufficiently close substitutes to be included in the same relevant product market. Just showing that there is some substitution is not enough for antitrust analysis – it is necessary to show that the degree of substitutability is high enough that a small but significant nontransitory price increase for SDARS service alone will cause sufficient numbers of consumers to drop SDARS service to make the price increase unprofitable. CRA's analysis provides us with insufficient evidence to make this determination.

44. Turning to the submissions of commenters opposing the transaction, we find that the evidence from other surveys C3SR provided or referenced, specifically the NRG Research Group survey and the Wilson Research Strategies survey, provide insufficient evidence that SDARS constitutes a distinct relevant product market. Between January 24 and January 30, 2008, NRG Research Group identified and interviewed 407 individuals who subscribe to satellite radio. The NRG survey provides evidence that if one competitor increases advertising content on its channels, large numbers of subscribers would choose the other service. The NRG survey supports the hypothesis that one reason for subscribing to satellite radio is to avoid commercials.¹⁵³ The survey, however, has several problems that make it difficult to use its results for the purpose of market definition. First, NRG report consumers' stated intentions and not their actual choices. Consumer behavior often differs from stated intentions. Second, the survey reports on consumer sensitivity to changes in advertising, but not on their sensitivity to changes in pricing. Consumers may differ in their sensitivity to each, with important implications for the analysis.

45. The Wilson survey, discussed by Sidak and NAB, is flawed and therefore cannot be relied upon for purposes of this transaction. In June 2007, Wilson Research Strategies conducted a survey of current satellite radio subscribers at the request of the NAB. According to the publicly available executive summary, the survey polled 501 current SDARS subscribers on a range of questions to determine their reasons for subscribing and their demographic characteristics. The survey results suggest that a significant number of satellite radio subscribers: (1) are less likely to have a sufficient amount of terrestrial radio service by virtue of their geographic location, (2) value certain attributes of satellite radio that are not available on terrestrial radio, (3) do not perceive MP3 players to be substitutes for satellite radio, and (4) are sensitive to the price, and would not pay more to receive the programming offered by both XM and Sirius.¹⁵⁴ We find the survey flawed for several reasons. First, again, this survey relies on

(Continued from previous page)

Media Bureau, FCC (Sept. 11, 2007). Because we reject the results of CRA's study based on the information submitted by Applicants, we find that access to the underlying data is unnecessary.

¹⁵² This result is consistent with the *1997 SDARS Service Rules Order*, where the Commission predicted that while "not, of course, perfect substitutes," the SDARS providers would "face competition from terrestrial radio services, CD players in automobiles and homes, and audio services delivered as part of cable and satellite services." *1997 SDARS Service Rules Order*, 13 FCC Rcd at 5786 ¶¶ 77-78; see also *2006 Quadrennial Regulatory Review - Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, Report and Order and Order on Reconsideration, 23 FCC Rcd 2010, 2071-72 ¶ 114 (2008) (finding a lack of evidence to conclude that terrestrial radio is in the same product market as SDARS).

¹⁵³ Letter from Benjamin D. Arden, Williams Mullen, Counsel for C3SR, to Marlene H. Dortch, Secretary, FCC (Apr. 3, 2008), Att. NRG Research Group, Survey of Satellite Radio Users (Feb. 8, 2008) ("NRG Survey"); Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Marlene H. Dortch, Secretary, FCC (Apr. 3, 2008), Att. Analysis of the Proposed XM-Sirius Merger, J. Gregory Sidak, and Hal J. Singer, Criterion Economics at 9-10 ("C3SR, Sidak, Singer Analysis").

¹⁵⁴ Wilson Research Strategies, Exec. Summary, Survey of Satellite Radio Subscribers at http://www.w-r-s.com/press/WRS_NAB%20Sat%20Radio%20Survey_PressRelease_070710.pdf (visited June 25, 2008); C3SR Petition, Exh. B, Supplemental Decl. of J. Gregory Sidak at 18-19 ("C3SR Petition, Sidak Supp. Decl").

consumers' stated intentions and not their actual choices. Second, this survey provides mixed evidence concerning the definition of the market and the likely impact of the merger, suggesting that many subscribers value SDARS service and its unique characteristics over alternative sources of audio entertainment, but are sensitive to the price and would not be willing to pay a higher price for combined programming from Applicants. In any event, the details of the survey were never made public or put into our record. Rather, just an executive summary was made available, such that, for example, we were unable to examine the methodology, the questions asked, or the underlying data, and therefore were unable to determine the survey's reliability.¹⁵⁵ We are thus unable to rely on any of this survey's results.

46. *Geographic Market.* Although Applicants do not explicitly address the relevant geographic market, their market share calculations suggest that they are assuming a national geographic market.¹⁵⁶ Opponents apparently disagree on the appropriate relevant geographic market: some appear to argue for a national market,¹⁵⁷ while others appear to advocate a more localized relevant geographic market.¹⁵⁸ However, without knowing the contours of the relevant product market, it is impossible to define precisely the relevant geographic market. For example, if the relevant product market were limited to SDARS, we could define the relevant geographic market as a national market. In contrast, if the relevant product market were to include terrestrial radio, we would need to adopt a more localized relevant geographic market to reflect the fact that terrestrial radio stations have a limited reach.

47. We find that the record evidence is insufficient to define precisely the relevant product or geographic markets. Without defining the relevant product and geographic markets, we cannot perform a structural analysis to predict the likelihood of anticompetitive harms. Thus, as explained below, we must make certain assumptions about the relevant product and geographic markets in order to perform our competitive analysis.

b. Competitive Analysis Under Worst-Case Assumptions

48. As stated in Section III above, Applicants bear the burden of proving that the proposed transaction, on balance, serves the public interest. If we are unable to find that the proposed transaction serves the public interest, or if the record presents a substantial and material question of fact, we would designate the application for hearing under section 309(e) of the Act.¹⁵⁹ However, not every question of fact is material. Specifically, even if we are unable to precisely determine the extent of the alleged harms, if we are able to determine that the conditions we are imposing would ameliorate any anticompetitive harm and that the transaction, as conditioned, would serve the public interest, then we may grant the application.¹⁶⁰ Because Applicants bear the burden of proof, we will evaluate potential horizontal competitive harms under assumptions that maximize the likelihood of harm. We note that the

¹⁵⁵ In particular, the phrasing of the questions, the order of the questions, and the specific distribution of responses are not available.

¹⁵⁶ C3SR, CRA Study at tbls. C1-C6.

¹⁵⁷ See, e.g., AAI Comments at 29; C3SR, Sidak Decl. at 28; C3SR Petition, Sidak Supp. Decl. at 34; Letter from Philip M Napoli, Dir., Donald McGannon Communication Research Center, to Marlene H. Dortch, Secretary, FCC, Att. Market Definition in Satellite Radio: Why the Sirius/XM Merger Would Result in Anti-Competitive Conditions at 3-7 (June 29, 2007) ("McGannon June 29, 2007 Ex Parte"); NAB Petition at 11-16; NPR Petition at 15-16; Common Cause Petition at 14.

¹⁵⁸ See, e.g., C3SR Reply at 7-11 (arguing that the geographic market is not national due to the differences in the availability of substitutes); John Smith Comments at 3-4.

¹⁵⁹ 47 U.S.C. § 309(e); see also *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3276-77 ¶ 22; *News Corp.-Hughes Order*, 19 FCC Rcd at 483 n.49; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20574 ¶ 25.

¹⁶⁰ See, e.g., *Comcast-AT&T Order*, 17 FCC Rcd 23256-57, 23270 ¶¶ 30, 66.

assumptions we adopt below provide a worst-case scenario for Applicants, but we find this approach is necessary in order to protect consumers from any potential adverse effects of the transaction while simultaneously allowing us to balance the potential harms against the potential public interest benefits of the transaction. After conducting the analysis under the worst-case assumptions, we find that with Applicants' voluntary commitments and other conditions, the transaction will be in the public interest.

49. Consistent with the foregoing principles, we will assume that SDARS constitutes a separate relevant product market. Furthermore, because Applicants are the only current participants in this relevant product market and because both provide nationwide service, we assume that the relevant geographic market is national. These assumptions will tend to *overestimate* any anticompetitive effects. Again, we believe it necessary to employ such worst-case assumptions to ensure that, when we balance the potential costs and benefits of the proposed transaction, we do not inadvertently approve a merger that is not in the public interest.

50. Given these assumptions about the relevant product and geographic markets, it is clear that Applicants are the only current providers of SDARS service. We find that entry by a new SDARS provider is unlikely to be sufficiently timely to defeat any attempted price increase.¹⁶¹ First, we are unaware of any appropriate, unencumbered spectrum that is likely to become available in the near future that would allow another company to provide SDARS service. Second, even if such spectrum were available immediately, we believe that it would take years for the new entrant to build the necessary infrastructure and to develop the necessary programming and marketing resources to become a viable competitor.¹⁶² Furthermore, we find no "uncommitted entrants" that should be counted as market

¹⁶¹ See, e.g., *DOJ/FTC Horizontal Merger Guidelines* § 3.0 ("A merger is not likely to create or enhance market power or to facilitate its exercise, if entry into the market is so easy that market participants, after the merger, either collectively or unilaterally could not profitably maintain a price increase above premerger levels. . . . Entry is that easy if entry would be timely, likely, and sufficient in its magnitude, character and scope to deter or counteract the competitive effects of concern.").

¹⁶² The *DOJ/FTC Horizontal Merger Guidelines* require that, for such potential entry to be considered, it must be "timely, and likely, and sufficient in its magnitude, character and scope to deter or counteract the competitive effects" of the proposed transaction. With respect to timeliness, DOJ will generally consider only entry "that can be achieved within two years from initial planning to significant market impact." *Id.* at § 3.0. According to NAB, "[t]his is extremely unlikely in the case of satellite DARS, as evidenced by the fact that it reportedly took XM and Sirius nearly four years from the grant of spectrum by the FCC to commercial availability, including the technically difficult step of launching broadcast satellites." Analysis of Antitrust Concerns Regarding the XM/Sirius Merger, Crowell Moring at 8-9, transmitted by Letter from Lawrence A. Walke, NAB, to Marlene H. Dortch, Secretary, FCC (May 22, 2007) ("NAB, Antitrust Analysis Memo"). NAB adds that other entry barriers are extremely high, including capital costs, programming acquisition costs, and subscriber acquisition costs. *Id.* at 9. For example, NAB states, a new satellite could cost more than \$300 million. *Id.* Therefore, NAB concludes, even if the Commission were to allocate additional spectrum to permit entry by a new SDARS provider, the threat of such entry is not likely to constrain short-term price increases by the merged firm and would not be sufficient to ameliorate the certain anticompetitive effects of the proposed transaction. *Id.*

The Sidak Declaration also argues "the experience of the existing SDARS suppliers implies that new entry would not impose any price discipline within the next two years. Applicants were founded in the early 1990s, but did not offer SDARS until September 2001. Both XM and Sirius had to overcome significant fixed costs of establishing a nationwide radio network, including the acquisition of spectrum and programming." C3SR, Sidak Decl. at 35-36. Sidak notes that Applicants have each invested roughly \$5 billion to date and that such an entry cost for another SDARS provider makes it extremely unlikely that any firm will enter *de novo* in SDARS and have a constraining effect on price over the next two years. C3SR Petition, Sidak Supp. Decl. at 30-31.

In contrast, CRA argues that *de novo* entry could occur through the use of Mobile Satellite Service frequency bands in 2008 or 2009 or through the use of Wireless Communication Service spectrum in more than two years. Joint Opposition, CRA Study at 61.

participants.¹⁶³

51. Under these worst-case assumptions, therefore, the proposed merger is a merger to monopoly. The post-merger Herfindahl Hirschman Index (“HHI”) ¹⁶⁴ is 10,000, and the change in the HHI is 4,992.¹⁶⁵ These estimates exceed the threshold specified in the *DOJ/FTC Guidelines* above which mergers are “presumed . . . to create or enhance market power or facilitate its exercise.”¹⁶⁶ It is widely accepted that, absent offsetting economies, a monopolist will charge a higher price than firms in a competitive market, including a duopoly.¹⁶⁷ Thus, we would expect that, other things being equal, the merged firm would charge prices that are higher than those charged by Applicants pre-merger.

52. Unfortunately, we lack sufficient data to estimate the size of the likely price increase, if any. While it is true that economists, in recent years, have developed econometric techniques to simulate likely unilateral effects arising from horizontal mergers,¹⁶⁸ these merger simulation models require data or assumptions about demand, marginal cost, and firm behavior to estimate the likely unilateral effects of horizontal mergers. Because we lack sufficient data concerning demand elasticities, among other things, we cannot employ such a merger simulation to quantify the likely price increase. Nevertheless, given that we are assuming a merger to monopoly, it is reasonable to predict that, absent exceptional countervailing efficiencies,¹⁶⁹ prices are likely to be higher after the merger than before.

53. Applicants argue that, due to the dynamic nature of demand for satellite radio services, the merged entity would actually have an incentive to lower, not raise, prices.¹⁷⁰ In particular, CRA asserts that SDARS is subject to “dynamic demand effects.”¹⁷¹ According to CRA, firms like XM and Sirius must take into account the impact of price changes on not only their current subscribers, but also on prospective new subscribers. Such dynamic considerations lead to “penetration pricing,” which involves

¹⁶³ An “uncommitted entrant” is a firm that is likely to enter the market “within one year and without the expenditure of significant sunk costs of entry and exit, in response to a ‘small but significant and nontransitory’ price increase.” See *DOJ/FTC Horizontal Merger Guidelines* at § 1.32.

¹⁶⁴ The HHI is calculated as the sum of the squares of the market shares of each firm participating in a relevant market. The HHI can range from nearly zero in the case of an atomistic market to 10,000 in the case of a pure monopoly. Because the HHI is based on the squares of the market shares of the participants, it gives proportionately greater weight to carriers with larger market shares. Changes in market concentration are measured by the change in the HHI. See *id.* § 1.5.

¹⁶⁵ The predicted change in HHI is based on 2007 year end SDARS market shares of 52 percent for XM and 48 percent for Sirius. XM, *XM Satellite Radio Holdings Inc. Announces Fourth Quarter and Full Year 2007 Results* (press release), Feb. 28, 2008; Sirius, *Sirius Reports Fourth Quarter and Full Year 2007 Results* (press release), Feb. 26, 2008.

¹⁶⁶ Section 1.51 of the *DOJ/FTC Horizontal Merger Guidelines* specifies that mergers that produce a post-merger HHI above 1800 and an increase in the HHI of greater than 100 points will be presumed to have an anticompetitive effect.

¹⁶⁷ DENNIS W. CARLTON AND JEFFREY M. PERLOFF, *MOD. INDUS. ORG.* 56-120, 153-235 (3d. ed. 2000) (“Carlton & Perloff”).

¹⁶⁸ See, e.g., Gregory J. Werden, *Simulating the Effects of Differentiated Products Mergers: A Practical Alternative to Structural Merger Policy*, 5 GEO. MASON L. REV. 363 (1997); Roy J. Epstein & Daniel L. Rubinfeld, *Merger Simulation: A Simplified Approach with New Applications*, 69 ANTITRUST L. J. 883 (2002).

¹⁶⁹ See Section V, *infra*.

¹⁷⁰ Joint Opposition at 31-32.

¹⁷¹ Joint Opposition, CRA Study at 61-63, App. A.

setting prices below the price that would maximize short-run profits in order to maximize subscriber growth and long-run profits. Applicants further argue that there are “dynamic demand *spillovers*,” i.e., that the incentive of one SDARS provider to lower prices is diminished in the current market because some of the benefits of early adopters (e.g., word-of-mouth, product demonstrations, etc.) accrue to its competitor. The merger, according to CRA, could actually lower prices by internalizing these spillover effects and strengthening the incentive to price low, in order to “grow the market.”

54. While we acknowledge the theoretical possibility of such a dynamic demand spillover externality, we note that Applicants have not attempted to quantify the effect of internalizing this externality. They have also failed to show convincingly the location of SDARS on the product adoption curve or the likely ultimate penetration rate for SDARS. Finally, they have not demonstrated that this internalization effect will outweigh the incentive of the merged firm to raise price once their main competitor is eliminated.

55. Furthermore, assuming, *arguendo*, that there are important dynamic demand spillovers and that immediately upon consummation of the merger the merged entity would have an overall incentive to lower price, the concern remains that the merged firm will have the incentive and ability to raise price at a later point in the product life cycle. In particular, when selling a product with dynamic demand effects, firms have an incentive early in the product’s life-cycle to expand sales and enhance long-run profitability by pricing below the short-run profit maximizing price; but the incentive to engage in penetration pricing diminishes as the product matures, and prices can be expected eventually to rise to the short-run profit maximizing level.¹⁷² Under our assumption of a separate SDARS product market and significant entry barriers, the merged firm would appear to have the incentive and ability to raise prices to the monopoly level later in the product cycle.¹⁷³

56. Under the assumption that SDARS is the relevant product market, we therefore conclude that the merged firm may have an increased incentive and ability to raise the price of SDARS over a non-transitory period of time. As described in further detail in Section VI below, however, we find that the voluntary commitments and other conditions will adequately address this competitive concern. In particular, the price cap condition ameliorates possible harm to consumers, and the new programming packages offer consumers more pricing choices.¹⁷⁴ We therefore conclude, even assuming the worst-case scenario, that grant of the application is in the public interest.

57. Some commenters argue that the current transaction is similar to the proposed transaction in *EchoStar-DIRECTV*, and thus we must, as we did there, designate the application for hearing.¹⁷⁵ As we have stated, if we are unable to find that a proposed transaction serves the public interest or if the record presents a substantial and material question of fact, we must designate the application for hearing.¹⁷⁶ In *EchoStar-DIRECTV*, there was significant evidence in the record to demonstrate that the applicants

¹⁷² *Id.*

¹⁷³ CRA asserts that when SDARS is mature, the market will be subject to intense competition from audio content over mobile broadband access technologies, more robust and widespread cellular networks, and other technological advances that will prevent the merged firm from exercising market power. *Id.* at 27-30, 63. In response, Sidak contends that claims about future constraints on the market power of XM and Sirius are speculative and call for an unusually long time horizon for assessing market power. C3SR Response, Exh. A, Second Supp. Decl. of J. Gregory Sidak at 19-22 (July 24, 2007) (“C3SR, Sidak Second Supp. Decl.”).

¹⁷⁴ See Sections VI.B.1 and VI.B.2., *infra*.

¹⁷⁵ See, e.g., C3SR Petition at 25-28; NAB Petition at 3, 6; NABOB Petition at 5-6; Clear Channel Comments at 4-6; Entravision Comments at 6-8.

¹⁷⁶ See 47 U.S.C. § 309(e).

competed against one another and that, without such competition, prices were likely to increase, especially in markets that did not have access to cable. The Commission was unable to conclude, therefore, that the *EchoStar-DIRECTV* transaction served the public interest, and the transaction was designated for hearing.

58. Although there may be surface similarities between the two transactions, there are significant differences. As we have explained above,¹⁷⁷ because there has been little or no price variation it is not possible to use the normal tools of econometrics to define the relevant market or determine likely impacts on price, and conducting a hearing would not change this basic fact. In addition, as discussed below, Applicants have offered voluntary commitments to ensure that the transaction serves the public interest. For example, Applicants voluntarily commit to not raising their rates for three years after the consummation of their merger.¹⁷⁸ They voluntarily commit to allowing any manufacturer to develop SDARS receivers and to permit manufacturers to incorporate in satellite radio receivers any other technologies that would not result in harmful interference, including HD Radio technology, iPod ports, or Internet connectivity.¹⁷⁹ Applicants also voluntarily commit to setting aside some of their channels for noncommercial educational and informational programming and for lease to certain “qualified entities.”¹⁸⁰ And, they voluntarily commit to offer a la carte and other programming packages, thereby increasing consumer choice and allowing parents, for example, to better control the types of programs to which their children are exposed. Applicants in *EchoStar/DIRECTV* made no such commitments to mitigate potential harms or to create benefits that would outweigh the potential harms. Thus, unlike in *EchoStar/DIRECTV*, in this transaction there is no need for a hearing. On the basis of the record before us, we are able to conclude that Applicants’ significant voluntary commitments and the other conditions we are imposing to our approval of the transaction are sufficient to ameliorate any public interest harms that otherwise might have resulted from the transaction and that the transaction will, as a result, create consumer benefits and advance other aspects of the public interest. Moreover, to ensure that no longer-term harms will result from the transaction, six months prior to the expiration of the commitment period, the Commission will seek public comment on whether the price cap continues to be necessary in the public interest. The Commission will then determine whether it should be modified, removed, or extended.

2. Potential Vertical Effects

59. Some commenters express concern about the vertical effects the merger may have in the market for SDARS and SDARS-related equipment. Two commenters raise the possibility of monopsony power in the content market, and seek conditions to mitigate such harms. In addition, U.S. Electronics, Inc. (“USE”) alleges that because there will be only one SDARS provider, the merged company will effectively have a monopoly in the market for SDARS receivers. Garmin expresses concern that its equipment for weather information in the aviation market will become obsolete if the merged company chooses to use the Sirius system rather than the XM/Garmin system. We address these issues in turn.

60. *Monopsony Power.* Two commenters, McGannon and King, raise the concern that the transaction creates the potential for monopsony power. Both argue that the upstream market for national satellite radio content is a separate market, and thus the merger will produce a single purchaser for content

¹⁷⁷ See Section IV.B.1.a., *supra*.

¹⁷⁸ Applicants’ June 13, 2008 Ex Parte at 4.

¹⁷⁹ *Id.* at 3-4.

¹⁸⁰ *Id.* at 3. According to Applicants, a qualified entity “includes any entity that is majority-owned by persons who are African American, not of Hispanic origin; Asian or Pacific Islanders; American Indians or Alaskan Natives; or Hispanics.” *Id.* at n.2.

in this market.¹⁸¹ With respect to monopsony power in the market for programming, the economic literature does not identify a single point at which monopsony power becomes likely.¹⁸² A necessary condition is that an entity or entities must possess sufficient size in the relevant market to dictate pricing. In general, large purchasing power delivers both benefits and potential costs to consumers. The benefits come from the fact that a large purchaser that receives programming discounts will pass on some of these reduced costs to subscribers (for example, in the form of lower prices). The potential harm to consumers comes from the fact that these discounts may discourage or preclude competitive entry,¹⁸³ and thereby result in higher prices or reduced service quality, or that the monopsony purchaser may negotiate such terms from content providers that the quality of programming is lowered.¹⁸⁴

61. Neither commenter presents quantitative evidence that the upstream market for content in which Applicants purchase content is a separate market. Indeed, King refers to the fact that Sirius was able to “steal” Howard Stern away from terrestrial radio.¹⁸⁵ It would seem straightforward that, at least in that case, terrestrial radio and SDARS were bidding against each other for content. Additionally, neither commenter identifies specific harms that will result. Indeed, the merged firm’s ability to negotiate better terms for expensive talent could benefit consumers via lower rates, and it would not be in the combined company’s interests to negotiate deals that harm the quality of content, especially while seeking to increase subscriber penetration and so move to profitability. We thus find that the merger is not likely to harm the public interest as a result of the exercise of monopsony power over content providers. As a result, we decline to take action with regard to potential monopsony power.

62. *SDARS Receivers.* USE claims that the transaction would create a vertical monopoly in the manufacturing and distribution of satellite radio receivers and that this would harm consumers.¹⁸⁶ USE argues, for example, that even if the combined company does not raise its monthly subscription fee, it could raise equipment prices to optimize overall revenues. This is a potential harm, USE states, that

¹⁸¹ McGannon June 29, 2007 Ex Parte at 3-4; Bert W. King (“King”) Comments at ¶ 57; *see also* Letter from Lawrence A. Walke, NAB, to Marlene H. Dortch, Secretary, FCC (June 19, 2008) at 1 & Atts. (stating that content providers will lose negotiating leverage if the merger is approved).

¹⁸² For a general discussion of monopsony power, see Carlton & Perloff, *supra* n.167, at 105-07.

¹⁸³ However, our current assumption that this is a merger to monopoly does not preclude future competition to SDARS by a new or nascent technology.

¹⁸⁴ The question of who benefits more from a bargain is merely a transfer between the two bargaining parties, not a detriment to efficiency that results in a societal cost. Efficiency concerns arise only once an entity with market power can restrict supply and thus change the market price from the most efficient level.

¹⁸⁵ King Comments at ¶ 57; *see also* Sirius Nov. 16, 2007 Response to Information and Document Request at SIRIUS-FCC-I.B.001647-001657 [REDACTED].

In this Order, “REDACTED” indicates that confidential or proprietary information that is subject to a Protective Order in this proceeding has been redacted from the public version of this Order. The unredacted text is included in the confidential version of this Order, which is available upon request only to those parties who have executed and filed with the Commission signed acknowledgments of the protective orders. Qualified persons who have not yet signed the required acknowledgments may do so in order to obtain the confidential version of this Order.

¹⁸⁶ Letter from Charles H. Helein, Counsel for USE, to Robert M. McDowell, Commissioner, FCC (Jan. 15, 2008) at 1 (“USE Jan. 15, 2008 Ex Parte”); *see also* Letter from Robert E. Cooper, Jr., Att’y Gen. of Tennessee, on behalf of Att’y Gens. of Connecticut, Iowa, Kansas, Louisiana, Maryland, Mississippi, Missouri, Nebraska, Ohio, Oklahoma, Rhode Island, Washington, and Wisconsin, to Marlene H. Dortch, Secretary, FCC (July 3, 2008) at 3 (“Tenn. Att’y Gen. July 3, 2008 Ex Parte”).

will be difficult to detect because “prices at retail points of sale are diverse and hard to supervise.”¹⁸⁷ To prevent this harm, USE asks that we require the combined company to open and make available the technical specifications of its devices and network so that receiver manufacturers can develop receivers for consumers to use as they choose.¹⁸⁸ USE states that its proposed condition is consistent with well-established open access policies and precedent of the Commission, including the *Carterfone*¹⁸⁹ decision and the Commission’s recent “reaffirm[ation] [of] the historical rationale for open access policies in its service rules for the Upper 700 MHz spectrum block.”¹⁹⁰ MAP supports USE’s request, asserting that the post-transaction “vertical monopoly would, by design and in effect, eradicate consumer choice and price competition across manufacturers.”¹⁹¹

63. Applicants initially opposed USE’s request, arguing that USE is attempting to resolve a private contractual matter currently subject to arbitration in the guise of seeking a merger condition,¹⁹² and that the proposed condition would inure to USE’s benefit alone without regard to concerns about the quality of equipment made by Applicants’ suppliers.¹⁹³ Applicants also contend that the combined company would not have an economic incentive to slow innovation, increase receiver prices, or cause any other potential harm of which USE complains.¹⁹⁴ Rather, Applicants maintain, the combined company would have the incentive to ensure the availability of low-cost, innovative, high-quality receivers.¹⁹⁵ Moreover, Applicants state that USE’s argument is based on an erroneous factual predicate because neither XM nor Sirius relies on a single source for radios.¹⁹⁶

64. USE replies that its current arbitration relates to past issues with Sirius and is unrelated to the potential anticompetitive effects posed by a vertical monopoly in the satellite radio market.¹⁹⁷ Further,

¹⁸⁷ USE Jan. 15, 2008 Ex Parte at 3. USE also claims that the merged entity’s additional hard-to-detect harms to consumers could include reduced equipment quality, lower quality of customer service, and slower innovation cycles. *Id.*

¹⁸⁸ See USE Reply at 8 (quoting approvingly Public Knowledge’s description of the open-device condition).

¹⁸⁹ See *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968).

¹⁹⁰ USE Jan. 15, 2008 Ex Parte at 2 (stating that the Commission determined that the winners of the six C Block licenses would not be permitted to restrict subscribers to using only those devices that the licensees provide).

¹⁹¹ Letter from Parul P. Desai, Andrew Jay Schwartzman, MAP, and Michael Calabrese, New America Foundation, to Marlene H. Dortch, Secretary, FCC (Jan. 29, 2008) at 1. In addition to *Carterfone*, MAP mentions the Commission’s 2005 cable set-top box leasing order as an example of Commission decisions following open access principles. *Id.* at 2.

¹⁹² Consolidated Opposition of Sirius and XM to USE and NAB (Dec. 26, 2007) at 2 (“Consolidated Opposition”). Applicants state that USE is a former Sirius licensed manufacturer whose contract expired. *Id.* at 3. Applicants explain that Sirius opted not to continue the relationship because the parties had “incompatible business philosophies” and, at the time of the contract’s expiration, “were in arbitration covering almost every aspect of the parties’ relationship.” *Id.*

¹⁹³ Consolidated Opposition at 4 (“This market intrusion would undoubtedly benefit USE – and essentially derail USE’s arbitration with Sirius – but it is difficult to see how it would benefit consumers or, in fact, make it easier for the Commission to conclude the WCS/Satellite Radio Terrestrial Repeater rulemaking”).

¹⁹⁴ *Id.*

¹⁹⁵ *Id.*

¹⁹⁶ *Id.* at 5 (citing radio suppliers as including Delphi, Pioneer, Samsung, Alpine, Audiovox, Sony, Polk, Rotel, Kenwood, Clarion, and Visteon).

¹⁹⁷ USE Reply at 1-2.

USE maintains that Applicants are the only parties responsible for the design and development of hardware compatible with their networks, and therefore would be able to control the manufacture of receivers.¹⁹⁸ Finally, USE argues that the power of the combined firm would hurt not only it but also small retailers because small retailers would not have sufficient negotiating power to receive favorable terms for such things as promotions and return policies.¹⁹⁹

65. Currently, Applicants each are intimately involved with the design, manufacture, and sale of SDARS receivers. As is the case in other telecommunications industries (e.g., wireless telecommunications, satellite television), SDARS receivers are sold branded or co-branded with the XM or Sirius name and can receive only one of the two SDARS services. In addition, Applicants own the intellectual property that is necessary for the receivers' manufacture. Consistent with the practices of providers in other sectors of the telecommunications marketplace, the two Applicants subsidize the retail price of SDARS receivers paid by the consumer. Partially because of that subsidy, the only current manufacturers of SDARS receivers are in direct contractual agreements with Applicants, and we see no basis in the record for concluding that additional manufacturers would enter the market. The record also indicates that Applicants are [REDACTED].²⁰⁰

66. We find that the proposed merger is likely to harm the public interest by allowing one company to gain increased leverage over the terms and conditions of the contracts for the manufacture of SDARS radios. We agree with USE's concern that the loss of head-to-head competition between Applicants has the potential of harming consumers by dampening innovation in the manufacture of SDARS receivers. In addition, we note that there could be other risks. For instance, because of their involvement in the manufacture of SDARS receivers, Applicants could also prevent the development of SDARS receivers that are compatible with other forms of audio entertainment, such as MP3 players and HD Radio. However, Applicants have addressed this concern by voluntarily committing to an open, non-exclusive architecture. Accordingly, we accept Applicants' voluntary commitment to permit any device manufacturer to develop SDARS receivers and to incorporate other technology, such as HD Radio, iPod ports, and Internet connectivity so long as it will not result in harmful interference with the merged company's network. We conclude that this, and the additional voluntary commitments on open access, adequately mitigate the potential harm presented by this transaction, as discussed in Section VI.B.4, below.

67. *Aeronautical Services.* Garmin International, Inc. ("Garmin") raises the concern that the equipment it developed for use with XM's real-time weather information services will become obsolete after the merger because Applicants' satellite-based weather systems are not compatible, and Garmin is

¹⁹⁸ *Id.* at 3. USE states that Directed Electronics, Inc. ("DEI") recently reported to analysts that it held 95 percent of Sirius's aftermarket sales in the third quarter and 62 percent of market share for retail satellite radio receivers. *Id.* at 2-3. With regard to the radio manufacturers listed by Applicants, USE states that Applicants have pointed to historical manufacturers and their historical account does not describe the market today. *Id.* at 3.

¹⁹⁹ *Id.* at 4. Applicants also argue that USE lacks standing because it did not file a petition to deny the merger application in a timely manner. Consolidated Opposition at 1. To the extent USE failed to timely file a petition to deny, we will treat USE's comments as an informal objection and address them here. See 47 C.F.R. § 1.41; *Pacific Gas and Electric Company*, Memorandum Opinion and Order, 18 FCC Rcd 22761, 22765-66 n.47 (2003); see also *Nextel License Holdings 4, Inc.*, Order, 17 FCC Rcd 7028, 7033 ¶ 16 (2002) (noting that there is no standing requirement to file an informal objection).

²⁰⁰ See, e.g., Sirius Mar. 4, 2008 Response to Information Request at SIRIUS-FCC-SUPP.000217-00018, SIRIUS-FCC-SUPP.000513-000559; SIRIUS-FCC-SUPP.000631-000700; XM Mar. 3, 2008 Response to Information Request at XM-S-0000001-0000053, XM-S-00000054-0000138, XM-S-0000139-0000208; XM Mar. 18, 2008 Response to Information Request at XM-S-001875-001928.

concerned that the merged company will choose Sirius's system and abandon that of XM.²⁰¹ Garmin states that abandoning the XM/Garmin system is contrary to the public interest because the Sirius system is not fully developed, and because commercial aviators will each face \$5,000 to \$6,000 in costs to switch.²⁰² Garmin therefore urges the Commission to condition approval of the merger on the continued use by XM of Garmin's devices for a period of 20 years, which it says are their normal life expectancy.²⁰³

68. We reject Garmin's proposed condition. First, Garmin's claims are speculative; it is not clear whether the merged company will choose to use only one weather information service or, if so, which one that will be.²⁰⁴ Moreover, we find it unlikely in the near term that the merged company would strand its current customers. Indeed, their submissions indicate exactly the opposite.²⁰⁵ Finally, as for the longer term, the question of which weather information service the merged company should choose (or whether it should provide both services) is one best answered by the company and the marketplace.²⁰⁶

C. Other Potential Public Interest Harms

69. In this section we examine the impact of the merger on the Commission's goals of diversity and localism. We find that Applicants' voluntary commitments address concerns about the potential loss of diversity. We find that the merger is not likely to frustrate the Commission's localism goal.

1. Impact of the Transaction on Diversity

70. Some commenters contend that the merger would result in reduced programming diversity because the reduction in competition would diminish the incentive to innovate and provide diverse programming²⁰⁷ and because channel capacity available for other channels will be reduced when the combined entity allocates some of its capacity to "best of both" channels.²⁰⁸ Additionally, some commenters allege that the merger will harm independent content producers, DJs, artists, and on-air personalities that now enjoy the potential of having two companies compete for their services; the merger, by eliminating this competition, therefore would lead to fewer choices and less program diversity for

²⁰¹ See generally Letters from M. Anne Swanson, Dow Lohnes, Counsel for Garmin, to Marlene H. Dortch, Secretary, FCC (Apr. 26, 2007 and Apr. 27, 2007).

²⁰² *Id.*

²⁰³ *Id.*

²⁰⁴ See, e.g., *News Corp.-Hughes Order*, 19 FCC Rcd at 583, 585 ¶¶ 245, 248 (finding that speculative harms "do not provide a basis for either denying their Application or for imposing regulatory conditions"); *Comcast-AT&T Order*, 17 FCC Rcd at 23308 ¶ 160.

²⁰⁵ See Joint Opposition at 22-23 ("the combined company will have every incentive to maintain and improve upon these offerings without any need for Commission action.").

²⁰⁶ In addition, we decline to intercede here in distribution negotiations between Applicants and RCN Corp., who urges the Commission to require Applicants to make assurances that SDARS programming will continue to be made available to RCN. See Letter from Richard Ramlall, Senior Vice Pres., Strategic & External Affairs and Programming, RCN Corp., to Kevin J. Martin, Chairman, FCC (July 17, 2008) at 2-3.

²⁰⁷ NAB Petition at 30-32; AAI Comments at 8, 12-15; Entravision Comments at 17-18; Prometheus Comments at 4-5; RIAA Comments at 7; John Smith Comments at 2, 4; Clear Channel Comments at 7; Letter from Michael L. Barrera, President and CEO, United States Hispanic Chamber of Commerce to Thomas Barnett, Asst. Att'y Gen, Antitrust Div., DOJ and Kevin J. Martin, Chairman, FCC (Aug. 28, 2007) at 2-3 ("USHCC Aug. 28, 2008 Ex Parte").

²⁰⁸ AAI Comments at 12-13; Independent Spanish Broadcasters Assoc. ("ISBA") Comments at 1-2.

consumers.²⁰⁹ Commenters also argue that the elimination of one of the SDARS providers would cause a reduction in viewpoint diversity.²¹⁰ Other commenters allege that the transaction would reduce diversity in minority- and women-oriented and owned programming²¹¹ and adversely affect the hiring of minorities and women for management positions.²¹²

71. Applicants and other commenters argue that the merger would likely lead to no significant reduction in programming diversity, and may enhance the incentives of Applicants to provide more diverse programming.²¹³ Applicants state that the merger will allow them to eliminate overlapping and redundant programming, giving them more channel capacity to use for more diverse offerings serving smaller audiences, including minority and children's programming.²¹⁴ Applicants note that they currently offer 12 identical program channels and 75 substantially similar channels,²¹⁵ and aver that eliminating their redundant programming would free capacity for more diverse offerings not currently offered on either system.²¹⁶ Further, Applicants argue that a combined company would be better positioned financially to take a chance on niche programming.²¹⁷ In this regard, Public Knowledge observes that low revenues and a small audience base have forced Applicants to abandon alternative and niche programming in favor of mainstream programming that attracts the largest audiences. It argues that the higher revenues and elimination of duplicate programming will provide the merged entity with the means to carry alternative programming and programming for underserved communities.²¹⁸

72. To address this potential harm, as discussed in more detail in Sections VI.B.5 and VI.B.6., below, Applicants voluntarily commit to lease capacity to qualified entities and to set aside capacity for noncommercial educational and informational programming.²¹⁹ We believe this voluntary commitment mitigates the potential harm from a decrease in diversity.

2. Impact of the Transaction on Broadcasters' Advertising Revenues

73. Commenters claim that the merger would cause terrestrial broadcasters to lose advertising revenue to the merged SDARS provider, which would ultimately result in the reduction of their production and airing of local programming and thereby disserve listeners and the Commission's

²⁰⁹ NAB Petition at 31-32; Prometheus Comments at 4-5; RIAA Comments at 7. This argument also is addressed in part in Section IV.B.2, *supra*.

²¹⁰ AAI Comments at 14-15; Entravision Comments at 18; NABOB Petition at 11, 12-13; NPR Petition at 3-7; TAP Petition at 3-4.

²¹¹ AWRT Petition at 5-6; NABOB Petition at 9-12; TAP Petition at 4; ISBA Comments at 1-2; USHCC Aug. 28, 2007 Ex Parte at 2-3.

²¹² AWRT Petition at 5-6.

²¹³ Application at 12-13; Public Knowledge Comments at 4; CEI Comments at 3-4.

²¹⁴ Application at 12-13; Joint Opposition at 19-21.

²¹⁵ Application at 12-14.

²¹⁶ *Id.* (stating that the freed-up capacity could be used for expanded non-English language programming, children's programming, minority-oriented programming, and programming related to public safety and homeland security).

²¹⁷ Joint Opposition at 19-21; *see also* Women Impacting Public Policy ("WIPP") Comments at 1 (asserting that a merger would offer more opportunities for women and minority programmers).

²¹⁸ Public Knowledge Comments at 4.

²¹⁹ *See* Sections VI.B.5, VI.B.6, *infra*.

localism policy goals.²²⁰ NAB claims that the merged entity “would be expected to use revenues from its higher-priced premium service offerings to cross-subsidize its national advertising rates with revenues from its premium service offerings, which would allow the merged entity to drive down advertising rates, to the detriment – in the first instance – of broadcasters.”²²¹ 46 Broadcasters similarly argue that the merged entity will use “monopoly rents” to cross-subsidize its “aggressive entry into the advertising markets” to the competitive detriment of local broadcasters.²²² NAB also claims that broadcasters will lose advertising revenue and thereby be forced to reduce the amount of locally produced programming as a result of the merger because the combined entity will increase the amount of commercials in its programming.²²³ NAB asserts that as a result of a significant increase in commercial time post-merger, “[t]he amount radio stations can charge advertisers to reach SDARS subscribers in their audiences will fall as the satellite services sell more commercial time to advertisers, and radio stations’ revenues will decline as a consequence.”²²⁴ Applicants have not responded to this issue.

74. The Commission finds that the commenters have failed to provide sufficient evidence that the proposed merger would substantially impact the revenues from the sale of advertising by broadcasters, to the detriment of their ability to air locally oriented programming. We find that these claims of harm are speculative. The commenters do not offer sufficient economic analysis to show that it would be economically beneficial to the merged entity. Commenters’ only evidence that the merged entity plans to increase commercial time during programming, post-merger, is the mention of increased “advertising synergies” post-merger during a conference call with investors and in financial analyst reports.²²⁵ Such evidence fails to show with any certainty that the merged entity intends to increase the use of commercials in its programming. Indeed, as NAB notes, programmers always run the risk of losing audience when they increase the amount of commercials during programming.²²⁶ The loss of revenue from the loss of subscribers needs to be weighed against the incremental increase in revenue obtained from the additional commercial time, to determine whether it would be economically feasible.²²⁷

²²⁰ NAB Petition at 33.

²²¹ *Id.* at 33.

²²² 46 Broadcasters Petition at 5.

²²³ NAB Response to Comments, Wildman Decl. at ¶ 12.

²²⁴ *Id.* at ¶ 28. Wildman explains that currently, due to a lack of significant amount of commercials on satellite radio, “local radio stations remain the primary audio services through which advertisers can reach SDARS subscribers.” For this reason, Wildman suggests, increased SDARS subscriber counts have not had as large an impact on terrestrial radio’s revenues as one might otherwise predict.” *Id.*

²²⁵ *Id.* at ¶ 26. C3SR cites to a comment of Mel Karmazin made during an interview on Forbes.com: “[Sirius] would like to see advertising revenue eventually make up about 10% of Sirius’ total revenue, up from the current 4% to 5%.” C3SR Oct. 3, 2007 Ex Parte, Att. Mr. Karmazin’s statement provides insufficient evidence to conclude that the merged entity has immediate plans to increase commercial time during programming to the detriment of broadcasters.

²²⁶ See NAB Response to Comments, Wildman Decl. at ¶¶ 18, 23-24.

²²⁷ C3SR submits a presentation, which includes the calculation “Profitability of an Increase in Commercial Time” to show whether it would be advantageous for the merged entity to increase commercial time. Letter from Benjamin D. Arden, Williams Mullen, Counsel for C3SR, to Marlene H. Dortch, Secretary, FCC (Oct. 3, 2007), Att., “Analysis of the CRA Submission” (“C3SR Oct. 3, 2007 Ex Parte”). However, we note that C3SR’s computation only restates the above-referenced economic assumption: if the increased revenue from additional commercials is greater than the revenue declines due to subscription losses, then the merged entity would consider adding additional commercial time. There are no additional variables included in the calculation to make any conclusions as to (continued....)

Moreover, we note that Applicants cite to two studies from 2006 and 2007, which find satellite radio accounts for only about 4 percent of all radio listeners.²²⁸ Thus, there is insufficient evidence that the merger would decrease the advertising prices that broadcasters could charge, thereby reducing their revenue and negatively affecting the amount of locally produced programming.²²⁹

V. POTENTIAL PUBLIC INTEREST BENEFITS

A. Analytical Framework

75. As part of our public interest evaluation, we consider whether the transaction is likely to produce public interest benefits.²³⁰ We apply several criteria in deciding whether a claimed benefit should be considered and weighed against potential harms. First, the claimed benefit must be transaction specific. This means that the claimed benefit must be likely to be accomplished as a result of the transaction but be unlikely to be realized by other means that entail fewer anticompetitive effects. Second, the claimed benefit must be verifiable.²³¹ Applicants are required to provide sufficient supporting evidence so that the Commission can verify the likelihood and magnitude of each claimed benefit.²³² We will discount or dismiss speculative benefits that cannot be verified.²³³ In this regard, benefits that are expected to occur only in the distant future are inherently more speculative than benefits that are expected to occur more immediately. Moreover, we calculate the magnitude of benefits net of the cost of achieving them.²³⁴ Third, the benefits must flow through to consumers, and not inure solely to the benefit of the company.²³⁵

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Applicants' course of action or whether increasing commercial time during programming would be economically advantageous.

²²⁸ Application at 22, n.51 (citing Phil Rosenthal, *Satellite deal foes don't hear message*, CHICAGO TRIBUNE (Feb. 28, 2007) (summarizing an Arbitron study that found satellite radio accounted for 3.4 percent of radio listening)); see also The Katz Radio Group, *Satellite Radio Penetration*, RADIOWAVES (Dec. 2006) at <http://www.katz-media.com/pubs/RadioWaves/121206/RadioWavesDEC2006.pdf> (finding that satellite radio constituted 4.1 percent of the market) (visited June 19, 2008).

²²⁹ For a related discussion concerning the prohibition on the insertion of local content on terrestrial repeaters, see Section VI.C.2, *infra*.

²³⁰ For instance, we consider "any efficiencies and other benefits that might be gained through increased ownership or control." Communications Act § 613(F)(2)(D), 47 U.S.C. § 533(f)(2)(D).

²³¹ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3330-31 ¶ 140; *News Corp.-Hughes Order*, 19 FCC Rcd at 610 ¶ 317; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20630 ¶ 189-90; *Applications of NYNEX Corp., Transferor, and Bell Atlantic Corp., Transferee, For Consent to Transfer Control of NYNEX Corp. and its Subsidiaries*, 12 FCC Rcd 19985, 20064 ("Bell Atlantic-NYNEX Order") (1997); *SBC-Ameritech Order*, 12 FCC Rcd at 20064 ¶ 158; *Comcast-AT&T Order*, 17 FCC Rcd at 23313 ¶ 173.

²³² *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3331 ¶ 140; *News Corp.-Hughes Order*, 19 FCC Rcd at 610 ¶ 317; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20630 ¶ 190; *Comcast-AT&T Order*, 17 FCC Rcd at 23313 ¶ 173; see also 1992 *Horizontal Merger Guidelines* § 4 (Rev. 1997).

²³³ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3331 ¶ 140; *News Corp.-Hughes Order*, 19 FCC Rcd at 611 ¶ 317; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20630 ¶ 190.

²³⁴ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3331 ¶ 140; *News Corp.-Hughes Order*, 19 FCC Rcd at 610-11 ¶ 317; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20630 ¶ 190.

²³⁵ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3331 ¶ 140; *Applications of Western Wireless Corp. and ALLTEL Corp. for Consent to Transfer Control of Licenses and Authorizations*, 20 FCC Rcd 13053, 13100 ¶ 132 (2005) ("ALLTEL-WWC Order").

76. Finally, we apply a “sliding scale approach” to our ultimate evaluation of benefit claims. Under this approach, where potential harms appear both substantial and likely, Applicants’ demonstration of claimed benefits also must reveal a higher degree of magnitude and likelihood than the Commission would otherwise demand.²³⁶ On the other hand, where potential harms appear less likely and less substantial, we will accept a lesser showing.²³⁷

B. Claimed Benefits

77. Applicants claim that the transaction will increase competition and benefit consumers. They maintain that the synergies and resulting cost savings from the merger will allow the combined entity to offer greater programming choices and lower prices, as well as preserve the future viability of satellite radio.²³⁸ Specifically, the claimed benefits include: (1) more programming choice at lower prices,²³⁹ (2) more diverse programming,²⁴⁰ (3) accelerated deployment of advanced technology,²⁴¹ (4) commercialization of interoperable radio receivers,²⁴² and (5) operational efficiencies to safeguard the future of satellite radio.²⁴³ Moreover, Applicants claim that the combined company will be able to eliminate redundant programming, which will eventually free capacity for more diverse offerings that are not currently available on either company’s system, including expanded non-English language programming, children’s programming, and additional programming aimed at minority and other underserved populations.²⁴⁴ Applicants explain that without the merger, an increase in programming diversity is unlikely, as both companies will be required to maintain overlapping, mainstream content in order to retain and attract customers.²⁴⁵ We find that these programming options offer consumers enhanced choices and are merger-specific benefits. Based on the evidence before us, however, we do not find the other claimed benefits to be merger specific. We discuss each of Applicants’ claimed benefits below.

1. Increased Programming Options/Lower Prices

78. Applicants advance two types of additional programming options and pricing structures for consumers that, they argue, are benefits specific to the proposed merger. First, Applicants pledge to offer consumers new packaged channel options designed to take advantage of the addition of each Applicant’s unique programming to the other’s service in the short term. Second, to serve the interests of consumers who prefer greater control over their programming options, Applicants propose to offer an a la

²³⁶ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3331 ¶ 141; *News Corp.-Hughes Order*, 19 FCC Rcd at 611 ¶ 318; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20631 ¶ 192 (citing *SBC-Ameritech Order*, 14 FCC Rcd at 14825 ¶ 256).

²³⁷ *Liberty Media-DIRECTV Order*, 23 FCC Rcd at 3331 ¶ 141; *AT&T Inc., and BellSouth Corp., Application for Transfer of Control*, 22 FCC Rcd 5662, 5761-62 ¶ 203 (2007) (“*AT&T-Bell South Order*”).

²³⁸ Application at 10.

²³⁹ *Id.* at 10-12.

²⁴⁰ *Id.* at 12-14.

²⁴¹ *Id.* at 14-15.

²⁴² *Id.* at 15-16.

²⁴³ *Id.* at 17-20.

²⁴⁴ Applicants assert this increased program diversity on satellite radio may even stimulate more diverse programming on terrestrial radio. *Id.* at 13 n.32.

²⁴⁵ *Id.* at 13.

carte channel selection system that will give subscribers the power to tailor their channel selections to their own tastes and interests.

a. New Programming Packages

79. Applicants propose to offer a number of new programming packages at lower prices to subscribers.²⁴⁶ Specifically, Applicants claim that they will offer consumers a range of new programming packages at prices lower than currently available, including: (1) a “Mostly Music” package, which includes commercial-free music as well as several family-oriented and religious channels and emergency alerts, for \$9.99 per month; (2) a “News, Sports & Talk” package, which includes various sports, talk and entertainment, family, news, traffic and weather, and emergency channels, for \$9.99 per month; (3) two “Family Friendly” packages, which exclude adult-themed content, at a cost of \$11.95 per month or \$14.99 per month, respectively; and (4) a “best of both” package, which will enable customers to receive selected programming from both companies at a cost of \$16.99 per month.²⁴⁷ Applicants assert that these new programming packages will result in public interest benefits in the form of lower prices and greater consumer choice.²⁴⁸

80. Commenters disagree about the potential benefits of Applicants’ proposal to offer new programming packages to subscribers. WIPP agrees with Applicants that the merger will create public interest benefits, because operational efficiencies created by the merger will result in lower prices for consumers.²⁴⁹ Others criticize the proposal, particularly the proposed “best of both” package. C3SR criticizes Applicants’ proposed tiered programming packages on the grounds that (1) the proposed packages will cost more than the current service packages offered by Applicants, (2) the premium channels cost more per channel, (3) the base rates are not guaranteed, (4) consumers are unlikely to have the two satellite receivers necessary to receive such programming, and (5) providing crossover programming would increase costs due to exclusive agreements and limiting technology in existing receivers and that costs per channel would increase.²⁵⁰ NATOA expresses concerns about potential exclusivity clauses in Applicants’ programming agreements, arguing that such clauses may place some of the exclusive content that might otherwise be offered in Applicants’ “best of both” package out of consumers’ reach.²⁵¹

81. Applicants respond that the “best of both” package represents a significant discount – 34 percent – over the only way to obtain all of the programming included in this package today – buying a

²⁴⁶ See Applicants’ June 13, 2008 Ex Parte at 1-3. Applicants have voluntarily committed to provide these programming options, “subject to individual channel changes in the ordinary course of business and, in the case of certain programming, the consent of third-party programming providers.” *Id.* at 3.

²⁴⁷ *Id.* at 1-3.

²⁴⁸ Joint Opposition at 12, 14. RIAA raised concerns about the impact of the transaction on the recording industry. Letter from Victoria F. Sheckler, Deputy Gen. Counsel, RIAA, to Marlene H. Dortch, Secretary, FCC (July 23, 2008). In response, Applicants state that the “a la carte and other programming proposals were not intended, and are not anticipated, to reduce revenue from copyright royalty payments.” Instead, they explain that the programming packages “were designed to provide more choice and lower prices and hopefully increase revenue, which should have a positive effect on copyright royalty payments to artists and record companies.” Applicants’ July 25, 2008 Ex Parte at 2.

²⁴⁹ WIPP Comments at 1-3.

²⁵⁰ C3SR Reply at 17-18. C3SR also claims that subscribers will need a new receiver to have the option to choose smaller bundled packages with channels from both services. C3SR Reply at 17. Applicants specifically state that this is not a requirement. Joint Opposition at 12.

²⁵¹ NATOA Petition at 4.

Sirius satellite radio, an XM satellite radio, and paying monthly subscription fees totaling \$25.90 (two times \$12.95) to Sirius and XM.²⁵² Applicants note that a number of subscribers expressed interest in receiving through a single receiver exclusive content not available on their current service.²⁵³ Applicants also cite to a CRA analysis that found that introducing new programming packages, without taking away current options, necessarily raises consumer welfare.²⁵⁴ The study concluded that no packages that combine content from the two providers would be available absent the merger.²⁵⁵

82. Knowledge Ecology International (“KEI”) states that the proposed pricing plans are temporary and are not guaranteed over the longer term.²⁵⁶ We find that KEI’s argument is sufficiently addressed by Applicants’ voluntary commitment, which will ensure that these benefits materialize. As discussed below, Applicants have voluntarily committed to offer for sale an interoperable receiver in the retail after-market within nine months of the consummation of the merger,²⁵⁷ as well as capping the price for all proposed (as well as current) programming packages for at least 36 months after consummation of the merger.²⁵⁸ This voluntary commitment ensures that these programming packages will be available at the rates proposed by Applicants for at least three years after the merger occurs.

83. We conclude that Applicants’ proposed new programming packages will increase consumer choice and offer consumers lower-cost options. These are well-recognized public interest benefits.²⁵⁹ While some commenters criticize specific aspects of Applicants’ proposal, no one disputes that these new packages would offer consumers additional choice, or that a number of the packages are priced lower than Applicants’ current offerings. Although the proposed “best of both” package (which combines some of the most favored content from both XM and Sirius) is priced higher than Applicants’ current offerings, the content included in this proposed package can be accessed today only by subscribing to both XM and Sirius, obtaining receivers for each Applicant’s service, and paying monthly fees totaling \$29.50.²⁶⁰ Finally, with respect to comments addressing the impact of exclusivity provisions in Applicants’ programming agreements, we find that only a small fraction of the agreements contain provisions of this type. In addition, Applicants have promised to “conduct a thorough analysis of the existing contracts and negotiate any new terms that may be necessary to implement the proposed programming options.”²⁶¹ This pledge, in combination with the relatively small number of agreements containing exclusivity provisions, gives us confidence that the vast majority of Applicants’ programming will be available post-merger.

²⁵² Applicants’ Supp. Comments at 9.

²⁵³ *Id.*

²⁵⁴ Joint Opposition at 16 (citing C3SR Petition, CRA Study at 83).

²⁵⁵ *Id.*

²⁵⁶ KEI Reply at 2-3.

²⁵⁷ Applicants’ July 25, 2008 Ex Parte at 2; see discussion in Section VI.B.3, *infra*.

²⁵⁸ Applicants’ June 13, 2008 Ex Parte at 5; see discussion in Section VI.B.1, *infra*.

²⁵⁹ *Adelphia Order*, 21 FCC Rcd 8307 ¶ 243 (2006) (“[E]fficiencies created by a proposed transaction can mitigate anticompetitive harms if they enhance a firm’s ability and incentive to compete and therefore result in lower prices, improved quality, enhanced service, or new products.”); *News Corp.-Hughes Order*, 19 FCC Rcd at 610 ¶ 316; *Bell Atlantic-NYNEX Order*, 12 FCC Rcd at 20063 ¶ 158; *Sprint-Nextel Order*, 20 FCC Rcd at 14013 ¶ 129; see also *Horizontal Merger Guidelines* § 4.

²⁶⁰ Even if we were to consider the “best of both” package as being a price increase, a number of the other proposed packages are priced lower than Applicants’ current offerings.

²⁶¹ Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 61.

84. Moreover, despite some commenters' claims to the contrary, we find these benefits to be merger specific.²⁶² We note that "the Commission does not have to find that a proposed transaction or merger is the only means to achieve a claimed benefit,"²⁶³ merely that the benefit is unlikely to be achieved by another means that would entail fewer anticompetitive effects. After reviewing the record, we conclude that this is the case with regard to each of the new programming packages. The record indicates that prior to the merger, [REDACTED].²⁶⁴ Accordingly, we accept Applicants' assertion that the proposed programming packages would not be offered by Applicants absent a merger and find the benefits that will accrue from the offering of such packages in the future to be merger specific.

b. A la Carte Programming

85. In addition to the new packaged programming options proposed by Applicants, Applicants voluntarily commit to offer two a la carte offerings to subscribers.²⁶⁵ "A La Carte I" would allow a subscriber to individually select 50 channels for \$6.99 per month. Subscribers to A La Carte I will be able to purchase additional individual channels for 25 cents per month each as well as "premium" packages of certain Sirius channels for \$5 or \$6 per month each and of certain XM channels for \$3 or \$6 per month each. "A La Carte II" would allow a subscriber to select 100 channels, including access to "best of both" programming offered by the other satellite provider, for \$14.99 per month. Subscribers would have the ability to craft an individualized line-up that includes some of the most popular and appealing programming currently offered by the other provider. Subscribers would select the channels they wish to receive via Applicants' websites. Applicants assert that the proposed a la carte plans would create public interest benefits in the form of lower prices and greater choice.

86. A number of commenters respond that subscribers will receive fewer channels and will pay the same or slightly more for them.²⁶⁶ C3SR asserts that Applicants' a la carte plan is in reality a tiered bundling of reduced total programming that costs more on a channel-by-channel basis than Applicants' current packages.²⁶⁷ C3SR states that Applicants fail to explain how less content for less money is the same or better than the current competition between two providers.²⁶⁸

87. Applicants dispute these assertions. According to Applicants, "[a] subscriber choosing the A La Carte I plan would save more than 70 dollars a year."²⁶⁹ Applicants contend that opponents' assertions regarding the per-channel price of the a la carte options are fundamentally flawed because they

²⁶² King Comments at ¶¶ 77-78; Smith Comments at 8-11; NAB Response to Comments at 22-25; Letter from David K. Rehr, NAB, to Kevin J. Martin, Chairman, FCC (July 25, 2007) at 3-4; KEI Reply at 2-3.

²⁶³ *Adelphia Order*, 21 FCC Rcd at 8314 ¶ 261.

²⁶⁴ See, e.g., XMH-008-00002391, XMH-001-00004380, and XME-009-00046821 [REDACTED].

²⁶⁵ Applicants' June 13, 2008 Ex Parte at 1-3. Applicants have voluntarily committed to provide these programming options, "subject to individual channel changes in the ordinary course of business and, in the case of certain programming, the consent of third-party programming providers." *Id.* at 3.

²⁶⁶ NATOA asserts that consumers will receive fewer channels under the a la carte option while paying essentially the same \$12.95 price as that charged for the regular XM or Sirius package. NATOA Petition at 4. Similarly, Common Cause argues that the opt-out system proposed by XM and Sirius may not save consumers money, depending on how channels are valued. Common Cause Petition at 44. See also NPR Petition at 18-19; NAB Reply to Opposition at 8-9.

²⁶⁷ CS3R Reply at 17; see also NAB Petition at 20-21 (arguing that a la carte would require the manufacture and sale of next generation receivers).

²⁶⁸ CS3R Reply at 17.

²⁶⁹ Applicants' Supp. Comments at 8.

assume that all subscribers value all channels equally, which, Applicants assert, is not the case.²⁷⁰ Rather, Applicants claim that a subscriber who only listens to 20 channels on Sirius' service would pay more than 64 cents per month per valued channel under the current Sirius plan, but would pay approximately 35 cents per month for those channels under the A La Carte I plan. Applicants add that consumers who value having more channels will not be harmed because such individuals will continue to be able to purchase the full set of channels offered by Sirius or XM at the current price or choose a new option that includes additional programming.²⁷¹

88. We conclude that Applicants' voluntary a la carte commitment represents a clear public interest benefit. First, consumers will benefit from their ability to tailor the programming they receive to match their individual tastes and interests. The proposed a la carte system will allow consumers to, in effect, "block" unwanted or objectionable content that would otherwise be delivered to consumers' SDARS devices. Second, the proposed a la carte system will ensure that customers of the merged company have greater control over the programming they receive and pay for than subscribers to XM or Sirius currently enjoy. Third, consumers will benefit from their ability to obtain more programming that they desire for lower prices. In order to ensure that consumers have ready access to relevant information concerning their programming options, we also require that the combined company make the content and price details concerning its a la carte options and channel lineups clearly available on its websites.

89. Our conclusion that the voluntary a la carte commitment proposed by Applicants is by nature a public interest benefit is consistent with the conclusion in the *Further Report on the Packaging and Sale of Video Programming Services to the Public* that "[a] la carte could be preferable to bundling in providing diverse programming response to consumer demand."²⁷² In that Report, the Media Bureau also noted that consumer choice over content is an important consumer benefit, stating that "[t]he marketplace will thus be able more quickly to shed unpopular networks in favor of popular networks under a la carte than under bundling and in the process become more responsive to consumer demand for better programming. Programmers may also have an increased incentive to improve their programming under a la carte."²⁷³

90. We find unpersuasive the argument that Applicants' proposal falls short of a "true" a la carte option.²⁷⁴ The Commission's goal is to ensure that the public receives the greatest benefit from services that require use of public spectrum. Applicants' promised a la carte options plainly will enhance consumer choice and will provide subscribers with an opportunity to lower their bills.

91. We find other criticisms of the proposal likewise unpersuasive. For example, NAB, NPR, and the Consumer Federation of America, Consumers Union, and Free Press ("CFA") assert that Applicants' claims of benefits arising from their proposed new programming packages are speculative and non-verifiable.²⁷⁵ As stated above, both NAB and C3SR question when Applicants will make available the interoperable receiver necessary to initiate the proposed a la carte offering.²⁷⁶ Commenters

²⁷⁰ *Id.*

²⁷¹ *Id.* at 8-9.

²⁷² Media Bureau, *Further Report On the Packaging and Sale of Video Programming Services To the Public* (Med. Bur., Feb. 9, 2006) at 5 ("*Further Report on Video Programming*"), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-263740A1.pdf.

²⁷³ *Further Report on Video Programming* at 35-36.

²⁷⁴ C3SR Reply at 17.

²⁷⁵ NAB Petition at 37-38; NPR Petition at 19; Common Cause Petition at 42-43; CFA Supp. Comments at 4; C3SR Reply at 17-21, 23.

²⁷⁶ NAB Reply to Opposition 8; C3SR Reply at 17-21, 23-24.

also contend that subscribers have no guarantees as to the quality or duration of any benefits from the pricing and programming offerings.²⁷⁷ As discussed further below, we find that Applicants' voluntary commitments address these criticisms by ensuring that the claimed benefits are likely to materialize in the near term. We note that in addition to the voluntary commitments regarding programming, Applicants also have voluntarily committed to offer for sale an interoperable receiver in the retail after-market within nine months of the consummation of the merger,²⁷⁸ and cap for at least 36 months the price of all proposed (as well as current) programming packages.²⁷⁹ These voluntary commitments ensure that consumers will receive Applicants' proposed a la carte offerings and that these offerings will be available for at least three years at the proposed price.

92. Finally, a number of commenters assert that Applicants' promised a la carte offering is not a merger-specific benefit because each company could offer a la carte today.²⁸⁰ Applicants disagree, asserting that both Sirius and XM have experienced billions of dollars in losses and that neither company has ever turned a profit.²⁸¹ They assert that, without the synergies and economies of scale created by this merger, neither company could afford to introduce a la carte offerings.²⁸² We find that Applicants are not likely to offer a la carte options absent the merger. Thus, the public interest benefits associated with these a la carte offerings are merger specific.

93. As we note in Section IV.B.1., above, under our "worst-case scenario" approach, we assume, *arguendo*, that the merged firm would have an incentive to charge prices that are higher than those charged by Applicants as independent competitors. The voluntary a la carte commitments will provide an additional "safety valve" against price increases in the future. The a la carte system provides individual consumers with increased choice as to the cost of the services they will receive from the merged entity, allowing consumers to tailor their SDARS service not only to fit their programming tastes, but individual budgets as well. Should the merged entity choose to raise prices for its services in the future, consumers electing the a la carte plan will be able to reduce the number of channels selected to compensate for the price increase. This option for consumers places an additional check on the merged entity's ability to raise prices that does not exist under Applicants' current "take-it-or-leave-it" single service offerings. Accordingly, in addition to the general increase in consumer welfare that results from giving subscribers increased control over the type of programming they receive, the increased bargaining power held by consumers post-merger will help alleviate the potential competitive harms resulting from the merger.

2. Accelerated Deployment of Advanced Technology

94. Applicants claim that the merged entity will realize efficiencies that will allow the offering of advanced technologies and new services sooner than would occur absent the transaction. They state that subscribers will have access to a wider range of easy-to-use, multi-functional devices such as real-time traffic and rear-seat video devices, as well as new services such as advanced data and telematics

²⁷⁷ NAB Petition at 37-39; NPR Petition at 19; Common Cause Petition at 42-43; CFA Supp. Comments at 4; C3SR Reply at 17-21.

²⁷⁸ Applicants' July 25, 2008 Ex Parte at 2; see discussion in Section VI.B.3, *infra*.

²⁷⁹ Applicants' June 13, 2008 Ex Parte at 5; see discussion in Section VI.B.1, *infra*.

²⁸⁰ C3SR Comments at 34-35; NABOB Petition at 6-7; NPR Petition at 18-19; AAI Comments at 10-12; Clear Channel Comments at 6; Common Cause Petition at 44; Entravision July 9, 2007 Comments at 17; King Comments at ¶ 78; Smith Comments at 8-11; King Reply at ¶ 24; NAB Response to Comments at 22-25.

²⁸¹ Joint Opposition at 17.

²⁸² *Id.* As noted in Section V.B.1.a., above, evidence in the record indicates that [REDACTED]. See section V.B.1.a, *supra*. [REDACTED]

services, including traffic, weather, and “infotainment” services.²⁸³ The claimed efficiencies are based on combining Applicants’ engineering resources, as well as accelerated involvement of third-party manufacturers and technology partners in developing and offering new devices and services based on common engineering standards and protocols for the combined company.²⁸⁴

95. We agree with commenters that these claimed public interest benefits are not cognizable.²⁸⁵ Some advanced services data and telematics services already are being introduced by Applicants.²⁸⁶ Moreover, the analysis submitted by Applicants relies [REDACTED]. Given that the additional capacity will not be available until after interoperable receivers are widespread, we find that, to the extent that this claimed benefit might be based on the availability of additional capacity (and thus be merger specific), it is speculative.²⁸⁷

3. Commercial Availability of Interoperable Satellite Radio Receivers

96. Applicants claim that the proposed transaction will foster the commercial introduction of interoperable satellite radios.²⁸⁸ Applicants state that, absent the merger, they would have little incentive to subsidize the cost of interoperable receivers, and that, without a subsidy, manufacturers have not expressed interest in producing or distributing interoperable radios.²⁸⁹

97. Regardless of whether the proposed merger facilitates the commercial introduction of an interoperable satellite radio, it cannot be considered as a merger-specific benefit because existing Commission rules already require Applicants to introduce such a radio regardless of the merger.²⁹⁰ Eleven years ago, when the Commission required that SDARS operators certify that their system includes a receiver design that permits all users to access all SDARS systems, it noted that the mandate would encourage consumer investment in equipment, create economies of scale, and “promote competition by reducing transaction costs and enhancing consumers’ ability to switch between competing DARS providers.”²⁹¹ To the extent that increased competition between SDARS providers was viewed as one of the benefits from promoting receiver interoperability, the commercial availability of interoperable satellite receivers, in the context of the proposed transaction, will not provide that benefit.

98. Furthermore, to the extent that timely, widespread penetration of interoperable receivers will be necessary for the realization of any of the other potential public interest benefits, such as increased

²⁸³ Application at 14-15.

²⁸⁴ *Id.* at 15.

²⁸⁵ NAB Petition at 42-43 (stating “nothing currently prevents the companies from working together to develop ‘common engineering standards and protocols’” (citing Application at 15)); *see also* AAI Comments at 15 (stating that there is “no indication why such benefits ‘would not be possible absent the proposed transaction.’” (citing Application at 14-15)).

²⁸⁶ *See* Application at 14-15; Joint Opposition at 22-23, nn.62-63 (stating that both companies currently offer integrated traffic and navigation systems for automobiles and that Sirius and Chrysler Group announced the launch of SIRIUS Backseat TV™).

²⁸⁷ *See* Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000005 and SIRIUS-FCC-IV.000087.

²⁸⁸ Application at 15-16.

²⁸⁹ *Id.* at 16.

²⁹⁰ *See* 47 C.F.R. § 25.144(a)(3)(ii). For a detailed discussion of Applicants’ existing interoperable radio obligations, *see* Section VI.B.3, *infra*.

²⁹¹ 1997 SDARS Service Rules Order, 12 FCC Rcd at 5796 ¶ 105.

program diversity, spectrum efficiencies, or other operational efficiencies, the timely commercial availability of an interoperable receiver does not provide a separate public interest benefit, but is necessary if the other potential public interest benefits are to be considered cognizable. Thus, we cannot consider the commercial availability of interoperable receivers to be a merger-specific benefit. Instead, we review this issue in Section VI.B., below. We note, however, that Applicants' voluntary commitment to offer for sale an interoperable receiver in the retail aftermarket within nine months of consummation of the merger will facilitate the realization of other claimed public interest benefits in a timely manner.²⁹²

4. Operational Efficiencies

99. Applicants claim that the proposed transaction will allow the merged firm to achieve operational efficiencies that will reduce costs, and that those cost savings can be passed on to subscribers in the form of lower subscription rates. The claimed efficiencies include the ability to reduce programming expenses by eliminating duplicative staffing needed for the creation of self-produced music programming; to reduce operational expenses for the infrastructure used to broadcast and transmit satellite radio programming; to reduce marketing and subscriber acquisition costs, including efficiencies due to economies of scale in equipment; to reduce duplicative research and development efforts and accelerate innovation in products and services in the retail and automotive distribution channels; and to achieve operating efficiencies by reducing duplicative general and administrative expenses.²⁹³ Applicants also maintain that, with their proposed merger, they will be able to operate more effectively by adopting the best and most efficient practices of the two companies based on their core competencies.²⁹⁴

100. We find that some of the claimed efficiencies, such as some of the reduced operational expenses and claimed scale economies for some equipment design, are not merger specific.²⁹⁵ However, others of the claimed savings relate to the elimination of duplicate expenses and scale economies which can only be achieved by the combined company.²⁹⁶ To the extent that any of the claimed efficiencies might be obtainable by other means that would entail fewer anticompetitive effects, the Commission would discount that portion of the claimed benefits.²⁹⁷

101. In addition, Applicants have not provided sufficient evidentiary support to estimate the magnitude of many of the claimed efficiencies.²⁹⁸ Of those efficiencies that might be considered to be

²⁹² See Section VI.B.3, *infra*.

²⁹³ Application at 17-20. See also Sirius Nov. 16, 2007 Response to Information and Document Request IV at SIRIUS-FCC-IV.000012-000076, for a more detailed description of the claimed savings.

²⁹⁴ Application at 18-19.

²⁹⁵ NAB Petition at 45-46 (claiming that the reduction in operational expenses relating to maintaining "distinct broadcast operations infrastructure to facilitate the scheduling, storage, compression, transmission, and uplink of programming and content to Applicants' satellites and terrestrial repeater networks" may not be merger specific because it is not clear whether these savings could not be obtained through other means. (citing Application at 17)). See Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000048-000049 [REDACTED].

²⁹⁶ Application at 17-18. See also, e.g., Sirius Nov. 16, 2007 Response to Information and Document Request IV at SIRIUS-FCC-IV.000026-000048. [REDACTED].

²⁹⁷ Most of the claimed efficiencies that might have been obtainable by other means would also be discounted in our analysis inasmuch as they would not be realized within several years of closing or the claimed savings would relate to a reduction in fixed costs, rather than variable costs.

²⁹⁸ Mar. 24, 2008 DOJ Press Release at 4 ("It was not possible to estimate the magnitude of the efficiencies with precision due to the lack of evidentiary support provided by XM and Sirius, and many of the efficiencies claimed by the parties . . . were not likely to be realized within the next several years.").

merger specific, some are not expected to be realized within several years of closing.²⁹⁹ For example, Applicants claim that there will be merger-specific savings in satellite operations, broadcast operations, terrestrial networks, programming and content, customer service and billing, sales and marketing, subscriber acquisition costs, general and administrative costs, product development, and interest expense.³⁰⁰ Some efficiencies, such as savings from elimination of duplication in non-unique, self-produced music channels, can be realized relatively quickly,³⁰¹ but other efficiencies, such as the more efficient use of spectrum through the elimination of the need to broadcast largely duplicative content, can only be realized once interoperable receivers are widespread.³⁰² Some of the efficiencies related to the satellite fleet and satellite operations would be implemented over a long period of time.³⁰³ These savings are discounted in our analysis to the extent that some of the savings cannot be verified and some of the efficiencies would only be expected to be realized in the distant future.³⁰⁴

102. With respect to programming costs, NAB notes that the merged firm would not be able to eliminate some of the most expensive programming due to existing long-term contracts.³⁰⁵ However, Applicants' claimed savings with respect to programming costs are based largely on eliminating duplication in the overhead and production of similarly formatted channels and improving scale economies in content acquisition.³⁰⁶ Potential cost savings on content covered by long-term contracts would only be realized as the contracts covering the content come up for renewal.³⁰⁷

103. We agree with commenters who express concern that consumers will not benefit from some of the claimed efficiencies, inasmuch as some of the savings relate to a reduction in fixed costs, not

²⁹⁹ See Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000006-000007.

³⁰⁰ Joint Opposition at 26-29. See Sirius Nov. 16, 2007 Response to Information and Document Request IVA-B at SIRIUS-FCC-IV.000012-000076 for a description of the claimed savings.

³⁰¹ See also Sirius Nov. 16, 2007 Response to Information and Document Request IVA-B at SIRIUS-FCC-IV.000018-000019.

³⁰² See Sirius Nov. 16, 2007 Response to Information and Document Request IVA-B at SIRIUS-FCC-IV.000086-000087 [REDACTED]. See also XM Nov. 16, 2007 Response to Information and Document Request IVA-B, Narrative at 25-26 (noting that XM anticipates that [REDACTED] million XM single-platform devices will be factory installed in vehicles sold for the period [REDACTED], and are likely to remain in widespread use for [REDACTED]. XM also states that the combined company "will need to broadcast a full complement of programming to both the XM and Sirius platforms for many years, including the useful life of the XM satellite constellation." *Id.* at 25).

³⁰³ See Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000049-000054, [REDACTED].

³⁰⁴ See Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.0000005-000008, SIRIUS-FCC-IV.000012-000076 for a summary of efficiencies and estimated timing. For example, [REDACTED].

³⁰⁵ NAB Petition at 45.

³⁰⁶ Joint Opposition at 27. See also Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000016-000026, for an analysis of savings that can be realized from the elimination of duplicative programming-related expenses and through economies of scale in content acquisition.

³⁰⁷ See Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000023-000026, and SIRIUS-FCC-I.B.001647-001657, XM-I-B-3-00000734, and XM-I-B-3-00003738-00003743. [REDACTED].

variable costs.³⁰⁸ Applicants engaged an outside consulting firm to evaluate the claimed efficiencies arising from the merger, and the firm concluded that such efficiencies will likely lead to reductions in both marginal and fixed costs, with [REDACTED] percent of the claimed annual savings attributed to a reduction in variable costs.³⁰⁹ We find that, to the extent that [REDACTED] percent of these efficiencies lead to a reduction in variable costs, consumers will benefit from those claimed savings. However, only [REDACTED] percent of the efficiencies that lead to a reduction in variable costs would likely be realized within the next several years.³¹⁰ Thus, the remainder of those efficiencies are speculative. As a result we find that only [REDACTED] percent of the claimed efficiencies are likely to be realized within several years of the transaction and could lead to a reduction in variable costs. Accordingly, we find that consumers might benefit from, a small percentage, at most, [REDACTED] percent, of the claimed efficiencies.

VI. BALANCING PUBLIC INTEREST HARMS AND BENEFITS

A. General Introduction and Summary

104. As previously noted, under the Communications Act, we must determine whether the “public interest, convenience and necessity will be served” by the granting of the Application.³¹¹ We now employ a balancing process, weighing the potential public interest harms of the proposed transaction that we have found against the potential public interest benefits.³¹² Applicants bear the burden of proving, by a preponderance of the evidence, that the proposed transaction, on balance, will serve the public interest.³¹³ Absent Applicants’ voluntary commitments and other conditions, the harms outweigh the potential benefits; the presence of these voluntary commitments mitigates the harms and ensures that benefits are realized. The Application and the record before us make clear that, on balance, the public interest will be served by approval of the Application subject to the voluntary commitments and other conditions that we discuss below. Accordingly, we accept the Applicant’s voluntary offer of these commitments with the expectation that Applicants will adhere to each according to its specified terms and within the specified timeframes.³¹⁴ These voluntary commitments are fully enforceable by the

³⁰⁸ NAB Petition at 45, 46, 47.

³⁰⁹ See Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000016. [REDACTED].

³¹⁰ See Sirius Nov. 16, 2007 Response to Information and Document Request IV.A-B at SIRIUS-FCC-IV.000007, SIRIUS-FCC-IV.000016, and SIRIUS-FCC-IV.000060-000061.

³¹¹ See 47 U.S.C. §§ 309(a), (d); 310(d).

³¹² See *SBC-AT&T Order*, 20 FCC Rcd at 18300 ¶ 16; *Verizon-MCI Order*, 20 FCC Rcd at 18443 ¶ 16; *Sprint-Nextel Order*, 20 FCC Rcd at 13976 ¶ 20; *News Corp.-Hughes Order*, 19 FCC Rcd at 483 ¶ 15; *Comcast-AT&T Order*, 17 FCC Rcd at 23255 ¶ 26; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20574 ¶ 25. See Section VII.A., *infra*, for discussion of the applicable language in the Commission’s 1997 *SDARS Service Rules Order*, prohibiting the transfer of control of one SDARS licensee to the other SDARS licensee. As discussed below, the Commission finds that the prohibition set forth in paragraph 170 of the 1997 *SDARS Service Rules Order* is a binding substantive rule, and that it is in the public interest to repeal the rule prohibiting the merger.

³¹³ See *SBC-AT&T Order*, 20 FCC Rcd at 18300 ¶ 16; *Verizon-MCI Order*, 20 FCC Rcd at 18443 ¶ 16; *Sprint-Nextel Order*, 20 FCC Rcd at 13976-77 ¶ 20; *News Corp.-Hughes Order*, 19 FCC Rcd at 483 ¶ 15; *Comcast-AT&T Order*, 17 FCC Rcd at 23225 ¶ 26; *EchoStar-DIRECTV HDO*, 17 FCC Rcd at 20574 ¶ 25.

³¹⁴ Clear Channel suggests that Applicants’ voluntary commitments are not enforceable. Letter from Lawrence R. Sidman, Paul Hastings, Counsel for Clear Channel, to Marlene H. Dortch, Secretary, FCC (June 20, 2008) at 2. We disagree. As we state herein, grant of the Application is conditioned on the merged entity’s fulfillment of Applicants’ voluntary commitments and other conditions. Therefore, the merged entity’s compliance with the voluntary commitments is an enforceable condition.

Commission.

B. Applicants' Voluntary Commitments and Other Conditions

1. Price Cap

105. For the reasons given above, we assume that the relevant product market may be limited to SDARS, and therefore that it is likely that the merged entity will have an increased incentive and ability to raise prices above pre-merger levels and that this incentive and ability will grow stronger over time.³¹⁵

106. As discussed above, Applicants have argued, however, that due to the particular nature of demand for satellite radio services, the merged entity will have an incentive instead to lower prices.³¹⁶ Several commenters dispute this argument, and instead predict that the merged entity will raise prices. For example, NAB states that SDARS is the relevant market, that the merger will lead to a monopoly, and that demand is relatively inelastic, so that the merged entity will be able to raise prices profitably.³¹⁷ C3SR agrees with a narrow product definition, and raises concerns regarding higher prices, foregone benefits from price competition, increased advertising, and lower value overall.³¹⁸ Similar concerns are raised by Common Cause,³¹⁹ KEI,³²⁰ and AAI.³²¹

107. To address concerns about such potential price increases, Applicants have voluntarily committed to cap the retail prices on their basic subscription package and on the new programming packages that they voluntarily commit to offer.³²² Specifically, Applicants voluntarily commit to not raise the retail prices on their basic \$12.95 per month subscription package, their a la carte programming package, their "best of both" programming packages, their "mostly music" and their "news, sports, and talk" programming packages, and their discounted family-friendly programming package.³²³ Applicants voluntarily commit to these price caps for at least 36 months after consummation of the merger.³²⁴ Notwithstanding the voluntary commitment, after the first anniversary of the consummation of the merger, the combined company may pass through cost increases incurred since the filing of the merger application as a result of statutorily or contractually required payments to the music, recording and publishing industries for the performance of musical works and sound recordings or for device recording fees.³²⁵ The combined company will provide customers, either on individual bills or on the combined company's website, details about the specific costs passed through to consumers pursuant to the

³¹⁵ Applicants dispute a narrow product market definition, arguing instead that satellite radio faces many competitive alternatives. Application at 20-48. We do not have sufficient evidence in the record to conclude definitively that this is the case. See Section IV.B.1.a, *supra*.

³¹⁶ See Application at 10-12. See Section IV.B, *supra*, for further discussion.

³¹⁷ NAB Petition at 26-29; see also NAB Response to Comments at 17-20.

³¹⁸ See, e.g., C3SR Petition at 13-20.

³¹⁹ Common Cause Petition at 14-39.

³²⁰ See generally KEI Reply.

³²¹ AAI Comments at 16-29.

³²² Applicants' June 13, 2008 Ex Parte at 5.

³²³ See Sections V.B.1.a-b, *supra*.

³²⁴ Applicants' June 13, 2008 Ex Parte at 5.

³²⁵ *Id.* See Tenn. Att'y Gen. July 3, 2008 Ex Parte at 3.

preceding sentence.³²⁶

108. We accept this voluntary commitment and conclude that it will mitigate the harm from any post-merger price increases. In addition, Applicants may not reduce the number of channels in either their current packages or their new packages for three years. Some commenters submit that the price cap should be longer than three years, arguing that the potential harms will still remain at the end of the period.³²⁷ We do not know what the competitive landscape will be like in three years. Accordingly, six months prior to the expiration of the commitment period, the Commission will seek public comment on whether the cap continues to be necessary in the public interest. The Commission will then determine whether it should be modified, removed, or extended.³²⁸ We also note that Applicants voluntarily commit to a price cap, not a price freeze, and therefore retain sufficient flexibility to flow through to consumers any cost savings or other efficiencies resulting from the merger.³²⁹

109. Some commenters argue that a price cap cannot ameliorate the harms that are likely to flow from the merger. CEI, for example, states that price increases are sometimes beneficial for consumers if the resultant overall package is a better deal for consumers, and that fear can prevent companies from instituting price decreases if there is concern that subsequent necessary future increases will cause antitrust action.³³⁰ CEI further argues that intermodal competition (i.e., between SDARS and other technologies) can suffice to discipline the merged company.³³¹ Common Cause contends that only intramodal competition (i.e., between the existing two SDARS providers) can constrain prices, and thus also concludes that merger conditions cannot ameliorate the harms from the merger. Common Cause therefore opposes merger approval.³³² AAI, referring to the *EchoStar-DIRECTV HDO*, indicates that a price freeze condition would not account for other dimensions of competition, such as quality and

³²⁶ *Id.*; see Letter from U.S. Sens. John F. Kerry, Benjamin Cardin, and Claire McCaskill, to Kevin J. Martin, Chairman, FCC (June 27, 2008) at 2 (recommending that the Commission impose requirements to make pricing transparent and verifiable) (“Sens. Kerry, Cardin, and McCaskill June 27, 2008 Ex Parte”); Tenn. Att’y Gen. July 3, 2008 Ex Parte at 3 (stating that the Commission should not endorse Applicants’ proposed methods of disclosing rate increases because it could be viewed as a preemption of states’ existing consumer protection laws).

³²⁷ See, e.g., Letter from Gigi B. Sohn, Pres., Public Knowledge, to Marlene H. Dortch, Secretary, FCC (June 18, 2008) (“Public Knowledge June 18, 2008 Ex Parte”); Letter from U.S. Rep. Edward J. Markey, Chairman, House Subcommittee on Telecommunications and the Internet, to Kevin J. Martin, Chairman, FCC (July 15, 2008) at 2 (recommending that the Commission adopt a six-year price freeze) (“Rep. Markey July 15, 2008 Ex Parte”).

³²⁸ Cf. *Cable Television Consumer Protection and Competition Act of 1992: Development of Competition and Diversity in Video Programming Distribution: Section 628(c)(5) of the Communications Act: Sunset of Exclusive Contract Prohibition, Review of the Commission’s Program Access Rules and Examination of Programming Tying Arrangements*, Report and Order and Notice of Proposed Rulemaking, 22 FCC Rcd 17791, 17795-96 ¶ 5 (2007); see also *Adelphia Order*, 21 FCC Rcd at 8276 ¶ 164; *News Corp.-Hughes Order*, 19 FCC Rcd at 555, 576 ¶¶ 179, 227. Although it is not part of Applicants’ voluntary commitment, we are conditioning our approval of the merger on the Commission’s ability to modify or extend the price cap beyond three years. We also are conditioning our approval of the transaction on the merged entity’s continuing adherence to the other commitments and conditions, as specified herein, which continue indefinitely.

³²⁹ Comments received as part of the rulemaking regarding HD Radio technology will help inform our decision regarding the level of competition in the radio market and the continuing need for a price cap. See Section VI.B.4, *infra*.

³³⁰ CEI Comments at 13.

³³¹ *Id.* at 6-8, 15.

³³² Common Cause Petition at 46-48.

innovation, and that it would not allow possible price reductions resulting from SDARS competition.³³³ NAB argues that the merged companies cannot be counted on to comply with any conditions, that pricing conditions are of dubious legality, and that approving the merger would contravene the Commission's preference for intramodal competition.³³⁴

110. We reject these arguments. As stated elsewhere in this document, on balance we find that with the voluntary commitments by Applicants and the other conditions we impose, the benefits of the merger outweigh the potential harms. Because SDARS is in a mode of growing penetration so as to reach profitability, the merged entity will have sufficient incentive to improve quality and innovate for the foreseeable future. Despite this incentive, [REDACTED].³³⁵ Because we do not have sufficient record evidence to conclude that the relevant market includes any other entities than Applicants themselves, we cannot rely upon intermodal competition post-merger to discipline prices. However, Applicants' voluntary commitment will prevent any harm that might result from a possible price increase, if it were intramodal competition that prevented the price increase before the merger.³³⁶ As far as non-compliance is concerned, if NAB or any party has evidence of such behavior, it may file a complaint with the Enforcement Bureau.

2. New Programming Packages and A La Carte Options

111. As discussed in Section VI.B.2., several commenters express concerns about whether the potential competitive harms of the merger can be mitigated by a condition requiring Applicants to offer new programming and a la carte packages.³³⁷ NAB and others state that the effectiveness of such a condition would depend on the array of channels to be included in the package, the attractiveness of the structure to customers, the pricing of the packages, the duration of the offering, the likelihood of changes after the expiration of any short-term conditions, whether equipment prices will increase to offset lost revenue, and whether there will be more advertising-supported programming to offset lost revenues.³³⁸ NAB also raises concerns about the types of programs that will be available in each type of package; whether customers will have to "buy through" a larger basic package before getting combined premium programs at a higher price; what channels will be dropped (reducing consumer choice); and, if no channels are dropped, what kind of audio degradation consumers will face.³³⁹ CFA asserts that the merged entity will likely cite "exclusive programming agreements" as a reason for not including their best programming in particular packages.³⁴⁰ C3SR questions whether customers will be able to migrate

³³³ AAI Comments at 29-30.

³³⁴ NAB Response to Comments at 25-28.

³³⁵ See, e.g., Sirius Mar. 4, 2008 Response to Information and Document Request at SIRIUS-FCC-SUPP.000214-000216, SIRIUS-FCC-SUPP.000311, and SIRIUS-FCC-SUPP.000393; XM Mar. 3, 2008 Response to Information and Document Request at XM-S-0000140-0000158 and XM-S-0000869.

³³⁶ We reject NPR's proposed condition to place the merged entity under Title II common carrier regulation. NPR Petition at 21-22. Applicants' voluntary commitments that we accept in this Order ameliorate the potential harms of this merger adequately, at a much lower cost and with less intrusiveness into the market.

³³⁷ NAB Petition at 37-38; NPR Comments at 19; Common Cause Petition at 42-43; CFA Supp. Comments at 4; C3SR Reply at 17-21, 23.

³³⁸ NAB Petition at 37-38.

³³⁹ *Id.* at 40.

³⁴⁰ CFA Supp. Comments at 4-5.

between packages and channel selections.³⁴¹

112. In order to address these concerns, Applicants have voluntarily committed to cap current prices and offer a la carte and new programming packages. The merged firm will maintain the current or proposed prices for each their existing and proposed product offerings (including regular, as well as premium channels), for a term of at least thirty-six (36) months after consummation of the merger. In addition, six months prior to the expiration of the commitment period, the Commission will seek public comment on whether the cap continues to be necessary in the public interest. The Commission will then determine whether it should be modified, removed, or extended. This cap on prices will protect consumers while they enjoy the immediate benefits of a la carte pricing options.³⁴² Applicants have voluntarily committed to introduce the first a la carte-capable receivers in the retail after-market and to begin offering a la carte programming within three months of the consummation of the merger.³⁴³ We find that Applicants' voluntary commitments will mitigate the potential harms identified by NAB and others and will provide a merger-specific benefit to consumers.

3. Interoperable Radio Receivers

113. Section 25.144 of the Commission's rules sets forth the licensing provisions for SDARS systems.³⁴⁴ As part of these provisions, each applicant for an SDARS license must certify that its system "includes a receiver that will permit end users to access all licensed satellite DARS systems that are operational or under construction."³⁴⁵ As the Commission stated when it adopted this rule, such receiver interoperability would "at the very least" permit consumers "to access the services from all licensed satellite DARS systems."³⁴⁶ The Commission stated that a receiver interoperability requirement was an alternative to mandating a specific receiver standard, concluding that a more flexible certification approach would promote innovative system design.³⁴⁷ In October 1997, the International Bureau granted each Applicant's application to provide SDARS, "subject to certification ... that its final user receiver design is interoperable with respect to [the other SDARS provider's] system final design."³⁴⁸

114. Since authorization in 1997, Applicants have twice filed letters with the Commission regarding their compliance with the Commission's receiver interoperability rule. By letter dated October 6, 2000, Applicants stated their "continued compliance" with the receiver interoperability rule and described their efforts towards making available interoperable receivers to the public.³⁴⁹ Applicants noted

³⁴¹ C3SR Reply at 23.

³⁴² See Section VI.B.1.

³⁴³ Applicants' June 13, 2008 Ex Parte at 2.

³⁴⁴ 47 C.F.R. § 25.144.

³⁴⁵ 47 C.F.R. § 25.144(a)(3)(ii).

³⁴⁶ *1997 SDARS Service Rules Order*, 12 FCC Rcd at 5797 ¶ 106.

³⁴⁷ *Id.* at 5795 ¶ 102. The Commission also stated that receiver interoperability would encourage consumer investment in SDARS equipment, would create economies of scale necessary to make SDARS receiving equipment affordable, and would promote competition by reducing transaction costs and enhancing consumers' ability to switch between competing SDARS providers. See *id.* at 5796 ¶ 103.

³⁴⁸ See *1997 XM Radio Authorization Order*, 13 FCC Rcd at 8851 ¶ 54; *1997 Sirius Authorization Order*, 13 FCC Rcd at 7995 ¶ 57.

³⁴⁹ Letter from John R. Wormington, Sr. Vice Pres., Eng. and Operations, XM and Robert D. Briskman, Exec. Vice Pres., Eng., Sirius, to Magalie Roman Salas, Secretary, FCC at 2, transmitted by Letter from Jennifer D. Hindin, Wiley Rein & Fielding, Counsel for Sirius, to Magalie Roman Salas, Secretary, FCC, IBFS File No. SAT-LOA-19900518-0003 (Oct. 6, 2000) ("XM/Sirius Oct. 6, 2000 Letter"). These efforts included plans to develop (continued....)

that they “do not control the actual manufacture, distribution and sale of receivers,” but instead license their receiver technology to radio manufacturers.³⁵⁰ As a result, they stated that they rely on such manufactures to produce SDARS receivers, as well as on automakers to install receivers and on retailers to market receivers for installation in existing vehicles.³⁵¹

115. By letter dated March 14, 2005,³⁵² Applicants reiterated that they had complied with the Commission’s interoperability rule “by including interoperable radios in their respective system designs.”³⁵³ They claimed that they had designed and licensed receiver systems with common components capable of receiving Sirius or XM programming, although not both simultaneously, and that they had invested nearly \$5,000,000 in a joint venture aimed at “combining XM’s and Sirius’s proprietary chipsets into a compact and efficient device capable of receiving both services.”³⁵⁴ They emphasized, however, that “the availability of interoperable radios ... will depend in large part on factors outside of the control of either XM or Sirius, including consumer demand for interoperability and the willingness of manufacturers to manufacture, distribute, market and sell interoperable radios after carefully weighing the integration, qualification, costs and efficiency considerations.”³⁵⁵

116. We note that each of Applicants subsidizes the manufacture and sale of receivers in various ways. Applicants state, however, that there is little incentive for each to subsidize the cost of interoperable receivers – as is done with single-system receivers – because of uncertainty whether the subsidy would be recouped since the purchaser might not subscribe to that particular Applicant’s service.³⁵⁶ Applicants state that the absence of subsidization has limited the interest of manufacturers in producing and distributing such interoperable receivers.³⁵⁷ As a result, no interoperable radio is currently on the market.

117. Commenters in this proceeding disagree whether Applicants’ efforts to date comply with the Commission’s provisions regarding radio receiver interoperability. Applicants argue that the interoperability requirement mandates that an interoperable receiver be designed, but does not require the production, distribution, marketing, or sale of such a receiver, which Applicants claim is outside of their

(Continued from previous page) _____

interoperable chipsets capable of receiving both services and an agreement to introduce interim radios that would include a common wiring harness, head unit, antenna, and an interchangeable trunk-mounted box containing processing elements for both company’s signals. *Id.* at 4.

³⁵⁰ XM/Sirius Oct. 6, 2000 Letter at 3.

³⁵¹ *Id.*

³⁵² Letter from William Bailey, Sr. Vice Pres., Reg. and Gov’t Affairs, XM and Patrick L. Donnelly, Exec. Vice Pres. and Gen. Counsel, Sirius, to Thomas S. Tycz, Chief, Sat. Div., Int’l Bur., FCC (Mar. 14, 2005) at 1 (“XM/Sirius Mar. 14, 2005 Letter”). This letter responded to a request from the International Bureau to the Applicants to provide “the current status of their efforts to develop an interoperable receiver” and “a clear timeframe for making such an interoperable receiver available to the public.” *See XM 2005 Authorization Order*, 20 FCC Rcd at 1625 ¶ 12.

³⁵³ XM/Sirius Mar. 14, 2005 Letter at 1.

³⁵⁴ *Id.* at 1-2. Applicants stated that they expected that a prototype for this type of interoperable radio would be completed in 2005. *Id.* at 2.

³⁵⁵ *Id.* at 2-3.

³⁵⁶ Application at 16.

³⁵⁷ *Id.* In addition, Applicants state that automobile manufacturers have not opted to include interoperable receivers in their vehicles. *Id.*

control.³⁵⁸ Relying on their October 6, 2000 and March 14, 2005 letters, Applicants maintain that they have complied with the receiver interoperability requirement by designing an interoperable receiver.³⁵⁹ Other commenters contend that Applicants have not satisfied the receiver interoperability requirement contained in the Commission's rules.³⁶⁰ For example, NAB asserts that the receiver interoperability provision requires both the development and the public availability of an interoperable receiver and that, in any event, the design process for an interoperable receiver is not complete.³⁶¹ Another commenter claims that existing receivers made available to the public are already capable of interoperability, despite claims by Applicants to the contrary.³⁶²

118. In addition, C3SR filed a letter on May 27, 2008, alleging that Applicants have not been truthful or candid in their representations regarding compliance with the Commission's receiver interoperability requirement.³⁶³ C3SR states that documents submitted by Applicants demonstrate that instead of complying with the interoperability requirement, Applicants [REDACTED].³⁶⁴ In particular, C3SR claims that the documents show that Applicants concealed the [REDACTED].³⁶⁵ C3SR states that the documents also demonstrate [REDACTED].³⁶⁶ C3SR urges the Commission to designate the merger applications for hearing and to commence an investigation into whether Applicants lacked candor in their representations to the Commission in the Merger Applications and whether the merger is contrary to the public interest because it furthers a conspiracy to restrain trade.³⁶⁷ In the alternative, if the Commission does not designate the applications for hearing or investigate further, C3SR requests that the Commission impose certain remedies in response to the alleged misconduct, including disgorging profits resulting

³⁵⁸ See Joint Opposition at 95-96.

³⁵⁹ Application at 15-16 (citing to the XM/Sirius Mar. 14, 2005 and Oct. 6, 2000 Letters).

³⁶⁰ Blue Sky Reply at 2-3; Common Cause Petition at 45-46; NABOB Petition at 13-14; King Comments at ¶¶ 8, 82-84; Letter from U.S. Rep. Mike Doyle, to Kevin J. Martin, Chairman, FCC (May 30, 2007) at 1.

³⁶¹ NAB Petition at 54 (quoting XM's SEC Form 10-K for the year ended Dec. 31, 2006 (stating "[w]e have signed an agreement with SIRIUS Radio to develop a common receiver platform combining the companies' proprietary chipsets, but the companies have not completed the final design of an operational radio using this platform."); see also Letter from Jane E. Mago, Sr. Vice Pres., and Gen. Counsel, Legal and Reg. Affairs, NAB, to Marlene H. Dortch, Secretary, FCC (June 27, 2008); Memorandum from David H. Solomon, Wilkinson Barker Knauer, LLP, to David K. Rehr, Pres., NAB at 7-9, transmitted by Letter from Larry Walke, Assoc. Gen. Counsel, Legal & Reg. Affairs, NAB, to Marlene H. Dortch, Secretary, FCC (Apr. 6, 2007) ("NAB Apr. 6, 2007 Ex Parte, Solomon Memo"); The Proposed Sirius-XM Merger White Paper, the Carmel Group, to NAB, Att. at 7, transmitted by Letter from Larry Walke, to Marlene H. Dortch, Secretary, FCC (July 3, 2007) ("NAB July 3, 2007 Ex Parte, Carmel White Paper").

³⁶² Michael Hartleib argues that many of the XM and Sirius radios in service today are capable of receiving "either/or" service and signals via a firmware update to the receivers. Letter from Michael Hartleib, to FCC at 4; see also Hartleib Apr. 22, 2007 Petition at 4.

³⁶³ Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Marlene H. Dortch, Secretary, FCC at 3-8, transmitted by Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Jamila Bess Johnson, Med. Bur., FCC (May 27, 2008) ("C3SR May 27, 2008 Ex Parte").

³⁶⁴ C3SR May 27, 2008 Ex Parte at 1.

³⁶⁵ *Id.* at 5-6. C3SR states that the documents also show that Applicants [REDACTED]. See *id.* at 7.

³⁶⁶ *Id.* at 7.

³⁶⁷ Letter from Julian L. Shepard, Williams Mullen, Counsel for C3SR, to Marlene H. Dortch, Secretary, FCC (June 4, 2008) at 2.

from the alleged FCC rule violations,³⁶⁸ restitution to the public,³⁶⁹ an order requiring the adoption of a corporate compliance plan,³⁷⁰ and divestiture of one of the existing satellite systems.³⁷¹

119. Applicants respond that they have fully complied with the Commission's interoperability requirement and that the documents cited by C3SR simply reflect the substantial efforts that Applicants have taken in developing an interoperable receiver.³⁷² They acknowledge building and developing a prototype of an interoperable receiver through a Joint Development Agreement, but have not taken the ultimate step of bringing such an interoperable radio to market.³⁷³ Applicants deny that interoperable receivers designed under the Joint Development Agreement could be sold at [REDACTED] since the cost cited in the documents cited by C3SR included [REDACTED].³⁷⁴ Applicants state that the cost did not include [REDACTED], and that existing receivers sold by Applicants are available at prices significantly less than [REDACTED].³⁷⁵ Applicants also state that the documents cited by C3SR reflect only the aspirations of one person who was directed to develop interoperable technology – not to evaluate the distribution or sale of interoperable radios – and that the views did not represent the views of

³⁶⁸ *Id.* at 2-3. C3SR argues that the merged entity should be required to disgorge profits accrued as a result of [REDACTED] including treble damages for such actions. C3SR estimates the penalties would be in excess of \$250,000,000. *Id.* at 3.

³⁶⁹ *Id.* at 2-4. C3SR requests that the merged entity should be required to reimburse the public for the misconduct C3SR alleges, in the form of a monetary restitution (including interest) to the Federal treasury to compensate for the loss of spectrum auction revenue value resulting from the lack of interoperable radios in the market. C3SR argues that the auction revenues received by the Federal government as a result of the SDARS auction were lower than they would have been had the spectrum been auctioned without the interoperability requirement. *Id.* at 2-3. C3SR estimates the difference in value of approximately \$267 million, and argues this amount should be required as payment from the merged entity, along with eleven years of interest on this sum. *Id.* at 4. C3SR further argues that the merged entity should be required to compensate consumers directly by providing all subscribers with a new interoperable radio device, "with comparable quality and features to replace each non-interoperable satellite radio purchased in commerce," at no charge, and to provide interoperable replacement units or refunds to consumers who purchased more than one non-interoperable receiver. *Id.*

³⁷⁰ *Id.* at 2-3. C3SR argues that the merged entity should be required to adopt a compliance plan within 30 days of consummation requiring the merged entity to ensure truthfulness and accuracy in future communications with the FCC and permanently dismissing all officers, directors, and employees of Applicants who participated in, knew of, or conspired concerning the alleged violations of the FCC rules.

³⁷¹ *Id.* at 4-5. C3SR requests that the merged entity be required to divest itself of one of the two satellite licenses in order to "restore full competition to the SDARS market." *Id.* at 4. C3SR further states that as part of the divestiture, the merged entity should be required to cease exclusive agreements with programmers, retailers, and manufacturers, adhere to temporary restrictions on price increases and advertising limits, and abide by new program access requirements to be developed and adopted by the Commission in order to permit a new SDARS competitor with programming to be competitive with the merged entity in the short term. *Id.* at 4-5.

³⁷² Letter from Robert L. Pettit, Counsel for Sirius, and Gary M. Epstein, Counsel for XM, to Marlene H. Dortch, Secretary, FCC, transmitted by Letter from Jennifer D. Hindin, Wiley Rein LLP, to Marlene H. Dortch, Secretary, FCC (June 6, 2008) ("Applicants' June 6, 2008 Ex Parte").

³⁷³ *Id.* at 3.

³⁷⁴ *Id.* at 6.

³⁷⁵ *Id.* (stating that a Sirius satellite radio is available nationwide for approximately \$29, and that the most expensive comparable Sirius and XM radios cost less than \$170).

Applicants.³⁷⁶ Furthermore, Applicants claim that C3SR's pleading is procedurally and substantively deficient and should be dismissed.³⁷⁷

120. We conclude that Section 25.144(a)(3)(ii) requires Applicants to make an interoperable receiver commercially available. As stated above, the rule requires each applicant to "[c]ertify that its satellite DARS system includes a receiver that will permit end users to access all licensed satellite DARS systems that are operational or under construction."³⁷⁸ The rule's reference to "a receiver that will permit end users to access all licensed satellite DARS systems" also indicates that consumer availability is required,³⁷⁹ as end users cannot use a receiver that is not commercially available. The Bureau's references in 1997 to Sirius's expressed "commitment to work with all interested parties to insure that the SDARS receivers will permit customers to access both systems,"³⁸⁰ and in 2005 to the need for Sirius and XM to identify "a clear timeframe for making such an interoperable receiver available to the public,"³⁸¹ also support this interpretation. The 1997 condition that "final user receiver design" be interoperable³⁸² merely reflects the recognition that Sirius and XM still were designing receivers at the time: the Bureau did not intend (nor did it have authority) to modify the rule to require only the design of an interoperable receiver.³⁸³

121. Notwithstanding the rule's express language requiring that end users have access to receivers that can access all licensed satellite DARS systems, we do not believe that Applicants' interpretation of the receiver interoperability mandate as a design requirement was unreasonable, under the circumstances. As indicated above, Applicants do not manufacture or distribute SDARS receivers, and the 1997 condition requires that "final user receiver design" be interoperable. Further, the Commission did not explicitly require them to assure consumer availability of an interoperable receiver or require that all SDARS receivers sold in interstate commerce be interoperable. Moreover, the Commission never specified a deadline for compliance.

122. Based on our examination of the record, we are also not persuaded that C3SR's filing raises a substantial and material question of fact that requires a hearing before the Commission can make

³⁷⁶ *Id.* at 5, 7. Applicants also provide an affidavit from the author of the documents cited by C3SR which states that the documents "did not, and were not intended to, reflect the business judgment of Sirius or XM, and they were never endorsed or otherwise adopted by Sirius or XM." *Id.*, Decl. of Michael DeLuca at ¶ 2.

³⁷⁷ Specifically, Applicants claim that C3SR's pleading was a *de facto* petition to deny that was not filed within the requisite 30-day period after public notice of acceptance of Applicants' merger applications. Applicants' June 6, 2008 Ex Parte at 8-9. Applicants also assert that the filing is substantively deficient because it does not contain a showing supported by affidavit by a person with personal knowledge, but instead relies on "speculative statements and surmised interpretation." *Id.* at 9-10 (citing 47 U.S.C. § 309(d)(1)).

³⁷⁸ 47 C.F.R. § 25.144(a)(3)(ii).

³⁷⁹ 1997 *SDARS Service Rules Order*, 12 FCC Rcd at 5797 ¶ 106 ("[A]t the very least, consumers should be able to access the services from all licensed satellite DARS systems and our rule on receiver inter-operability accomplishes this.").

³⁸⁰ 1997 *Sirius Authorization Order*, 13 FCC Rcd at 7990 ¶ 42.

³⁸¹ 2005 *XM Authorization Order*, 20 FCC Rcd at 1625 ¶ 12.

³⁸² 1997 *XM Authorization Order*, 13 FCC Rcd at 8851 ¶ 54; 1997 *Sirius Authorization Order*, 13 FCC Rcd at 7995 ¶ 57.

³⁸³ See 1997 *Sirius Authorization Order*, 13 FCC Rcd at 7990 ¶ 42.

the required public interest determination in this proceeding.³⁸⁴ First, neither the references to [REDACTED] nor the information that the documents reveal as to the joint venture company's activities reflect a lack of candor.³⁸⁵ Contrary to C3SR's argument, the requirement that Applicants make an interoperable receiver commercially available was not "unambiguous," as the above analysis indicates, and the general language of the joint venture agreement does not cast significant doubt on Applicants' contention as to how they interpreted that requirement.³⁸⁶ In addition, we perceive no discrepancy between the representations in Applicants' March 14, 2005 letter to the Commission concerning the status of their joint venture activities and later documents cited by C3SR, a presentation to the joint venture board and several "white papers" discussing potential means of distributing interoperable receivers.³⁸⁷ As C3SR acknowledges, there is a time lag between the documents, and in any event we are not persuaded that Applicants had a duty under Section 1.65 of the Commission's rules to disclose an internal presentation or "white papers" prepared by the joint venture that did not reflect the companies' actual business plans or conclusions.³⁸⁸

123. C3SR urges the Commission to bring the documents in question to the attention the Department of Justice, the antitrust enforcement authority, arguing that they warrant antitrust investigation under Section 1 of the Sherman Act.³⁸⁹ [REDACTED] Further, we are not persuaded that the documents cited by C3SR otherwise provide sufficient support for their allegations. The documents reflect [REDACTED].³⁹⁰ These estimates do not reflect that Applicants could have made an interoperable receiver available to the mass market, without any subsidy, at a cost comparable to that of commercially available Sirius and XM receivers. As Applicants point out, [REDACTED].³⁹¹ C3SR also maintains that the documents reflect [REDACTED] does not contradict Applicants' representations that the mass market availability of interoperable radios depends in large part on factors outside of their control.³⁹² Finally, although C3SR characterizes Applicants' decisions not to make an interoperable receiver commercially available in 2006 and 2007 as improper, the documents are consistent with Applicants' rationale in the Merger Application that making an interoperable receiver commercially available would not make economic sense for them.³⁹³ [REDACTED]; there is no evidence that

³⁸⁴ See *Serafyn v. FCC*, 149 F.3d 1213 (D.C. Cir. 1998). In light of our conclusion here, we need not address Applicants' claims that C3SR's pleading is procedurally deficient and should be dismissed.

³⁸⁵ C3SR May 27, 2008 Ex Parte at 4-6 (citing Sirius Nov. 16, 2007 Response to Information and Document Request I.B. at SIRIUS-FCC-I.B.003104; Sirius Apr. 10, 2008 Response to Information Request at SIRIUS-FCC-SUPP.001051-001052, 001060-001061, 001087).

³⁸⁶ See Sirius Nov. 16, 2007 Response to Information and Document Request I.B. at SIRIUS-FCC-I.B.003104-003139.

³⁸⁷ See C3SR May 27, 2008 Ex Parte at 4, n.16, Exh. 3, XM/Sirius Mar. 14, 2005 Letter; see also Sirius Apr. 10, 2008 Response to Information Request, SIRIUS-FCC-SUPP.001048-001090.

³⁸⁸ C3SR May 27, 2008 Ex Parte at 5; 47 C.F.R. § 1.65.

³⁸⁹ C3SR May 27, 2008 Ex Parte at 3.

³⁹⁰ Sirius Apr. 10, 2008 Response to Information Request at SIRIUS-FCC-SUPP.001061-001071; SIRIUS-FCC-SUPP.001078-001080.

³⁹¹ Applicants' June 6, 2008 Ex Parte at 6-7.

³⁹² Sirius Apr. 10, 2008 Response to Information Request at SIRIUS-FCC-SUPP.001060-001070; 001084-001089.

³⁹³ Application at 15-16; Joint Opposition at 21-22.

Applicants ever had a business plan for mass market deployment.³⁹⁴ [REDACTED]³⁹⁵ Under the circumstances, there is not a substantial question of fact as to whether the companies' decisions not to go forward, in order to avoid creating the perception of such a change, were improper.

124. Applicants have voluntarily committed that the combined entity will offer for sale an interoperable receiver in the retail aftermarket within nine months of the consummation of the merger.³⁹⁶ As a result, subscribers who already have purchased non-interoperable receivers will be able to transition to a receiver that has the ability to receive either of the complete programming offerings that the merged entity will offer without having to purchase two separate receivers. In light of this voluntary commitment, we dismiss a complaint filed by Michael Hartleib that seeks enforcement of the interoperability mandate.³⁹⁷ We conclude that Applicants' voluntary commitment to establish a deadline to ensure the commercial availability of an interoperable receiver will enable and expedite realization of the full benefits of the merger, such as more efficient use of the SDARS spectrum.³⁹⁸ We also find this commitment satisfies the request of commenters that commercial deployment of interoperable receivers by the merged entity be prompt and subject to a stringent timeline.³⁹⁹

125. We believe that the merged entity will adhere to this voluntary interoperability commitment and bring its system into compliance with the Commission's interoperability rule, despite commenters' views to the contrary.⁴⁰⁰ Applicants' voluntary interoperability commitment is clear in its scope and deadline for implementation, which should remove any uncertainty as to what is necessary for compliance.⁴⁰¹ We decline to impose the additional receiver filtering requirements advocated by NextWave Wireless ("NextWave").⁴⁰² We observe that the Commission previously has declined to adopt SDARS receiver standards.⁴⁰³ Furthermore, the issue underlying NextWave's proposal (that is, the potential for interference between SDARS licensees and adjacent terrestrial wireless services) is the subject of a pending rulemaking proceeding, and any filtering obligations are best addressed in the

³⁹⁴ Sirius Apr. 10, 2008 Response to Information Request at SIRIUS-FCC-SUPP.001061-001072.

³⁹⁵ *Id.* at SIRIUS-FCC-SUPP.001060, 001088.

³⁹⁶ Applicants' July 25, 2008 Ex Parte at 2. Applicants also voluntarily commit to make available, immediately after the merger, the design and the specifications for an interoperable radio available for license to equipment manufacturers. *Id.*

³⁹⁷ Michael Hartleib states that if the Commission does not approve the merger, then the Commission must enforce the interoperability mandate. Michael Hartleib July 5, 2007 Petition for Declaratory Ruling at 5.

³⁹⁸ See Section V.B.3, *supra*.

³⁹⁹ See Tenn. Att'y Gen. July 3, 2008 Ex Parte at 3.

⁴⁰⁰ NAB Apr. 6, 2007 Ex Parte, Solomon Memo at 7-9; NAB July 3, 2007 Ex Parte, Carmel White Paper at 7; NABOB Petition at 13-14; Letter from Lawrence R. Sidman, Paul Hastings, Counsel for Clear Channel, to Kevin J. Martin, Chairman, FCC (July 18, 2008) at 1-2 (proposing that the Commission require applicants to separately maintain and operate assets and businesses until remedial actions are complete and that it reserve the right for the Commission to appoint a third party to oversee compliance with the interoperability requirement).

⁴⁰¹ Although Applicants previously argued that interoperability has no relevance to the merger and should be addressed through traditional enforcement procedures, see Joint Opposition at 98-99 (citing *Adelphia Order*, 21 FCC Rcd at 8306 ¶ 240; *SBC-Ameritech Order*, 14 FCC Rcd at 14950 ¶ 571), we note that the precedents that they cite are distinguishable because SDARS receiver interoperability presently is not the subject of another proceeding before the Commission, and the issue relates entirely to the parties before the Commission in the merger proceeding.

⁴⁰² Letter from Jennifer M. McCarthy, Vice Pres., Reg. Affairs, NextWave, to Marlene H. Dortch, Secretary, FCC (June 18, 2008) ("NextWave June 18, 2008 Ex Parte").

⁴⁰³ *1997 SDARS Service Rules Order*, 12 FCC Rcd at 5795 ¶ 102.

context of that proceeding.⁴⁰⁴

4. Open Access

126. As discussed in more detail in Section IV.B.2., USE proposes, as a condition to the merger, that the merged entity provide open access of the technical specifications of its devices and network so that receiver manufacturers may choose the receivers they develop for consumers.⁴⁰⁵ USE claims that this condition will prevent a potential vertical monopoly in the manufacturing and distribution of satellite receivers and the merged entity from increasing the cost of equipment paid by consumers.⁴⁰⁶ MAP and other commenters support USE's request.⁴⁰⁷ Senator Christopher S. Bond and U.S. Representatives John Dingell and Edward Markey also support a condition that would allow any device manufacturer to develop SDARS equipment.⁴⁰⁸ They support a condition that would allow device manufacturers to incorporate additional technology in receivers such as HD Radio technology, iPod ports, and Internet connectivity, so long as the technology would not harm the merged entity's network.⁴⁰⁹ Finally, Reps. Dingell and Markey propose that the Commission bar the merged entity from entering into exclusive contracts that would, for example, prohibit the inclusion of HD Radio chips or iPod compatibility in satellite radio receivers.⁴¹⁰

127. iBiquity Digital Corp. ("iBiquity")⁴¹¹ requests that we condition the merger on mandating that the merged entity require manufacturers to include HD Radio™ technology for digital AM and FM radio in all satellite receivers containing analog AM or FM radio technology.⁴¹² Other commenters

⁴⁰⁴ See *Amendment of Part 27 of the Commission's Rules to Govern the Operation of Wireless Communications Services in the 2.3 GHz Band; Establishment of Rules and Policies for the Digital Audio Radio Satellite Service in the 2310-2360 MHz Frequency Band*, Notice of Proposed Rulemaking and Second Further Notice of Proposed Rulemaking, 22 FCC Rcd 22123 (2007) ("2007 SDARS Second Further Notice").

⁴⁰⁵ See USE Reply at 8.

⁴⁰⁶ USE Jan. 15, 2008 Ex Parte at 1.

⁴⁰⁷ Letters from Parul P. Desai & Andrew Jay Schwartzman, MAP, and Michael Calabrese, New America Foundation, to Marlene H. Dortch, Secretary, FCC (Jan. 29, 2008, Feb. 27, 2008, Mar. 4, 2008, and Mar. 24, 2008); Letters from Gigi B. Sohn, President, Public Knowledge, to Marlene H. Dortch, Secretary, FCC (Mar. 4, 2008 and May 20, 2008); Letter from Alex Nogales, President and CEO, National Hispanic Media Coalition, to Marlene H. Dortch, Secretary, FCC (May 8, 2008) at 1; Letter from State Att'y Gens. Robert McKenna (Washington) and Richard Blumenthal (Connecticut), to Marlene H. Dortch, Secretary, FCC (May 8, 2008) at 1 ("Att'y Gens. May 8, 2008 Ex Parte").

⁴⁰⁸ Letter from U.S. Reps. John D. Dingell and Edward J. Markey, to Kevin J. Martin, Chairman, FCC (May 1, 2008) at 2 ("Reps. Dingell and Markey May 1, 2008 Ex Parte"); Letter from U.S. Sen. Christopher S. Bond, to Kevin J. Martin, Chairman, FCC (June 4, 2008) at 1 ("Sen. Bond June 4, 2008 Ex Parte").

⁴⁰⁹ Reps. Dingell and Markey May 1, 2008 Ex Parte at 2; Sen. Bond June 4, 2008 Ex Parte at 1.

⁴¹⁰ Reps. Dingell and Markey May 1, 2008 Ex Parte at 2.

⁴¹¹ iBiquity is the "developer and licensor of HD Radio technology, which is transforming AM and FM broadcasting with vastly increased number of channels, drastically improved sound quality and an array of new data services." iBiquity, <http://www.ibiquity.com/index.php>. We note that in 2002, the Commission formally selected IBOC technology developed by iBiquity as the technical format that will permit AM and FM radio broadcasters to introduce digital operations efficiently and rapidly. See *Digital Audio Broadcasting Systems and Their Impact on the Terrestrial Radio Broadcast Service*, First Report and Order, 17 FCC Rcd 19990, 19990 ¶ 1 (2002) ("DAB First Report").

⁴¹² Letter from Robert A. Mazer, Vinson & Elkins, Counsel for iBiquity, to Marlene H. Dortch, Secretary, FCC at 1 (May 1, 2008) ("iBiquity May 1, 2008 Ex Parte").

support the HD Radio condition.⁴¹³ iBiquity argues that HD Radio compatibility is necessary because post merger, the merged entity will be in a stronger position to restrict iBiquity's sale of HD Radio receivers and because it will have more cash to fund subsidies and incentives that could prevent the growth of the HD Radio technology.⁴¹⁴ For original equipment manufacture ("OEM") receivers, iBiquity proposes that the condition become effective within three years, and for all other satellite receivers, within one year.⁴¹⁵ Applicants object to iBiquity's proposed condition as an unnecessary intrusion on their business plans. In addition, Applicants argue that it will harm satellite radio's ability to compete in the audio entertainment market.⁴¹⁶ Pioneer also opposes iBiquity's proposal, explaining that it would "limit

⁴¹³ Sens. Kerry, Cardin, and McCaskill June 27, 2008 Ex Parte; Letter from U.S. Reps. Betty McCollum, Collin Peterson, Timothy Walz, James Oberstar, and Keith Ellison, to Kevin J. Martin, Chairman, FCC (June 27, 2008) ("Reps. McCollum, Peterson, Walz, Oberstar, and Ellison June 27, 2008 Ex Parte"); Att'y Gens. May 8, 2008 Ex Parte at 2; Rep. Markey July 15, 2008 Ex Parte at 1-2; Letter from U.S. Sen. Ted Stevens, to Kevin J. Martin, Chairman, FCC (July 15, 2008); Letter from U.S. Rep. Baron P. Hill, to Kevin J. Martin, Chairman, FCC (July 21, 2008); NPR Petition at 20-21. NPR suggests that the condition could encourage HD Radio deployment and consumer access to the technology, and may mitigate the merged entity's ability to increase prices or reduce the quality of service. *Id.* New ICO Satellite Services G.P. ("ICO"), the developer of an advanced hybrid service capable of providing wireless voice, data, video, and Internet services on mobile and portable devices, also requests that the Commission impose a condition prohibiting the merged entity from entering into exclusive agreements with automobile manufacturers that "have the effect of limiting the ability of other entities to provide competitive products or services." New ICO Comments at 2. Similarly, Slacker, Inc., which is developing a nationwide personal audio service, also requests that the Commission prohibit all current or future exclusive contracts between SDARS and car manufacturers. Slacker Comments at 3. As discussed herein, Applicants have agreed to not take any action that would prevent the inclusion of other audio technology in SDARS receivers, which resolves New ICO's and Slacker's concerns. Slacker also requests that the Commission prohibit car manufacturers from sitting on the board of directors of the merged entity. *Id.* We believe that Applicants' voluntary commitments resolve Slacker's primary concerns, and thus, we do not find it necessary to regulate the selection of board members for the merged entity.

⁴¹⁴ Letter from Robert A. Mazer, Vinson & Elkins, Counsel for iBiquity, to Marlene H. Dortch, Secretary, FCC (Dec. 20, 2007) at 1; Letter from Robert A. Mazer, Vinson & Elkins, Counsel for iBiquity, to Marlene H. Dortch, Secretary, FCC (Mar. 20, 2008) at 1; Letter from Robert A. Mazer, Vinson & Elkins, Counsel for iBiquity, to Marlene H. Dortch, Secretary, FCC (June 9, 2008) at 2. The HD Digital Radio Alliance agrees, explaining that the availability of HD Radio as a factory installed or factory authorized option in automobiles and other vehicles is very limited. Letter from Charles E. Biggio, Wilson Sonsini Goodrich & Rosati, Counsel for the HD Radio Alliance, to Marlene H. Dortch, Secretary, FCC (Jan. 24, 2008) at 2.

⁴¹⁵ iBiquity May 1, 2008 Ex Parte at 1. iBiquity also requests that the Commission require the merged entity to annually certify its compliance with the condition. *Id.* Earlier in this proceeding, iBiquity also proposed that the Commission require the merged entity to terminate all exclusive arrangements and, prospectively, that the Commission prohibit exclusive arrangements with suppliers, retailers, and vehicle manufacturers that could preclude the inclusion of HD Radio technology. Letter from Robert A. Mazer, Vinson & Elkins, Counsel for iBiquity, to Marlene H. Dortch, Secretary, FCC at 2 (Dec. 20, 2007) ("iBiquity Dec. 20, 2007 Ex Parte"). iBiquity reconsidered its position, however, stating that it does not believe that simply banning exclusive arrangements would ensure HD Radio technology would be included in SDARS receivers or would provide for a competitive landscape for terrestrial and satellite radio services. iBiquity May 1, 2008 Ex Parte at 2; iBiquity Jun. 9, 2008 Ex Parte at 1. iBiquity explains that its concern is focused not on formal contractual arrangements, but on existing business arrangements favoring satellite companies. *Id.* iBiquity argues that the merged entity "would have greater leverage to use these business relationships to disadvantage terrestrial digital radio." iBiquity May 1, 2008 Ex Parte at 2. iBiquity also does not support USE's open device proposal, arguing that it would not effectively ensure the distribution of HD Radio receivers to create a level playing field. Letter from Robert A. Mazer, Vinson & Elkins, Counsel for iBiquity, to Marlene H. Dortch, Secretary, FCC at 1 (June 6, 2008); iBiquity June. 9, 2008 Ex Parte at 1, 2.

⁴¹⁶ Joint Opposition at 101, n.358.

the breadth of radio product offerings to consumers, limit which radio component suppliers' products be designed into radios, have the effect of decreasing AM/FM tuning performance, unnecessarily increase costs to consumers uninterested in HD Radio and interfere with the useful and healthy free market mechanisms extant in radio electronics purchases."⁴¹⁷ Pioneer also argues that iBiquity's proposed phase-in periods do not provide sufficient time for typical design cycles for either retail or OEM receivers. Pioneer states that design cycles for retail equipment last from 18 to 24 months and OEM design cycles last significantly longer than the three years suggested by iBiquity.⁴¹⁸

128. In response to the concerns raised by commenters, Applicants have voluntarily committed to comply with certain open access conditions.⁴¹⁹ First, the merged entity, immediately after consummation of the merger, will permit any device manufacturer to develop equipment that can deliver the combined entity's satellite radio service. Device manufacturers also must be permitted to incorporate in satellite radio receivers any other technology that would not result in harmful interference with the merged entity's network, including HD Radio technology, iPod ports, Internet connectivity, or other technology. This principle of openness would serve to promote competition, protect consumers, and spur technological innovation. In addition, we believe that it is not enough simply to require the open development of satellite radio devices. To ensure that consumers have unfettered access to these devices, we will prohibit the merged entity from preventing such devices, and any features such devices might contain, from reaching consumers, through exclusive contracts or otherwise. We find that it would be contrary to the public interest, for example, to permit the merged entity to bar HD Radio chips or iPod compatibility from inclusion in a manufacturer's satellite radio device, whether that device is freestanding or installed in an automobile. Applicants shall provide, on commercially reasonable terms, the intellectual property to permit any device manufacturer to develop equipment that can deliver the merged entity's satellite radio service. The encryption, conditional access, and security technology is embedded in chip sets that can be purchased from third party manufacturers.

129. We conclude that Applicants' voluntary commitments and other conditions address many of the commenters' concerns.⁴²⁰ As we discussed in Section IV.B.2., the merger may provide the merged

⁴¹⁷ Letter from Adam Goldberg, Vice President, Gov. and Indus. Affairs, Pioneer North America, Inc., to Marlene H. Dortch, Secretary, FCC (May 28, 2008); *See also* Letter from Adam Goldberg, Vice Pres., Gov. and Indus. Affairs, Pioneer North America, Inc., to Marlene H. Dortch, Secretary, FCC at 2 (June 6, 2008) ("Pioneer Jun. 6, 2008 Ex Parte").

⁴¹⁸ Pioneer Jun. 6, 2008 Ex Parte at 1; *see also* Letter from Richard M. Lee, Exec. Dir., Satellite Radio Servs., General Motors Corp. and David W. Danzer, Grp. Vice Pres., Strategic and Product Planning, Toyota Motor Sales, USA, Inc., to Marlene H. Dortch, Secretary, FCC (July 10, 2008) at 1-2 (opposing an HD Radio mandate because no agreements between XM and the automobile manufacturers currently prohibit their ability to offer HD Radio and any mandate to do so would distort the normal incentives to cost reduce and improve the HD Radio product).

⁴¹⁹ Applicants' June 13, 2008 Ex Parte at 3; Applicants' July 25, 2008 Ex Parte at 2,3.

⁴²⁰ *See* Letter from Donald W. Riegle, Jr., Chairman, Gov't Relations, APCO Worldwide, to Kevin J. Martin, Chairman; Michael Copps, Commissioner; Jonathan Adelstein, Commissioner; Deborah Tate, Commissioner; and Robert McDowell, Commissioner, FCC (June 19, 2008); Letter from Charles H. Helein, Helein & Marashlian, LLC, Counsel for USE, to Marlene H. Dortch, Secretary, FCC (June 25, 2005). APCO and USE claim that Applicants' open access voluntary commitments are inadequate to promote competition or to spur technological innovation. For instance, they object to the right of the merged entity to require licensees to comply with its technical and quality assurance standards and tests, claiming that such in-house test will allow the merged entity to pick and choose among manufacturers based on its own standards, without oversight. APCO and USE ask that the Commission impose an open access condition immediately following approval of the merger, require independent certification testing and monitoring of compliance, prohibit the merged entity from setting prices for receivers, and prohibit it from manufacturing, selling, leasing, or distributing receivers; *see also* Sens. Kerry, Cardin, and McCaskill June 27, 2008 Ex Parte at 2 (seeking enforcement of the open access commitment); Letter from Gigi B. Sohn, President, (continued....)

entity with the ability and incentive to contract with fewer manufacturers to save on subsidies or other development and distribution costs. Such action would potentially reduce consumer choice for SDARS receivers and diminish current features or future innovations. Pursuant to Applicants' voluntary commitment, the merged entity will offer additional entities the option to license the intellectual property rights necessary to design and develop SDARS equipment. In addition to bringing more choices of receivers directly to consumers, this voluntary commitment may allow additional parties to directly negotiate with automobile makers, ultimately to the benefit of consumers. Given Applicants' open access voluntary commitment to allow additional parties to develop and design SDARS equipment and not to bar the inclusion of audio technology, including HD Radio technology, we conclude that discrimination by the merged entity is not likely to cause a public interest harm that warrants the imposition of additional conditions.

130. Though we are unpersuaded a case has been presented on this record of a merger-specific harm to HD Radio not remedied by the voluntary commitments and other conditions, we do believe important questions have been raised that warrant further examination in a separate proceeding. To this end, the Commission commits to initiating a notice of inquiry within 30 days from the adoption date of this Order to gather more information on issues including, but not limited to:

- Whether HD Radio chips or any other audio technology should be included in all satellite radio receivers;
- Whether satellite radio capability or any other audio technology should be included in all HD Radio receivers;
- The cost to auto manufacturers of including HD Radio chips;
- The cost to radio manufacturers of including HD Radio chips;
- Consumer demand for HD radio;
- The amount and type of programming available on HD Radio today, and that projected to be available over the next 3 years; and
- Whether the FCC has jurisdiction to mandate inclusion of HD Radio, satellite radio, or other audio technology.

While we do not adopt iBiquity's proposed condition in this Order, we note that our actions today do not diminish our commitment to the HD Radio technology. We continue to believe that HD Radio is an important technological development that enables terrestrial radio stations to deliver better audio fidelity, more robust transmission systems, and the possibility of new auxiliary services.⁴²¹

5. Third-Party Access to SDARS Capacity

131. *Overview.* Several commenters propose that the merger be conditioned on Applicants leasing a certain amount of their channel capacity to non-affiliated programmers.⁴²² The proposals

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Public Knowledge, to Marlene H. Dortch, Secretary, FCC (July 15, 2008) at 1 (seeking a 60-day time period for Applicants to comply with voluntary commitments, running from approval of the Application); Letter from Robert A. Mazer, Vinson & Elkins, Counsel for iBiquity, to Marlene H. Dortch, Secretary, FCC (July 25, 2008). We find that Applicants' voluntary commitments address our concerns.

⁴²¹ See *DAB First Report*, 17 FCC Rcd at 19991 ¶ 3. Throughout the proceeding, the Commission articulated its objective "to foster the development of a vibrant terrestrial digital radio service for the public and to ensure that radio stations successfully implement DAB." *DAB Second Report*, 22 FCC Rcd at 10346 ¶ 2. See Letter from Anne Lucey, Sen. Vice Pres. for Reg. Policy, CBS Corp., to Marlene H. Dortch, Secretary, FCC (July 24, 2008) (urging the Commission to initiate a rulemaking on access to HD Radio technology).

⁴²² See Prometheus Comments at 5; Letter from Parul Desai, Media Access Project, Counsel for Prometheus, to Marlene H. Dortch, Secretary, FCC (Mar. 27, 2008) at 1 ("Prometheus Mar. 27, 2008 Ex Parte"); TAP Petition at 7; (continued....)

advanced by the commenters include two related, but functionally distinct, mechanisms for permitting third parties to access to the SDARS system. Some commenters recommend adopting a mechanism similar to the Commission's cable leased access regulations,⁴²³ while others propose a system akin to the Open Video System ("OVS") whereby a certain percentage of the total system capacity would be leased on a long-term basis to a third party. Although Applicants have asserted that such conditions are unnecessary,⁴²⁴ they have voluntarily committed to enter into long-term leases with one or more third parties for use of a percentage of the combined entity's capacity.⁴²⁵ We find that Applicants' voluntary commitment to provide such leases directly serves the public interest and will further the Commission's goals of fostering competition and diversity on the SDARS platform.

132. *Leased Capacity to Single Entity.* Georgetown Partners, LLC ("Georgetown") proposes a long-term capacity leasing mechanism somewhat similar in function to the Commission's rules governing Open Video Systems in the multichannel video programming distribution ("MVPD") context.⁴²⁶ Georgetown proposes that the Commission condition the grant of the merger on Applicants leasing "at least 20 percent of the merged entities' total licensed bandwidth capacity, as measured in megahertz, ... on an exclusive basis to an entity that is totally independent of and unaffiliated with Sirius or XM."⁴²⁷ Such a condition, Georgetown argues, would provide alternative access to satellite radio and counteract the merged entity's monopoly over the SDARS service.⁴²⁸ Georgetown would require that the lease be consummated before the merger closes, would require the lease term to be coterminous with Applicants' FCC licenses, and would require certain other conditions to ensure the quality of the lessee's service on Applicants' system.⁴²⁹ The proposed service would compete with that of Applicants by offering advertising-supported programming available to any consumer with a satellite radio receiver at no cost, regardless of whether the listener is a subscriber to Applicants' service.⁴³⁰ The terms of the lease, under Georgetown's plan, would be privately negotiated between Applicants and the lessee and would be

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Entravision Comments at 22; Letter from Chester C. Davenport, Managing Dir., Georgetown, to Marlene H. Dortch, Secretary, FCC (Oct. 18, 2007) at 3-5 ("Georgetown Oct. 18, 2007 Ex Parte"); Letter from David R. Siddall, Paul Hastings, Counsel for Georgetown, to Kevin J. Martin, Chairman; Michael Copps, Commissioner; Jonathan Adelstein, Commissioner; Deborah Tate, Commissioner; and Robert McDowell, Commissioner, FCC (Nov. 20, 2007) at 6-7 ("Georgetown Nov. 20, 2007 Ex Parte").

⁴²³ See 47 C.F.R. §§ 76.970-977; see also Communications Act, § 612 (47 U.S.C. § 532).

⁴²⁴ Letter from Robert L. Pettit, Wiley Rein LLP, Counsel for Sirius, to Kevin J. Martin, Chairman; Michael Copps, Commissioner; Jonathan Adelstein, Commissioner; Deborah Tate, Commissioner; and Robert McDowell, Commissioner, FCC (Nov. 13, 2007), Att. Joint Ex Parte Submission at 11-13 ("Applicants' Nov. 13, 2007 Ex Parte"); Joint Opposition at 100.

⁴²⁵ Applicants' June 13, 2008 Ex Parte at 3.

⁴²⁶ See 47 C.F.R. § 76.1500, *et. seq.* Under the Commission's rules, OVS operators are required to open access to a percentage of the system capacity for use by non-affiliated third parties for competing OVS services. 47 C.F.R. § 76.1503.

⁴²⁷ Letter from David R. Siddall, Paul Hastings and Andrew G. Berg, Sonnenschein Nath & Rosenthal, LLP, Counsel for Georgetown, to Marlene H. Dortch, Secretary, FCC (Mar. 17, 2008) at 2 ("Georgetown Mar. 17, 2008 Ex Parte"); see also Letter from David R. Siddall, Sonnenschein Nath & Rosenthal LLP, Counsel for Georgetown Partners, to Marlene H. Dortch, Secretary, FCC (July 10, 2008) (claiming that Sirius' allocation of capacity to the Backseat TV service demonstrates that the merged firm could allocate 20 percent of its capacity for this purpose) ("Georgetown July 10, 2008 Ex Parte"); see also n.499, *infra*.

⁴²⁸ Georgetown Mar. 17, 2008 Ex Parte at 3.

⁴²⁹ *Id.* at 2.

⁴³⁰ *Id.*

submitted to the DOJ and the Commission for approval.⁴³¹ Finally, should it be the lessee, Georgetown commits to complying with the “Commission’s indecency provisions as applied to broadcasters.”⁴³² Other commenters filed in support of a third-party leased access condition.⁴³³

133. *Leased Access Model.* Prometheus and Entravision each propose that the Commission apply a leased access regime patterned after the system used in cable television. Prometheus does not provide specific mechanisms for implementing leased access, but rather advocates generally that Applicants be required to “provide a reasonable amount of capacity at true market rates for commercial programming, over which [Applicants] would not exercise any editorial control.”⁴³⁴ Such a system would “offer to those who feel that satellite service is the preferred programming platform an opportunity to make use of it.”⁴³⁵ Applicants originally opposed the third-party leased access proposals advanced by Prometheus and Entravision and argued that they are counter to the public interest.⁴³⁶

134. *Discussion.* Though Applicants originally opposed the third-party access proposals described above, Applicants submitted a voluntary commitment to enter into long-term leases or other agreements to provide a Qualified Entity⁴³⁷ or Entities rights to 4 percent of the full-time audio channels on the Sirius platform and on the XM platform, respectively (which currently represents six channels on the Sirius platform and six channels on the XM platform), and to enter into such leases within four

⁴³¹ *Id.* at 2-3. We note that its request for DOJ approval of leases is moot considering that the DOJ closed its investigation of the transaction without further action. See Mar. 24, 2008 DOJ Press Release.

⁴³² Georgetown Mar. 17, 2008 Ex Parte at 2. Georgetown has also agreed to facilitate the distribution of additional leased channel capacity dedicated to non-commercial and educational use, as advanced by MAP and Public Knowledge. Letter from Chester Davenport, Managing Dir., Georgetown, to Kevin J. Martin, Chairman, FCC (May 13, 2008) at 1-2 (“Georgetown May 13, 2008 Ex Parte”); see also Letter from Andrew J. Schwartzman and Parul Desai, MAP, and Gigi B. Sohn, Public Knowledge (May 14, 2008) (concurring with Georgetown’s May 13, 2008 proposal). See also Section VI.B.6, *infra*. Georgetown commits to “work with MAP, PK, and other appropriate parties to establish a structure suitable for selection among eligible programmer applicants if more apply than the FCC designated capacity for educational non-commercial channels can accommodate” and, at Georgetown’s expense, accept delivery of the non-commercial leased program streams, encode the programming, and deliver it to the merged entity for broadcast. See Georgetown May 13, 2008 Ex Parte at 2.

⁴³³ See TAP Petition at 7 (stating Applicants “might be required to convey control over some portion of its bandwidth – such as one quarter (6.25 MHz) – and to provide an independent minority competitive provider carriage services.”); see also Letter from U.S. Rep. Sanford D. Bishop, Jr., to Kevin J. Martin, Chairman, FCC (Nov. 7, 2007) at 1; Letter from U.S. Rep. Edolphus “Ed” Towns, to Kevin J. Martin, Chairman, FCC (May 5, 2008) at 1; Letter from U.S. Rep. Bobby L. Rush, to Kevin J. Martin, Chairman, FCC (May 6, 2008) at 1; Letter from State Att’y Gens. Douglas F. Gansler (Maryland), Richard Blumenthal (Connecticut), Marc Dann (Ohio), and Rob McKenna (Washington), to Kevin J. Martin, Chairman, FCC (Apr. 24, 2008) at 2; Letter from U.S. Rep. G. K. Butterfield, to Kevin J. Martin, Chairman, FCC (Apr. 15, 2008) at 1; Letter from U.S. Reps. Albert R. Wynn, Lacy Clay, G.K. Butterfield, Elijah Cummings, Bennie Thompson, and David Scott, to Kevin J. Martin, Chairman, FCC (Nov. 9, 2007) at 1-2; Letter from U.S. Rep. Corinne Brown, to Kevin J. Martin, Chairman, FCC (Nov. 9, 2007) at 1; Letter from U.S. Rep. Gregory W. Meeks, to Kevin J. Martin, Chairman, FCC (May 19, 2008) at 1.

⁴³⁴ Prometheus Comments at 5. Prometheus also states its preference to lease channels on a per channel basis, where the combined entity would hold an auction to allocate the channels, and that the FCC separately license the leasees and treat the service as a broadcast service. Prometheus Mar. 27, 2008 Ex Parte at 1.

⁴³⁵ Entravision Comments at 22.

⁴³⁶ Joint Opposition at 100.

⁴³⁷ A “Qualified Entity” includes any entity that is majority-owned by persons who are African American, not of Hispanic origin; Asian or Pacific Islanders; American Indians or Alaskan Natives; or Hispanics.

months of the consummation of the merger.⁴³⁸ Applicants further voluntarily commit that, as digital compression technology enables the combined company to broadcast additional full-time audio channels, the combined company will ensure that 4 percent of full-time audio channels on the Sirius platform and the XM platform are reserved for a Qualified Entity or Entities, provided that in no event will the combined company reserve fewer than six channels on the Sirius platform and six channels on the XM platform.⁴³⁹ The Qualified Entity or Entities will not be required to make any lease payments for such channels, and the combined company will not be involved in the selection of the Qualified Entity or Entities.⁴⁴⁰ The combined company will have no editorial control over these channels.⁴⁴¹

135. We find that Applicants' voluntary commitment to provide leased channel capacity to other programmers addresses the concerns voiced by Media Access Project, Public Knowledge, and others who contend that the consolidation of the SDARS service to a single provider will harm programming diversity.⁴⁴² We further find that Applicants' voluntary commitment is consistent with the Commission's stated goals to promote diversity as described in the recently adopted Diversity Order, which took steps to promote diversity in the broadcasting context and solicited comment on additional

⁴³⁸ Applicants' June 13, 2008 Ex Parte at 3.

⁴³⁹ *Id.*

⁴⁴⁰ *Id.*

⁴⁴¹ *Id.*

⁴⁴² See Letter from Andrew J. Schwartzman, MAP, to Marlene H. Dortch, Secretary, FCC (June 18, 2008) at 1 (stating that MAP and Public Knowledge prefer that an independent party select unaffiliated minority programmers, and that the percent of channels to be set aside should be based on a percentage of channel capacity, and not on a percentage of live channels); Letter from William H. Kling, Pres. and CEO, American Public Media, to Kevin J. Martin, Chairman, FCC (June 20, 2008) at 2 (advocating that Applicants set aside 25 percent of total SDARS spectrum for non-commercial public service channels, minority broadcasters, and emergency services) ("APM June 20, 2008 Ex Parte"); Letter from David R. Siddall, Sonnenschein Nath & Rosenthal LLP, Counsel for Georgetown Partners, to Marlene H. Dortch, Secretary, FCC (June 27, 2008) at 1-2 (stating that Georgetown Partners, Entravision, and TSG Capital Group are not interested in providing programming and facilities with only 4 percent of channels offered for commercial leased access, and that an advertiser-supported service available to all owners of SDARS receivers would be preferred); Sens. Kerry, Cardin, and McCaskill June 27, 2008 Ex Parte at 1-2 (arguing that setting aside 4 percent is inadequate to ensure a viable competitor, and instead suggesting that leasing 20 percent to 50 percent is necessary, along with a transparent and competitive process for the leasing arrangement); Letter from U.S. Sen. Amy Klobuchar, to Kevin J. Martin, Chairman, FCC (June 27, 2008) (urging the Commission to require Applicants to set aside more than 8 percent of channels); Reps. McCollum, Peterson, Walz, Obestar, and Ellison June 27, 2008 Ex Parte at 1 (advocating 25 percent set-aside of total SDARS spectrum for non-commercial public service channels, minority broadcasters, and emergency services); Letter from Gigi B. Sohn, President, Public Knowledge and Andrew Jay Schwartzman, President and CEO, MAP, to Kevin J. Martin, Chairman, FCC (July 10, 2008) at 5 (proposing that the Commission appoint an independent "Monitor Trustee" to oversee enforcement of voluntary commitments); Letter from Albert H. Kramer, Dickstein Shapiro LLP, Counsel for The Word Network, to Marlene H. Dortch, Secretary, FCC (July 11, 2008) at 1 (proposing that Qualified Entities include not-for-profit entities offering programming designed to respond to the minority community) ("The Word Network July 11, 2008 Ex Parte"); Rep. Markey July 15, 2008 Ex Parte at 2 (recommending that the set aside be based on total capacity rather than specifying a set number of channels so that advances in digital capacity and service offerings do not diminish the impact of the set-aside limit); Letter from U.S. Rep. G.K. Butterfield, to Kevin J. Martin, Chairman, FCC (July 21, 2008) (supporting a 15 percent set aside for minority controlled programming); Letter from U.S. Rep. Bennie G. Thompson, to Kevin J. Martin, Chairman, FCC (July 22, 2008); Letter from U.S. Rep. Yvette D. Clarke, to Kevin J. Martin, Chairman, FCC (July 23, 2008); Letter from U.S. Rep. Elijah E. Cummings, to Kevin J. Martin, Chairman, FCC (July 23, 2008).

ways to increase minority involvement in the communications industry.⁴⁴³ Commenters have raised concerns, however, about the mechanics of the channel lease administration and allocation.⁴⁴⁴ We will determine the implementation details for use of these channels at a later date.

6. Reservation of Channels for Noncommercial Educational Use

136. Public Knowledge and Prometheus argue that if the Commission determines that the merger is in the public interest, the merged entity should be required to reserve a percentage of channel capacity for noncommercial educational or informational programming.⁴⁴⁵ The commenters suggest that the Commission use the Direct Broadcast Satellite (“DBS”) public interest obligations⁴⁴⁶ as a model for implementation of the same obligations for SDARS. Applicants have committed to voluntarily make capacity available for this purpose.⁴⁴⁷ We find that Applicants’ voluntary commitment will help maintain a platform for diverse voices post-merger and, as a result, we find that it serves the public interest.

137. *Proposals by Commenters.* Prometheus and Public Knowledge each propose that the merger, if approved, be subject to a condition that a certain percentage of the merged entity’s channel

⁴⁴³ *Promoting Diversification of Ownership in the Broadcasting Services*, Report and Order and Third Further Notice of Proposed Rulemaking, 23 FCC Rcd 5922 (2008).

⁴⁴⁴ See, e.g., Sens. Kerry, Cardin, and McCaskill June 27, 2008 Ex Parte at 1-2 (arguing for the creation of a transparent and competitive process for the leasing arrangement); Letter from Andrew J. Schwartzman, MAP, to Marlene H. Dortch, Secretary, FCC (June 18, 2008) at 1 (expressing preference that an independent party select unaffiliated minority programmers); Letter from Gigi B. Sohn, President, Public Knowledge and Andrew Jay Schwartzman, President and CEO, MAP, to Kevin J. Martin, Chairman, FCC (July 10, 2008) at 5 (proposing that the Commission appoint an independent “Monitor Trustee” to oversee enforcement of voluntary commitments); The Word Network July 11, 2008 Ex Parte at 1 (discussing the need for an entity independent of Applicants to administer the allocation of channels for minority programmers); Letter from Jose Luis Rodriguez, CEO, HITN, to Kevin J. Martin, Chairman, FCC (July 11, 2008) (advocating that the minority set-aside be reserved for stations managed and controlled by minority members); Letter from Jeneba Jalloh Ghatt, Counsel to AlphaStar, to Kevin J. Martin, Chairman, FCC (Jul. 16, 2008) at 1 (advocating that an independent entity administer leased capacity); Letter from U.S. Reps. Charles Gonzalez, Hilda Solis, Ed Towns, and Bobby Rush, to Kevin J. Martin, Chairman, FCC (July 18, 2008) (proposing that if a financial institution is selected to oversee leasing commitments, then the Commission should ensure that the entity “has a proven history of and experience with minority lending and business operations,” and that it has no financial interest in the selection process. They also urge the Commission to provide potential lessees with adequate time to develop business plans and raise capital and recommend that the Commission prohibit the merged entity from dropping existing minority programming channels in order to allocate channels for new minority-owned channels).

⁴⁴⁵ Public Knowledge proposes that the merged entity reserve 5 percent of channel capacity and Prometheus proposes a 4 percent reservation. Public Knowledge Comments at 2; Letter from Gigi B. Sohn, Pres., Public Knowledge, to Marlene H. Dortch, Secretary, FCC (Feb. 20, 2008), Att., Memorandum Regarding Set Aside Conditions at 1-2 (“Feb. 20, 2008 Ex Parte Letter”); Prometheus Comments at 5.

⁴⁴⁶ See 47 C.F.R. § 25.701.

⁴⁴⁷ Applicants’ June 13, 2008 Ex Parte at 3. The Applicants’ June 13, 2008 Ex Parte setting forth the Applicants’ voluntary commitments states that this capacity will be made available for “programming within the meaning of 47 C.F.R. § 25.701(f)(2) of the DBS set aside rules.” *Id.* We note that the cited definition defines a “Qualified Programmer” but does not define or describe specifically the programming that will be provided. Consistent with our approach in the DBS context, therefore, we interpret the Applicants’ voluntary commitment to mean that Applicants will make available capacity to programmers that satisfy the definitions contained within 47 C.F.R. § 25.701(f)(2).

capacity be reserved for noncommercial educational programming.⁴⁴⁸ Public Knowledge proposes the following four requirements to implement an SDARS noncommercial channel reservation requirement. First, similar to the DBS rule, Public Knowledge asserts that the merged company should allocate only one channel per qualified programmer unless all other requests for access have been granted in order to increase program diversity.⁴⁴⁹ It also argues that any noncommercial channels already carried by SDARS should not count toward the reservation requirement and that “qualifying programmers currently on either service should not be eligible” for reserved channels.⁴⁵⁰ Second, Public Knowledge proposes that all subscribers of the merged company should get access to all of the noncommercial programming on the reserved channels at no additional charge. Public Knowledge clarifies its proposal to mean that the 5 percent reservation should be based on the entire service offering and not on a reduced package that might be offered on an a la carte basis.⁴⁵¹ Third, as in the DBS context, the merged entity should not exercise any editorial control over the noncommercial programming, although it may select from among qualified applicants when demand exceeds capacity. Fourth, only national and local educational programming suppliers would be eligible for carriage on the reserved channels. Although in the DBS rules only national programmers are eligible, Public Knowledge urges the Commission to expand eligibility to local noncommercial entities. It states that this would permit low power radio stations and other local entities to have access to satellite radio audiences which Public Knowledge claims would in turn further the Commission’s goal of promoting localism.

138. Applicants initially opposed the imposition of public interest obligations, asserting that their services “provide[] a tremendous range of public interest and educational content . . . because such programming is attractive to consumers.”⁴⁵²

139. *Background: Public Interest Obligations in The SDARS and DBS Contexts.* When the Commission adopted licensing and service rules for SDARS in 1997, it considered imposing public interest obligations on the licensees.⁴⁵³ Commenters in the proceeding cautioned against impeding the introduction of a new service with rapidly changing technology.⁴⁵⁴ The Commission concluded that SDARS licensees should be subject to Equal Employment Opportunity requirements as well as certain political broadcasting rules.⁴⁵⁵ The Commission declined, however, to impose additional public interest programming obligations on SDARS, but reserved the right to do so at a later date, “[i]f additional public interest obligations are found to be warranted.”⁴⁵⁶ This included a specific reservation of a future right to “adopt rules similar to those Congress enacted for DBS providers, including a 4-7 percent set-aside of

⁴⁴⁸ Prometheus Comments at 5; Letter from Alex Curtis, Dir. of Policy, New Media, Public Knowledge to Marlene H. Dortch, Secretary, FCC (Dec. 7, 2007) at 1-2; APM June 20, 2008 Ex Parte at 1-2 (seeking a reservation of 25 percent of the combined entity’s radio spectrum).

⁴⁴⁹ Public Knowledge Feb. 20, 2008 Ex Parte, Att. at 1-2.

⁴⁵⁰ *Id.* at 2.

⁴⁵¹ For example, under a 5 percent reservation, if the merged company offers 200 channels, each subscriber would receive 10 channels of noncommercial programming regardless of his or her particular subscription package. Public Knowledge Feb. 20, 2008 Ex Parte, Att. at 2; Public Knowledge June 18, 2008 Ex Parte at 1.

⁴⁵² Joint Opposition at 101-02.

⁴⁵³ *1997 SDARS Service Rules Order*, 12 FCC Rcd at 5789-92 ¶¶ 85-93.

⁴⁵⁴ *Id.* at 5789-90 ¶¶ 86-89.

⁴⁵⁵ *Id.* at 5792 ¶ 92.

⁴⁵⁶ *Id.* at 5792 ¶ 93.

capacity for noncommercial educational and informational programming.”⁴⁵⁷

140. Applicants’ voluntary commitment to make capacity available for noncommercial educational and informational programming is similar to the DBS public interest rules.⁴⁵⁸ These rules were mandated by the Cable Television Consumer Protection and Competition Act of 1992 (“1992 Cable Act”),⁴⁵⁹ which directed the Commission to impose public interest obligations on DBS providers, including a requirement to reserve a percentage, between 4 and 7 percent, of channel capacity for noncommercial educational or informational programming.⁴⁶⁰ In implementing this statutory mandate, the Commission adopted a 4 percent reservation requirement⁴⁶¹ and elaborated on the definition of entities qualified to be carried on the reserved channels.⁴⁶² We concluded that in order to qualify for carriage, an entity must be noncommercial with an educational mission.⁴⁶³

141. *Discussion.* We find that Applicants’ voluntary commitment to set aside 4 percent of their capacity for NCE programming mitigates the potential harm to program diversity and is consistent with the Commission’s expectation, first stated in 1997, that diverse public interest programming would be available on the SDARS platform. Eleven years ago, when the Commission considered whether to impose such conditions on the nascent SDARS service, the Commission was persuaded by the parties’ argument that “public interest programming obligations [were] not necessary to ensure diverse public oriented programming” because “the economic and distribution structure of satellite DARS makes it good business to offer programming that regular broadcasters would not offer absent incentives.”⁴⁶⁴ At that time, the Commission agreed that market forces produced by the robust competition between two SDARS competitors would ensure that listeners would receive noncommercial educational and public interest programming on the SDARS service. In the absence of such competitive forces post-merger, we find the potential harm to programming diversity greater than was the case in 1997.

142. Applicants have voluntarily committed to set aside 4 percent of the full-time audio channels for noncommercial educational and informational programming on both Sirius’s and XM’s current systems, a figure that currently represents six channels on each platform.⁴⁶⁵ We accept Applicants’ voluntary commitment. We find that this commitment addresses commenters’ concerns and will promote diversity. To ensure that the commitment is implemented in a fair and efficient manner, we adopt additional requirements based on regulations implementing the DBS public interest requirement.⁴⁶⁶ We are aware that “attractive” programming is not necessarily the same as “profitable” programming, particularly where it concerns programming of an educational and informational nature. While we

⁴⁵⁷ *Id.* (citing 47 U.S.C. § 335).

⁴⁵⁸ 47 C.F.R. § 25.701.

⁴⁵⁹ See Cable Television Consumer Protection and Competition Act of 1992 (“1992 Cable Act”), Pub. L. No. 102-385, 106 Stat. 1460 (1992) (*codified at* 47 U.S.C. § 335).

⁴⁶⁰ See 47 U.S.C. § 335(b)(1).

⁴⁶¹ See *Implementation of Section 25 of the Cable Television and Consumer Protection Act of 1992, Direct Broadcast Satellite Public Interest Obligations*, Report and Order, 13 FCC Rcd 23254, 23285 ¶ 74 (1998) (“DBS PI Order”).

⁴⁶² See *DBS PI Order*, 13 FCC Rcd at 23286-92 ¶¶ 76-90. See also 47 C.F.R. § 25.701(f)(2).

⁴⁶³ *DBS PI Order*, 13 FCC Rcd at 23290 ¶ 86.

⁴⁶⁴ *SDARS Service Rules Order*, 12 FCC Rcd at 5789 ¶ 86 (citing comments filed by Digital Satellite Broadcasting Corp. and American Mobile Radio Corp).

⁴⁶⁵ Applicants’ June 13, 2008 Ex Parte at 3.

⁴⁶⁶ 47 C.F.R. § 25.701(f).

acknowledge and expect that the merged company must behave in a profit-maximizing manner in order to operate as a successful commercial enterprise, we have a counterbalancing obligation to protect the public's interest in diverse programming choices. Accordingly, we find that the proposed set-asides are justified in order to balance the risk of harm to programming diversity and the amount and quality of noncommercial educational and informative public programming available via SDARS post-merger.⁴⁶⁷ In addition, we find that the burden on the merged company as a result of this voluntary commitment will not prohibit the merged entity from realizing the benefits of the merger. Moreover, Applicants state in their pleadings that the merged company will eliminate a number of channels that offer substantially duplicative programming in order to free up channel capacity for other formats and services.⁴⁶⁸ We expect that the consolidation of Applicants' merged channel offerings in this way will free a significant amount of capacity, a small portion of which can be reallocated for noncommercial services pursuant to Applicants' voluntary commitment.

143. As the Commission did in the context of imposing public interest obligations on DBS providers, we limit the number of channels that can be initially allocated to a single noncommercial programmer.⁴⁶⁹ In adopting the DBS rules, the Commission was concerned that access to noncommercial channels not be dominated by a few national educational program suppliers and concluded that limiting the capacity for any one programmer will increase the development of quality educational and informational programming for carriage on the set aside channels.⁴⁷⁰ The Commission also found that the limitation would provide an opportunity for carriage of programming that might not otherwise be available, including programming targeting traditionally underserved audiences.⁴⁷¹ We believe that these same concerns hold true for the merged entity. Accordingly, the merged entity will not be permitted to initially select a qualified programmer to be carried on more than one of its reserved channels. After all qualified entities seeking access to the reserved channels have been offered carriage, the merged entity may allocate an additional channel to a programmer without having to make further efforts to find other qualified programmers to fill the NCE set-aside channels.

144. In determining how many channels must be made available at any point in time in fulfillment of Applicants' commitment to set aside 4 percent of their full-time audio channels for this purpose, the merged entity shall use the method specified in section 25.701(f)(1) of the Commission's rules.⁴⁷² Specifically, the number of full-time audio channels shall be determined annually by calculating, based on measurements taken on a quarterly basis, the average number of channels available for audio programming on all satellites licensed to the provider during the previous year.⁴⁷³ In addition, as provided in the regulations implementing the DBS set-aside, Applicants may use this reserved capacity for any purpose until such time as it is used for NCE programming.⁴⁷⁴ We agree with Public Knowledge that the number of reserved channels must be based on total system capacity and not on the number of channels in any particular service package. Public interest channels must be made available to all

⁴⁶⁷ See The Word Network July 11, 2008 Ex Parte at 1 (proposing that not-for-profit entities offering programming to minority audiences qualify for NCE set asides).

⁴⁶⁸ Application at 12-14.

⁴⁶⁹ See *DBS PI Order*, 13 FCC Rcd at 23302 ¶ 116.

⁴⁷⁰ *Id.*

⁴⁷¹ *Id.*

⁴⁷² 47 C.F.R. § 25.701(f)(1). See also *DBS PI Order*, 13 FCC Rcd at 23282-84 ¶¶ 69-71.

⁴⁷³ See 47 C.F.R. § 25.701(f)(1).

⁴⁷⁴ *Id.*

subscribers at no additional charge.⁴⁷⁵ With respect to noncommercial programming already carried by one or both of the SDARS licensees, we disagree with Public Knowledge that this programming never be counted as qualified for carriage on the reserved channels. The merged entity has the discretion to choose among programmers, and those noncommercial entities already carried should not be penalized for prior successful relationships with SDARS licensees.

145. As in the DBS context, the merged entity may not exercise editorial control over the programming on the reserved channels but may choose between qualified programmers when demand for capacity exceeds channel supply. With respect to Public Knowledge's suggestion that local as well as national programmers are qualified for carriage, the merged entity could choose a local programmer but must not use its terrestrial repeater network to originate local programming or local advertising that is not carried on its satellites.⁴⁷⁶ In other words, any noncommercial programming on the reserved channels, like all other SDARS programming, must be carried by satellites that reach customers nationwide. The merged company may charge noncommercial programmers no more than 50 percent of the direct costs of making the channel available for access, although they may charge such programmers less than 50 percent.⁴⁷⁷ As in the DBS context, direct costs may not include those related to the construction, launch, or general operation of the satellite, nor can they include marketing costs, general administrative costs, or similar overhead costs of the SDARS provider or the revenue it might have lost if it could have offered the channels to a commercial programmer.⁴⁷⁸

146. The merged entity shall reserve discrete channels and offer these to qualified programmers at consistent times to fulfill this reservation requirement.⁴⁷⁹ In addition, the merged company must comply with the public file requirements of section 25.701(f)(6) of the Commission's Rules, 47 C.F.R. § 25.701(f)(6). Finally, the merged entity shall make NCE channel capacity available upon consummation of the transaction, and programming provided pursuant to this set-aside requirement must be available to the public no later than six months after the transaction's consummation.⁴⁸⁰

7. Service to Alaska, Hawaii, and Puerto Rico

147. Applicants have committed voluntarily to file applications with the Commission, within three months of the consummation of the merger, to provide the Sirius satellite radio service to the Commonwealth of Puerto Rico using terrestrial repeaters and to promptly introduce such service upon grants of permanent authority by the Commission to operate these repeaters.⁴⁸¹ We find that the public interest would be served by Applicants' voluntary commitment to provide service to Puerto Rico. We also strongly encourage the merged entity to expand service to Alaska, Hawaii, the U.S. Virgin Islands, and other territories of the United States, where technically feasible and economically reasonable to do so.

148. In this proceeding, we have received comments urging the Commission to expand the

⁴⁷⁵ See *DBS PI Order*, 13 FCC Rcd at 23285 ¶ 74. See also *American Distance Education Consortium*, Declaratory Ruling and Order, 14 FCC Rcd 19976 (1999) (ruling that reserved channels must be made available to subscribers in all parts of the country).

⁴⁷⁶ See Section VI.C.2, *infra*.

⁴⁷⁷ 47 C.F.R. § 25.701(f)(5). See also *DBS PI Order*, 13 FCC Rcd at 23306-09 ¶¶ 126-34.

⁴⁷⁸ See *DBS PI Order*, 13 FCC Rcd at 23306-08 ¶¶ 126-30.

⁴⁷⁹ See 47 C.F.R. § 25.701(f)(5). See also *DBS PI Order*, 13 FCC Rcd at 23282 ¶ 68.

⁴⁸⁰ See 47 C.F.R. § 25.701(f)(7). See also *DBS PI Order*, 13 FCC Rcd at 23309 ¶ 136.

⁴⁸¹ Applicants' June 13, 2008 Ex Parte at 4.

SDARS geographic coverage requirements as a condition on approving the merger.⁴⁸² In particular, commenters noted that although there was an expectation that access to SDARS would grow alongside technological advances, this has not been the case for consumers in Alaska, Hawaii, U.S. Virgin Islands, Puerto Rico, and the outlying territories of the United States.⁴⁸³ Thus, commenters have requested that access by all consumers in the United States be a central tenet of the Commission's merger review.⁴⁸⁴

149. Our rules governing the provision of SDARS requires that each applicant for an SDARS license demonstrate that its system will, at a minimum, provide service throughout the 48 contiguous United States ("full CONUS").⁴⁸⁵ Under existing rules, there is no obligation that SDARS licensees provide service beyond full CONUS.⁴⁸⁶ Thus, Applicants' voluntary commitment to provide the Sirius satellite radio service to Puerto Rico will expand SDARS service beyond existing coverage requirements.⁴⁸⁷

150. We decline to require expansion of the SDARS licensees' geographic service area beyond this voluntary commitment. Based on the record in this proceeding, we conclude that service outside full CONUS by the existing SDARS satellite networks is not technically feasible or economically reasonable at this time. Although Applicants state that the Sirius satellite network is capable of serving Puerto Rico and southeastern portions of Alaska using its current three-satellite NGSO orbital

⁴⁸² Letter from Members of the Outlying Areas Senate Presidents Caucus, to Kevin J. Martin, Chairman, FCC (May 19, 2008) at 1-2 ("OASPC May 19, 2008 Ex Parte") (observing the lack of SDARS service to, among others, Guam, Northern Mariana Islands, and American Samoa); Letter from U.S. Rep. Luis G. Fortuño, to Kevin J. Martin, Chairman, FCC (Jan. 18, 2008) at 1 ("Rep. Fortuño Jan. 18, 2008 Ex Parte") (opposing the merger "[U]ntil such time that exclusion of Puerto Rico and other noncontiguous United States jurisdictions from coverage area of satellite radio ceases."); Letter from Chairman José E. Serrano of the Subcommittee on Finance Services and General Gov't Communications on Appropriations, to Kevin J. Martin, Chairman, FCC (Sept. 19, 2007) ("Rep. Serrano Sept. 19, 2007 Ex Parte") (asking the Commission to consider requiring Applicants to provide equal access to SDARS service to Alaska, Hawaii, Puerto Rico, and other U.S. Territories); Senate Resolution 3392, Commonwealth of Puerto Rico, October 1, 2007 (expressing opposition to the merger "until the exclusion of Puerto Rico and other jurisdictions not contiguous to the United States from the mandatory coverage area of said service, ceases.").

⁴⁸³ Rep. Serrano Sept. 19, 2007 Ex Parte at 1 (noting that in 10 years since adopting the SDARS service rules, SDARS still is not available outside of full CONUS); Senate Resolution 3392, Commonwealth of Puerto Rico, October 1, 2007; OASPC May 19, 2008 Ex Parte at 2 ("Many technological advances have occurred during the decade since the FCC first authorized satellite radio systems . . . with the result that today there exists no legitimate excuse for subjecting any United States jurisdiction to arbitrary exclusion from satellite radio services.").

⁴⁸⁴ Rep. Serrano Sept. 19, 2007 Ex Parte 2; Rep. Fortuño Jan. 18, 2008 Ex Parte at 2; OASPC May 19, 2008 Ex Parte at 2 (requesting that the Commission condition grant of merger on all American jurisdictions receiving satellite radio services within two years).

⁴⁸⁵ 47 C.F.R. § 25.144(a)(3)(i) (requiring Applicants to demonstrate that its system will, at a minimum, serve the full CONUS).

⁴⁸⁶ When adopting this rule, the Commission considered, but ultimately rejected, a proposal to require SDARS licensees to provide 50-state coverage, or 50-state plus Puerto Rico/Virgin Islands coverage. After reviewing the record, the Commission observed that 50-state coverage was not mandatory for satellite services at that time and that a service area beyond full CONUS might not be practical for first generation SDARS systems. *1997 SDARS Service Rules Order*, 12 FCC Rcd at 5794 ¶ 99.

⁴⁸⁷ In light of Applicants' voluntary commitment to provide service to Puerto Rico, Rep. Fortuño states that he no longer objects to the proposed merger. Letter from U.S. Rep. Luis G. Fortuño to Kevin J. Martin, Chairman, FCC (June 25, 2008).

configuration and satellite design,⁴⁸⁸ satellite coverage does not extend to the rest of Alaska or Hawaii due to technical limitations, such as low elevation angles⁴⁸⁹ and requirements for high power over CONUS.⁴⁹⁰ Applicants also state that [REDACTED].⁴⁹¹ We nevertheless strongly encourage the merged entity to include service to Alaska, Hawaii, the U.S. Virgin Islands, and other territories of the United States as part of future applications to launch and operate SDARS satellites, where such service is technically feasible and economically reasonable.

C. Other Issues

1. Spectrum Givebacks

151. We decline to impose a condition requiring Applicants to divest a portion of their spectrum. Some commenters argue that, for the merger to serve the public interest, the merged entity must surrender up to half of its assigned spectrum in order to allow a new competitor to enter the market for SDARS.⁴⁹² Applicants, however, assert that the Commission should reject any proposals that involve divestiture of a portion of the combined entity's spectrum post-merger because such divestiture is unnecessary and would undermine the public benefit of the merger.⁴⁹³ Other commenters join Applicants

⁴⁸⁸ Sirius Nov. 16, 2007 Response to Information and Document Request III.G, Narrative at 49-50, n.11 (Response to Interrogatory Question III.G. requesting that Sirius "describe what factors went into the selection of the geographic coverage areas for the satellite network, as well any technical, economic, other considerations that limit the ability of the Sirius satellite network to serve US state and territories outside the contiguous United States." Sirius Information Request at 4).

⁴⁸⁹ To provide a high quality of service and signal diversity, SDARS satellites usually need to be at a reasonable elevation angle above the horizon. When the angle of elevation is too low, mountainous terrain and buildings may obstruct the sight lines to the satellite blocking the signal. In addition, with a low angle of elevation atmospheric attenuation and electrical noise would also degrade the quality of service.

⁴⁹⁰ Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 50 ("Coverage was not extended to all of Alaska and/or Hawaii due to both technical limitations (need to keep high power density in primary service areas combined with low look angles in Alaska/Hawaii) and relatively low population densities in those states that limit the economic benefits of extending the coverage.") The original application for Sirius' network indicates that coverage for Puerto Rico and Alaska is at a lower power level than full CONUS coverage. *See Application of Satellite CD Radio Inc. for Minor Modification of License to Construct, Launch and Operate a Non-Geostationary Satellite Digital Audio Radio Service System*, IBFS File No. SAT-MOD-19981211-00099 (filed Dec. 11, 1998).

⁴⁹¹ XM Nov. 16, 2007 Response to Information and Document Request, Narrative at 33-41. (Response to Interrogatory Question III (G) requesting XM to "describe what factors went into the selection of the geographic coverage areas for the satellite network, as well any technical, economic, other considerations that limit the ability of the XM satellite network to serve US state and territories outside the contiguous United States." XM Information Request at 4).

⁴⁹² *See, e.g.*, Mt. Wilson Supp. to Petition at 2 (arguing the merger can be condoned only if the merged entity is limited to the allocated spectrum of one of Applicants); King Reply at ¶ 42 (stating that unless Applicants use one of the bands for expanded service, they should not be allowed to keep both bands if the merger is approved); Sen. Bond June 4, 2008 Ex Parte at 1 (requesting that the Commission require the merged entity to divest part of its spectrum); NPR Petition at 21; Blue Sky Comments at 7; Prometheus Comments at 5; Letter from U.S. Sens. Olympia J. Snowe and Claire McCaskill, to Kevin J. Martin, Chairman, FCC (May 21, 2008) at 2 ("Sens. Snowe and McCaskill May 21, 2008 Ex Parte).

⁴⁹³ Joint Opposition at 87-88 (arguing divestiture is unnecessary because (1) there is sufficient spectrum available for new competition to enter the audio entertainment market, including those using satellite technology; (2) requiring one of the companies to divest its spectrum would make half of the 14 million satellite radios completely inoperable because the current receiver equipment cannot receive the signals of both companies; and (3) reducing (continued....)

in opposing spectrum divestiture as a condition to the merger.⁴⁹⁴ For the reasons set forth below, we agree with Applicants that the public interest would not be served by requiring the merged entity to divest completely a portion of SDARS spectrum.

152. Applicants each use 12.5 MHz to deliver content to receivers, and transmit data streams by three separate data paths: two time-diverse satellite paths and a terrestrial repeater path.⁴⁹⁵ Although these data streams are redundant, the redundancy of the signals, along with onboard digital signal processing, ensures that the listener experiences minimal outages.⁴⁹⁶ Any divestiture of spectrum by Sirius would require an overhaul of the network and would require Sirius to replace all of its current user receivers.⁴⁹⁷ A partial divestiture of spectrum by XM would also require an overhaul of the network, although XM could divest approximately 6.25 MHz without requiring XM to replace all customer radios.⁴⁹⁸ The reduced bandwidth, however, would significantly reduce the number of channels and the quality of service for existing XM customers. Furthermore, in addition to the harm to existing SDARS customers from a partial divestiture, it is not clear to us that a new competitor would have sufficient spectrum to emerge as a significant competitor to the newly merged entity, nor is it clear that a new SDARS operator could overcome the regulatory and business hurdles required to offer service.

153. We also considered alternative methods that would permit a new SDARS operator in the spectrum.⁴⁹⁹ We have determined, however, that each method has drawbacks that would make it

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available spectrum would limit the combined company's ability to realize merger-specific efficiencies, including the potential for expanded programming choices and additional services).

⁴⁹⁴ NextWave June 18, 2008 Ex Parte at 1 (arguing that spectrum divestiture by the merged entity could negatively impact the ability of terrestrial wireless services in adjacent spectrum bands to coexist with licensees in the SDARS band).

⁴⁹⁵ Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 37.

⁴⁹⁶ Unlike a broadcast radio band, where re-licensing of any single station will not affect other stations, the individual channels in an SDARS system exist only at the studio and in the user's receiver. Between these two locations, the data from all of the channels are combined into a single data stream with the number of bits allocated to any one channel varying on an instant-by-instant basis.

⁴⁹⁷ The Sirius network transmits the data in three data streams of approximately four MHz each. Sirius Nov. 16, 2007 Response to Information and Document Request, Narrative at 37. We conclude that Sirius could not eliminate any one of the three 4 MHz data paths without significantly increasing the likelihood of dropouts. Similarly, Sirius could not reduce the size of its individual 4 MHz data path and offer fewer channels to its customers, because the user receivers and many other network components – including the receivers, terrestrial repeaters and space stations themselves – only recognize a data stream of approximately 4 MHz and would not recognize a stream of a different size.

⁴⁹⁸ Unlike Sirius, XM divides each of its three data streams into two duplicative streams, for a total of six segments. See XM Nov. 16, 2007 Response to Information and Document Request, Narrative at 29. Thus, XM transmits the data for all its programming in six 1.8 MHz data streams: four time-diverse satellite bands (S1A, S2A, S2B and S1B) and two terrestrial repeater bands (TA and TB). See XM Nov. 16, 2007 Response to Information and Document Request, Narrative at 17, 29. XM could divest approximately 6.25 MHz by divesting either the "A" bands (S1A, S2A, TA) or the "B" bands (S1B, S2B and TB) without requiring XM to replace existing subscriber radios.

⁴⁹⁹ WCS Coalition questions whether Sirius is authorized to provide its Backseat TV service and urges the Commission to prohibit Sirius from launching the service until the Commission has implemented WCS rules. Letter from Paul J. Sinderbrand, Wilkinson Barker Knauer LLP, Counsel for the WCS Coalition, to Helen Domenici, Chief, International Bureau, FCC and Fred Campbell, Chief, Wireless Telecommunications Bureau, FCC (Apr. 17, 2007) at 1-2. See also Letter from David R. Siddall, Sonnenschein Nath & Rosenthal LLP, Counsel for Georgetown, to Kris Monteith, Chief, Enforcement Bureau, FCC (July 10, 2008). The Enforcement Bureau is (continued....)

infeasible for a new SDARS operator to offer service. Requiring the merged entity to transfer the space and ground infrastructure of either Sirius or XM to a new SDARS operator might allow the new operator to begin service without the delays of building a new satellite network from scratch.⁵⁰⁰ However, we believe that the cost of purchasing these assets would be prohibitively expensive for a new operator to enter the market in the near term.⁵⁰¹ For these reasons, we reject Primosphere's request for a condition to require the merged entity to enter into an agreement whereby Primosphere could deliver programming by means of the existing SDARS satellite systems.⁵⁰²

2. No Local Programming or Local Advertising

154. Terrestrial broadcasters contend that the merger will harm their ability to provide free over-the-air local programming. For example, NAB contends that Applicants will increase the amount of advertisements via their services after the merger is consummated,⁵⁰³ and that the loss of even a small amount of advertising revenue to the merged entity would be "devastating" to local radio stations and would force them to reduce local programming.⁵⁰⁴ Clear Channel requests that the Commission prohibit the merged entity from carrying local programming and local advertising.⁵⁰⁵

155. As stated above, we find that record before us now does not show that the merger will necessarily harm the ability of local broadcasters to air locally oriented programming.⁵⁰⁶ In addition, we note that Applicants operate terrestrial repeaters pursuant to grants of special temporary authority that restrict the use of repeaters to the simultaneous retransmission of the complete programming, and only that programming, transmitted by the satellite directly to SDARS receivers.⁵⁰⁷ Thus, SDARS licensees are already prohibited, independent of the merger, from using terrestrial repeaters to distribute localized content that is distinct from that provided to subscribers nationwide via satellite. We note that the

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reviewing the issues raised by Georgetown regarding the Sirius Backseat TV service and will address those issues separately.

⁵⁰⁰ Primosphere Petition at 3-4 (proposing that the Commission require the merged entity to enter into an agreement with Primosphere to allow it to use a portion of the SDARS spectrum to begin delivering programming to consumers).

⁵⁰¹ See, e.g., C3SR Petition at 12-13 (asserting that for a new entrant to establish itself in the market, it would take about five years and potentially billions of dollars).

⁵⁰² Primosphere Petition at 3-4; Primosphere Reply at 3.

⁵⁰³ NAB Petition at 32-33 (arguing that the lower-priced a la carte and tiered service offerings proffered by the merged entity would likely be advertiser-supported).

⁵⁰⁴ NAB Response to Comments at 21-22. See also McGannon at 6-7 (observing that broadcasters primarily rely on local advertising dollars); Letter from Lawrence R. Sidman, Counsel for Clear Channel, to Marlene H. Dortch, Secretary, FCC (Mar. 5, 2007), Att. at 1-2 (arguing that the spectrum advantage of SDARS – 300 channels vs. a limit of 8 channels for terrestrial station owners in the largest markets – would allow a merged company to lock up quality programming and to siphon off national and local advertising revenue).

⁵⁰⁵ Clear Channel June 20, 2008 Ex Parte at 2; see also Sen. Bond June 4, 2008 Ex Parte at 2 (stating "it is vital that the new satellite radio company reaffirm its position as a national service only"); see also Sens. Snowe and McCaskill May 21, 2008 Ex Parte at 1.

⁵⁰⁶ See *supra*, Section IV.C.2.

⁵⁰⁷ See, e.g., *Sirius STA Order*, 16 FCC Rcd at 16780 ¶ 18. In addition, in the pending rulemaking proceeding to develop rules for the operation of SDARS terrestrial repeaters the Commission has tentatively concluded that the origination of local programming from SDARS repeaters would be inconsistent with the allocation of the spectrum. See *2007 SDARS Second Further Notice*, 22 FCC Rcd at 22141 ¶ 55 (citing *1997 SDARS Service Rules Order*, 12 FCC Rcd at 5812 ¶ 142).

prohibition on local content remains in effect and prohibits Applicants from distributing local programming as well as local advertising.⁵⁰⁸ In light of the importance of local sports programming to terrestrial radio stations, we prohibit the merged entity from entering into any agreements that would preclude any terrestrial radio station from broadcasting live local sporting events. Entities concerned about Applicants' compliance with these mandates may file complaints with the Commission, which will act promptly to enforce the prohibitions.

VII. COMPLIANCE WITH COMMUNICATIONS ACT AND COMMISSION'S RULES AND POLICIES

A. 1997 SDARS Report & Order

156. In 1997, the Commission established the SDARS service and determined that there would be two initial SDARS licenses, sold at auction to different parties. The *1997 SDARS Service Rules Order* contained the following paragraph:

Transfer. We note that DARS licensees, like other satellite licensees, will be subject to rule 25.118, which prohibits transfers or assignments of licenses except upon application to the Commission and upon a finding by the Commission that the public interest would be served thereby. Even after DARS licenses are granted, one licensee will not be permitted to acquire control of the other remaining satellite DARS license. This prohibition on transfer of control will help assure sufficient continuing competition in the provision of satellite DARS service.⁵⁰⁹

157. The 2007 SDARS NPRM sought comment on whether this language in the *1997 SDARS Service Rules Order* constitutes a binding Commission rule and, if so, whether the Commission should waive, modify, or repeal the prohibition in the event it determines that the proposed merger would serve the public interest.⁵¹⁰ Commenters expressed conflicting views on these issues. Applicants maintain that this language is a policy statement under the Administrative Procedure Act ("APA"), rather than a binding Commission rule because it was not codified in the Code of Federal Regulations.⁵¹¹ Specifically, they claim that it is "merely a policy statement reflecting the Commission's view, based on the evidence available in 1997, that two satellite radio licensees were needed to have enough competition in the audio entertainment market."⁵¹² Other parties argue that the prohibition is a binding rule. They contend that the Commission intended to impose a binding legal prohibition on merger by the satellite DARS licensees, that it was adopted in a notice and comment rulemaking proceeding, and that it was published in the Federal Register.⁵¹³

158. We find that the prohibition is a binding substantive rule, not a mere statement of policy. The prohibition is expressed in clear, specific, and unequivocal language; was characterized by the

⁵⁰⁸ See Applicants' July 25, 2008 Ex Parte at 2.

⁵⁰⁹ *1997 SDARS Service Rules Order*, 12 FCC Rcd at 5823 ¶ 170 (this language is found under the subheading "Safeguards").

⁵¹⁰ *2007 SDARS NPRM*, 22 FCC Rcd at 12018 ¶ 1; see also June 8, 2007 Public Notice, *infra* n.1.

⁵¹¹ Application at 50.

⁵¹² *Id.* To the extent that the Commission considers the above-quoted language in the *1997 SDARS Service Rules Order* to be a binding rule prohibiting the proposed transfer of control, Applicants requested that the Commission waive, modify, or otherwise alter it to the extent necessary to permit the proposed merger. *Id.* at 51-52.

⁵¹³ NAB Comments at 3-4; NPR Comments at 4-9; Clear Channel Aug. 13, 2007 Comments at 3-5.

Commission in the 1997 *SDARS Service Rules Order* as a “prohibition”; and leaves no room for the exercise of agency discretion (unless it is waived, modified or repealed). Recent decisions distill the D.C. Circuit’s attempts to distinguish between rules and policy statements into two related lines of analysis:

One line of analysis focuses on the effects of the agency action. *See Cmty. Nutrition Inst. v. Young*, 818 F.2d 943, 946 (D.C. Cir. 1987) (stating that the court should consider whether the agency action (1) “impose[s] any rights and obligations,” or (2) “genuinely leaves the agency and its decisionmakers free to exercise discretion”) (internal quotations omitted); *see also, e.g., Troy Corp. v. Browner*, 120 F.3d 277, 287 (D.C. Cir. 1997); *Am. Bus. Ass’n v. United States*, 627 F.2d 525, 529 (D.C. Cir. 1980). The second line of analysis focuses on the agency’s expressed intentions. *See MolyCorp., Inc. v. EPA*, 197 F.3d 543, 545 (D.C. Cir. 1999) (stating that the court should consider “(1) the Agency’s own characterization of the action; (2) whether the action was published in the Federal Register or the Code of Federal Regulations; and (3) whether the action has binding effects on private parties or on the agency”); *see also, e.g., Am. Portland Cement Alliance v. EPA*, 101 F.3d 772, 776 (D.C. Cir. 1996).⁵¹⁴

The ultimate focus of both analytic approaches is “whether the agency action binds private parties or the agency itself with the ‘force of law.’”⁵¹⁵

159. The plain language of the relevant paragraph in the 1997 *Report and Order* binds both private parties and the Commission itself with the force of law. First, it removes the Commission’s discretion to approve one satellite DARS licensee’s acquisition of control of the other, absent repeal of the prohibition, by stating in advance that such an acquisition will not be permitted.⁵¹⁶ Second, the use of the words “will not be permitted” and “prohibition” strongly suggests that the Commission intended this to be a binding rule.⁵¹⁷ Indeed, it is difficult to imagine words that would have a more mandatory connotation than those used here.

160. Applicants assert that “the real dividing point between binding regulations and general statements of policy is publication in the Code of Federal Regulations, which the [APA] authorizes to contain only documents which ‘having general applicability and legal effect,’ and which the governing regulations provide shall contain only ‘each Federal regulation of general applicability and current or future effect.’”⁵¹⁸ The D.C. Circuit, however, has refused to place such weight on the publication factor.

⁵¹⁴ *CropLife America v. EPA*, 329 F.3d 876, 883 (D.C. Cir. 2003) (“*CropLife*”); *see also Wilderness Soc. v. Norton*, 434 F.3d 584, 595 (D.C. Cir. 2006) (“*Wilderness Soc.*”); *General Elec. v. EPA*, 290 F.3d 377, 382 (D.C. Cir. 2002) (“*General Elec.*”).

⁵¹⁵ *CropLife*, 329 F.3d at 883 (quoting *General Elec.*, 290 F.3d at 382).

⁵¹⁶ *Cf. Wilderness Soc.*, 434 F.3d at 595 (internal agency policy did not read as a set of rules “as a whole” because it “lacks precision in its directives, and there is no indication of how the enunciated policies are to be prioritized”); *Brock v. Cathedral Bluffs Shale Oil Co.*, 796 F.2d 533, 538 (D.C. Cir. 1986) (“*Brock*”) (language in published enforcement policy did not establish a binding rule where it was “replete with indications that the Secretary retained his discretion to cite production-operators as he saw fit”).

⁵¹⁷ *See Community Nutrition Inst.*, 818 F.2d at 947 (“mandatory, definitive” language included in an FDA action level, which informs food procedures for the permissible levels of contaminants, “clearly reflects an interpretation of action levels as presently binding norms”); *Cf. Brock*, 796 F.2d at 538 (“We have ... given decisive weight to the agency’s choice between the words ‘may’ and ‘will.’”).

⁵¹⁸ Applicants’ Comments to NPRM at 3-4, n.11 (quoting *Wilderness Soc.*, 434 F.3d at 596).

As it has said, “[i]n none of the cases citing the distinction ... has the court taken publication in the Code of Federal Regulations, or its absence, as anything more than a snippet of evidence of agency intent.”⁵¹⁹ In contrast, the D.C. Circuit has given decisive weight to mandatory language.⁵²⁰ The publication factor is of even less significance here than in other cases because the prohibition at issue here applies to only two entities and those two entities were very familiar with the *1997 SDARS Service Rules Order*, making it less necessary to codify the prohibition.

161. For the foregoing reasons, we conclude that the prohibition on merger in the *1997 Service Rules Order* is a binding rule. Therefore, we must address the question raised in the Notice whether we should waive, modify, or repeal the prohibition in order to permit the proposed merger.⁵²¹

162. First, we disagree with Applicants that it is appropriate to waive the prohibition in order to permit the merger.⁵²² As a number of commenters note,⁵²³ it is well established that “[t]he function of a waiver is not to change the general standard, a matter for which the opportunity for general comment is a prerequisite under the Administrative Procedure Act, but to justify an ad hoc exception to that standard in a particular case.”⁵²⁴ Here, the prohibition against merger applies only to the two Applicants; it has no application beyond this proceeding. Thus, grant of a waiver clearly would eviscerate the rule and for that reason is not appropriate here.

163. We can, of course, repeal a rule if we decide that doing so would serve the public interest and we comply with rulemaking procedures.⁵²⁵ In this proceeding, we repeal the prohibition on merger set forth in paragraph 170 of the *1997 SDARS Service Rules Order*. We find above that approval of the merger, subject to Applicants’ voluntary commitments and the other conditions, will benefit consumers

⁵¹⁹ *Health Ins. Ass’n of America, Inc. v. Shalala*, 23 F.3d 412, 423 (D.C. Cir. 1994). See also *Community Nutrition Inst.*, 818 F.2d at 947 n.8 (FDA action levels for contaminants were binding rules despite non-publication in the Code of Federal Regulations). Even in *Wilderness Soc.*, the case quoted at length by Applicants, the court focused on publication in the C.F.R. and the Federal Register as a means of discerning agency intent, not for purposes of establishing a bright-line distinction between binding rules and policy statements. See, e.g., *Wilderness Soc.*, 434 F.3d at 596 (“Failure to publish in the Federal Register is indication that the statement in question was *not* meant to be a regulation since the [APA] requires regulations to be so published. The converse, however, is not true: Publication in the Federal Register does *not* suggest that the matter published *was* meant to be a regulation.”) (emphasis in the original).

⁵²⁰ See *Brock*, 796 F.2d at 538; see also *General Elec.*, 290 F.3d at 383 (“the mandatory language of a document alone can be sufficient to render it binding”).

⁵²¹ See *2007 SDARS NPRM*, 22 FCC Rcd at 12019-21 ¶ 3.

⁵²² Application at 51.

⁵²³ See, e.g., NAB Comments at 10-13; NPR Comments at 10.

⁵²⁴ *Authority to Construct and Operate an Automated Maritime Telecom. System*, 3 FCC Rcd 4690, 4692 (1988). See also *Am. Trucking Ass’n, Inc. v. FHA*, 51 F.3d 405, 414 (4th Cir. 1995) (“Commonly understood, administrative ‘waivers’ are a mechanism ‘to seek out the “public interest” in particular, individualized cases.’ They are not a device for repealing a general statutory directive.” (quoting *WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969) (emphasis added)); *WAIT Radio*, 418 F.2d at 1159 (“The court’s insistence on the agency’s observance of its obligation to give meaningful consideration to waiver applications emphatically does not contemplate that an agency must or should tolerate evisceration of a rule by waivers.”). Cf. *WITN-TV v. FCC*, 849 F.2d 1521, 1525 (D.C. Cir. 1988) (“The waiver concept does not serve in this context, for petitioner’s plea ... is in essence one for agency reconsideration of existing policy.”).

⁵²⁵ 5 U.S.C. § 553. See, e.g., *Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853, 14857-60 ¶¶ 4-11 (2005) (eliminating rules after notice and comment rulemaking).

by making available to them a wider array of programming choices at various price points and affording them greater choice and control over the programming to which they subscribe, and that those benefits exceed the harms identified above. For the same reasons, we conclude that repeal of the rule prohibiting the merger will, on balance, serve the public interest.⁵²⁶

B. Enforcement Matters

164. NAB and other commenters argue that Applicants each have a “history of ignoring” the Commission’s rules and the Commission therefore cannot reasonably rely on a merged XM-Sirius entity to comply with any regulatory conditions that might be imposed.⁵²⁷ In particular, NAB makes two specific allegations concerning Applicants’ marketing of FM modulators and use of terrestrial repeaters, which are discussed below.

165. First, NAB asserts that Applicants violated the Part 15 equipment rules intended to ensure that the modulators⁵²⁸ in their satellite radio receivers do not interfere with broadcast radio stations.⁵²⁹ Consequently, NAB states, listeners to noncommercial⁵³⁰ radio stations may not only receive interference, but may also receive “signal bleed” that results in their hearing on their vehicle radios unwanted satellite radio programming.⁵³¹ NAB adds that “[i]t is a matter of record that these violations were apparently intentional on Sirius’s part.”⁵³²

166. Second, NAB alleges that XM violated the Commission’s technical rules in constructing and operating its network of terrestrial repeaters.⁵³³ XM’s repeater violations, NAB states, include operation of 19 repeaters without any FCC authorization; construction and operation of at least 125 repeaters at unauthorized locations; operation of at least 221 repeaters at power levels in excess of its authorization; and installation of more than 80 of its repeaters at heights that exceeded authorized

⁵²⁶ We reject the arguments opposing repeal of the rule prohibition in Sections IV, V, and VI.B, *supra*, for the same reasons that we reject commenters’ arguments opposing the merger. *See, e.g.*, NAB Comments at 13-23; NAB Reply at 3-8; NPR Comments at 11-20.

⁵²⁷ NAB Petition at 50-51; *see also* NAB Response to Comments at 10; NABOB Petition at 13-14; USE Petition at 13-14; Entravision Comments at 19-20; Letter from U.S. Rep. Nancy Boyda to Kevin J. Martin, Chairman, FCC (Apr. 5, 2007) at 1; Letter from U.S. Reps. F. James Sensenbrenner, Jr. and Gene Green, to Kevin J. Martin, Chairman, FCC (June 18, 2007) at 2. In addition, Blue Sky questions whether Applicants meet the “citizenship, character ... and other qualifications” test set forth in Section 308(b) of the Act, 47 U.S.C. § 308 (“All applications for station licenses, or modifications or renewals thereof, shall set forth such facts as the Commission by regulation may prescribe as to the citizenship, character, and financial, technical, and other qualifications of the applicant to operate the station.”). Blue Sky Comments at 6-7; Blue Sky Reply at 1-3.

⁵²⁸ Many portable satellite radio receivers have built-in FM modulators or transmitters, which are designed to permit users to listen to satellite radio over a car radio on unused FM frequencies. Such modulators must comply with the Commission’s Part 15 technical requirements and receive an equipment certification prior to marketing. *See* 47 C.F.R. §§ 15.3(o), 15.201, 15.239.

⁵²⁹ NAB Petition at 55.

⁵³⁰ Noncommercial radio stations are more likely to receive interference from FM modulators because FM modulators are typically set to operate on vacant channels near the lower end of the FM band, where noncommercial stations frequently operate.

⁵³¹ NAB Petition at 55.

⁵³² *Id.* (citing Sirius’s *SEC Form 10-Q for the Quarterly Period Ended September 30, 2006* at 35).

⁵³³ *Id.* at 56.

levels.⁵³⁴ In addition, NAB asserts that XM continued the unauthorized operations even after the violations came to its attention.⁵³⁵ NAB states that Sirius has engaged in analogous, although less extensive, repeater violations.⁵³⁶

167. In response, Applicants assert that they take their obligations and responsibilities as FCC licensees seriously.⁵³⁷ According to Applicants, the allegations raised by NAB and others do not bear on their qualifications as Commission licensees or cast doubt on their willingness to comply with merger-specific conditions.⁵³⁸ Regarding the FM modulators, Applicants state that they have cooperated fully with the Enforcement Bureau in its investigations into whether some of their receivers were non-compliant with Commission regulations and that all newly produced receivers are fully consistent with applicable regulations.⁵³⁹ In addition, Applicants indicate that both companies voluntarily disclosed their terrestrial repeater variances to the Commission in October 2006 after taking unilateral actions to bring many of those variances into compliance, that no party has experienced interference as a result of the repeater variances, and that both companies have been working diligently with Commission staff to resolve issues concerning their repeaters.⁵⁴⁰

168. Applicants argue that the Commission has repeatedly rejected the notion that outstanding allegations of rule violations that can be addressed through the normal enforcement procedures have any bearing on a licensee's qualifications.⁵⁴¹ Rather, Applicants state, the Commission has made clear that "typically it will *not* consider in merger proceedings matters that are the subject of other proceedings before the Commission."⁵⁴² Applicants assert that NAB's allegations relate entirely to issues that have been brought to the Commission's attention and the agency is addressing these matters through its traditional enforcement procedures.⁵⁴³ Therefore, Applicants conclude that the issues raised by NAB have no relevance to the Commission's review of the merger.⁵⁴⁴

169. We agree that the issues concerning Applicants' apparent misconduct in connection with the manufacture, importation, marketing and distribution of modulators for their services and the construction and operation of various of their terrestrial repeaters are troubling. We have, however, fully investigated these matters and, after extensive discussions with the parties and careful consideration of the record, concluded that settlement of these issues by consent decrees was in the public interest. As we noted in the Orders adopting the Consent Decrees:

⁵³⁴ *Id.* at 56-57.

⁵³⁵ *Id.* at 57.

⁵³⁶ *Id.* at 56 (citing Sirius Supplemental Information, IBFS File Nos. SAT-STA-20061013-00121, 20061013-00122 (April 26, 2007), and Request of Sirius for Special Temporary Authorization Regarding Digital Audio Radio Service Terrestrial Repeaters, IBFS File Nos. SAT-STA-20061013-00122 (Nov. 17, 2006)). Additionally, as stated above, NAB argues that both Applicants have violated the SDARS receiver interoperability rule. NAB Petition at 52.

⁵³⁷ Joint Opposition at 94.

⁵³⁸ *Id.*

⁵³⁹ *Id.* at 96.

⁵⁴⁰ *Id.* at 97-98.

⁵⁴¹ *Id.* at 98.

⁵⁴² *Id.* (quoting *SBC-Ameritech Order*, 14 FCC Rcd at 14950 ¶ 50 (emphasis added)).

⁵⁴³ *Id.* at 99.

⁵⁴⁴ *Id.*

We do not come to this conclusion easily. The apparently intentional nature of some of the violations ... and the apparent involvement of certain XM [and Sirius] personnel in these violations are very troubling. Indeed, the ability and willingness to conform one's conduct to the requirements of the Commission's rules are central to the qualifications of any Commission licensee. We must balance our concern, however, against the public's interest in the continued availability and viability of [the companies'] satellite radio service and the impact on the public and other licensees that [the companies'] violations precipitated. These considerations, taken together with the rigorous oversight and reporting obligations and substantial voluntary contribution[s] prescribed in [the] Order[s] and the Consent Decree[s], persuade us that settlement of these matters would best serve the public interest.⁵⁴⁵

170. The Consent Decrees terminated the agency's investigations into Applicants' compliance with the Commission's regulations governing FM modulators and the terms of their authorizations for their terrestrial repeaters. The Consent Decrees also provide that Applicants will each make a substantial voluntary contribution to the U.S. Treasury, implement certain remedial measures with respect to radio receivers with built-in FM modulators in the hands of subscribers, and implement comprehensive compliance plans to ensure the companies' future compliance with the Commission's regulations. In addition, XM agrees, within a period of 60 days from the effective date of the Consent Decree, to shut down 50 variant terrestrial repeaters and to bring another 50 repeaters into compliance with the specifications that they were originally authorized or cease operating them. Sirius can return to operation two of its repeaters, which varied slightly from what they were originally authorized to do, and may return to operation another nine repeaters that varied significantly from their original authorization, provided they are first brought into compliance with what they were originally authorized to do.

171. The compliance plans in the Consent Decrees are extensive and involve the appointment of a dedicated FCC Compliance Officer, with explicit equipment design and certification authority and responsibility, the development and implementation of recurring and enduring compliance training programs, and the development and use of detailed guidelines governing equipment design and certification and the implementation of any changes to the Applicants' terrestrial repeater networks. Applicants also are subject to continuing reporting obligations that will serve to ensure that the Commission is informed on an ongoing basis of all developments relevant to the companies' compliance with the Consent Decrees. Except with respect to their training obligations, which continue indefinitely, the Consent Decrees will continue in effect for a period of five years.

172. In light of these and other provisions in the Consent Decrees and our consideration of the record as a whole, we concluded that our investigations raised no substantial and material questions of fact as to whether Applicants possess the basic qualifications, including those related to character, to hold or obtain any Commission license or authorization. In this connection, we note that NAB does not assert that Applicants lack the requisite qualifications to hold or obtain FCC licenses or authorizations. Moreover, while one commenter, Blue Sky Services, questions whether Applicants meet the "citizenship, character ... and other qualifications" test set forth in Section 308(b) of the Act,⁵⁴⁶ our conclusions in the settlement proceedings, as detailed above, directly address and adequately dispose of this contention.

173. Finally, to the extent that NAB and various commenters argue that the Commission cannot rely upon a merged XM-Sirius entity to comply with any regulatory conditions given Applicants'

⁵⁴⁵ *Sirius Consent Decree Order* at ¶ 3; *XM Consent Decree Order* at ¶ 3.

⁵⁴⁶ Blue Sky Comments at 6-7; Blue Sky Reply Comments at 1-3. See 47 U.S.C. § 308(b) ("All applications for station licenses, or modifications or renewals thereof, shall set forth such facts as the Commission by regulation may prescribe as to the citizenship, character, and financial, technical, and other qualifications of the applicant to operate the station.").

past history of non-compliance with Commission rules, we disagree.⁵⁴⁷ We are conditioning our approval of the merger transaction on the merged entity's compliance with Applicants' voluntary commitments. We will rigorously monitor Applicants' compliance with the conditions of the Consent Decrees and the conditions specified herein and believe that the mechanisms put in place in those Decrees will fully serve to ensure compliance on an ongoing basis. Moreover, we will not hesitate to take prompt and effective enforcement action if these conditions are not satisfied.⁵⁴⁸

174. *EEO Obligations.* In the *1997 SDARS Service Rules Order* the Commission determined that "satellite DARS licensees must comply with the Commission's equal employment opportunity requirements."⁵⁴⁹ We reiterate that decision here. When SDARS services were initially licensed, the Commission had a pending rulemaking proposing revision to its EEO rules; the Commission decided that licensees in the SDARS services would be required to comply with the then-current rule and any changes adopted when the rulemaking is completed.⁵⁵⁰ Thus, we clarify here that the merged entity must comply with the Commission's EEO broadcast rules and policies, including periodic submissions to the Commission consistent with the reporting schedule established for broadcast licensees.⁵⁵¹

⁵⁴⁷ NAB argues that the violations are "directly relevant to the Commission's review of the proposed merger, separate and apart from basic character qualifications issues," because they cast doubt on the reliability of Applicants' voluntary commitments. NAB Petition to Defer Action in MB Docket No. 07-57 (filed Oct. 9, 2007) at 3. See NAB Petition at 55-58. NAB points to the Commission's recognition in *EchoStar* that the merger applicant's history of past conduct should be "taken into account in assessing the likelihood that potential beneficial conduct will occur in the absence of private economic incentives." *EchoStar Communications Corp.*, 17 FCC Rcd at 20579 ¶ 35. In that case, however, "one of the prime subjects of the alleged prior misconduct," EchoStar's failure to adhere to its must-carry obligations, "[l]ay at the heart of the realization of the proffered public interest benefits claimed to flow from the merger - provision of additional local-into-local service pursuant to the must-carry rules." *Id.* Here, in contrast, none of Applicants' technical rule violations pertain specifically to their voluntary commitments. One of the commitments does concern the receiver interoperability mandate, which we conclude above was violated by Applicants. For the reasons discussed above, however, we do not believe that their interpretation of the mandate as a design requirement was unreasonable in light of all of the circumstances. Therefore, we are not persuaded that their violation of the mandate should be taken into account in considering the likelihood of fulfillment of their commitment to make an interoperable receiver commercially available within one year of the consummation of the merger.

⁵⁴⁸ See *SBC-Ameritech Order*, 14 FCC Rcd 14712, 14749-50 ¶ 571 (1999) (relying on SBC's voluntary commitments aimed at opening its local markets to competition in concluding that the public interest benefits of the proposed merger would outweigh the public interest harms, notwithstanding commenters' arguments that SBC had "history of vigorously resisting competition in its existing monopoly markets.").

⁵⁴⁹ *1997 SDARS Service Order*, 12 FCC Rcd at 5791 § 91 ("The rationale behind these requirements is a belief that a licensee can better fulfill the needs of the community, whether local or national, if it makes an effort to hire a diverse staff, including minorities and women.").

⁵⁵⁰ *Streamlining Broadcast EEO Rules and Policies*, Order and Notice of Proposed Rulemaking, 11 FCC Rcd 5154 (1996); see also *Lutheran Church- Missouri Synod v. FCC*, 141 F.3d 344 (D.C. Cir. 1998), *pet. for reh'g denied*, 154 F.3d 487, *pet. for reh'g en banc denied*, 154 F.3d 494 (D.C. Cir. 1998); *Review of the Commission's Broadcast and Cable Equal Employment Opportunity Rules and Policies and Termination of the EEO Streamlining Proceeding*, Report & Order, 15 FCC Rcd 2329 (2000); *MD/DC/DE Broadcasters' Association v. FCC*, 236 F.3d 13, *rehearing denied*, 253 F.3d 732 (D.C. Cir. 2001), *cert. denied* 122 S. Ct. 920 (2002); *Review of the Commission's Broadcast and Cable Equal Employment Opportunity Rules and Policies*, Second Report and Order and Third Notice of Proposed Rulemaking, 17 FCC Rcd 24018 (2002) ("2002 Broadcast EEO Order").

⁵⁵¹ *2002 Broadcast EEO Order*, 17 FCC Rcd at 24062-69 ¶¶ 139-64. SDARS licensees therefore must refrain from discrimination in employment practices and engage in the same recruitment, outreach, public file, website posting, record-keeping, reporting, and self-assessment obligations required of broadcast licensees, consistent with Commission Rule 73.2080, 47 C.F.R. § 73.2080, the policies set forth in the *2002 Broadcast EEO Order*, and any (continued....)

VIII. PROCEDURAL MATTERS

A. Petitions and Motions Addressing Various Other Issues

175. Various entities request the Commission to delay its decision on Applicants' proposed merger or to designate the Application for hearing. NAB filed a Petition to Defer Action urging the Commission to suspend its merger review until the Enforcement Bureau releases documents responsive to a Freedom of Information Act request filed by NAB.⁵⁵² NAB asserts that the documents, which pertain to Applicants' compliance with Commission rules governing the operation of FM modulators and terrestrial repeaters, are central in determining whether Applicants can be relied upon to adhere to promises made in their Application.⁵⁵³ In addition, USE asks the Commission to suspend its review to allow adequate time for the Commission to: (1) address adverse effects of vertical integration; (2) disclose its findings on compliance matters, including Applicants' failure to provide interoperable radios; (3) ensure that its ex parte rules are being followed; and (4) condition the merger should it be approved.⁵⁵⁴ USE also submitted filings arguing that the Commission should designate the Application for hearing because of material issues of fact regarding whether the public interest is served by the vertical integration that would occur with a merger and whether the information furnished in the Application is accurate and complete.⁵⁵⁵ The Leadership Conference on Civil Rights argues that the Commission should delay its final decision until it has had more time to assess the potential impact of a merger on media ownership diversity.⁵⁵⁶ We believe we have adequately addressed the issues relevant to this merger review and find that no further delay is warranted.⁵⁵⁷

176. Primosphere Limited Partnership ("Primosphere") has a pending Application for Review seeking authority to operate two satellites in the SDARS spectrum if the Commission approves this

(Continued from previous page) —————

other Commission EEO policy as explained in Public Notices, case decisions, or other items. This includes creating annual EEO public file reports and posting them on the company website and filing the same EEO reporting forms with the Commission used by terrestrial broadcasters (e.g., FCC Form 396 and 397) on the same schedule, notwithstanding the differences in license terms for broadcast stations and satellite facilities. In addition, we clarify that SDARS licensees also will be subject to the same random audits as broadcast licensees and all the same investigation and enforcement provisions including, but not limited to, audits for cause, reporting conditions, and forfeitures. *2002 Broadcast EEO Order*, 17 FCC Rcd at 24066-67 ¶¶ 153-58.

⁵⁵² NAB Petition to Defer Action at 1.

⁵⁵³ *Id.* at 1-4.

⁵⁵⁴ USE Petition to Defer Action at 3-16.

⁵⁵⁵ USE Petition to Designate Application for Hearing at 1-3; *see also* USE Motion to Designate and for Summary Decision at 1-3 (arguing that Applicants effectively conceded that material factual issues are in dispute by not opposing USE's designation petition).

⁵⁵⁶ Letter from Wade Henderson, President and CEO, Nancy Zirkin, Vice President/Dir. of Public Policy, and Mark Lloyd, Chairman, Media/Telecom. Task Force, Leadership Conference on Civil Rights, to Kevin J. Martin, Chairman, FCC (July 27, 2007) at 1.

⁵⁵⁷ NAB also requests that we make public certain documents that Applicants have submitted as confidential pursuant to our Protective Orders. Letter from David H. Solomon, J. Wade Lindsay, Wilkinson Barker Knauer, LLP, Counsel for NAB, to Marlene H. Dortch, Secretary, FCC (June 3, 2008). Consumers Union and Consumer Federation of America make a similar request. Letter from Chris Murray, Consumers Union, Dr. Mark Cooper, CFA, to Marlene H. Dortch, Secretary, FCC (July 9, 2008). We will consider their requests for public disclosure separately pursuant to the terms of the Protective Orders and our regulations, 47 C.F.R. §§ 0.459, 0.461. We note that NAB already has reviewed these documents, as has the Commission, and that other parties have done so or had the opportunity to do so pursuant to our Protective Orders.

merger. Primosphere filed a motion to consolidate its proceeding with the XM-Sirius review.⁵⁵⁸ We do not believe these two proceedings need to be linked, and we therefore deny Primosphere's motion. Primosphere filed a petition simultaneously with its motion, in which it attempts to preserve its request for SDARS spectrum in the event the Commission dismisses its Application for Review. We need review Primosphere's issues in only one proceeding. We therefore deny Primosphere's petition without prejudice to its Application for Review.

B. Final Regulatory Flexibility Certification

177. Pursuant to the Regulatory Flexibility Act,⁵⁵⁹ the Commission certifies that the outcome of this rulemaking will not have a significant economic impact on a substantial number of small entities. This rulemaking affects SDARS providers. SDARS provides nationally distributed subscription radio service. Currently, only two operators hold licenses to provide SDARS service, XM and Sirius, which requires a great investment of capital for operation. Because SDARS service requires significant capital, we believe it is unlikely that a small entity as defined by the Small Business Administration would have the financial wherewithal to become an SDARS licensee.

C. Final Paperwork Reduction Act Analysis

178. This document does not contain new or modified information collections subject to the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4).

D. Additional Information

179. For additional information on this proceeding, please contact Marcia Glaubergerman or Rebekah Goodheart, Industry Analysis Division, Media Bureau, at (202) 418-2330.

IX. ORDERING CLAUSES

180. Accordingly, having reviewed the applications and the record in this matter, IT IS ORDERED, pursuant to sections 1, 4(i), 4(j), 303(r), and 310(d) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 154(j), 303(r), 310(d), that this *Memorandum Opinion and Order and Report and Order* and the rule modifications included herein ARE ADOPTED, and that the Consolidated Application for Authority to Transfer Control of various Commission licenses and authorizations held by Sirius Satellite Radio Inc. and XM Satellite Radio Holdings Inc., and the associated supplemental application,⁵⁶⁰ ARE GRANTED subject to the condition that Applicants fulfill the voluntary commitments as set forth in Appendix B, which is incorporated by reference into this *Memorandum Opinion and Order and Report and Order*, as well as the additional conditions set forth herein.

181. IT IS FURTHER ORDERED that the above grants shall include authority for XM and Sirius consistent with the terms of this *Memorandum Opinion and Order and Report and Order* to acquire control of any license or authorization issued for any station during the Commission's consideration of the Application or the period required for consummation of the transaction.

⁵⁵⁸ Primosphere Motion to Consolidate at 1-2; *see also* Primosphere Petition at 3 (addressing the same issues as its Application for Review).

⁵⁵⁹ *See* 5 U.S.C. § 605(b).

⁵⁶⁰ *See supra* n.1.

182. IT IS FURTHER ORDERED that Applicants are required to comply with the Commission's broadcast EEO rules and policies set forth in 47 C.F.R. § 73.2080.

183. IT IS FURTHER ORDERED that pursuant to sections 4(i), 4(j), and 310(d) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 310(d), that the Petitions to Deny filed by American Women in Radio and Television; Common Cause, Consumer Federation of America, Consumers Union, and Free Press; Consumer Coalition for Competition in Satellite Radio; Forty-Six Broadcasting Organizations; Mt. Wilson FM Broadcasters, Inc.; The National Association of Black Owned Broadcasters, Inc.; National Association of Broadcasters; National Public Radio, Inc.; and The Telecommunications Advocacy Project ARE DENIED except to the extent otherwise indicated in this *Memorandum Opinion and Order and Report and Order*.

184. IT IS FURTHER ORDERED that pursuant to Sections 4(i), 4(j), and 310(d) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 310(d), that the Petition for Declaratory Ruling filed by Michael Hartlieb IS DENIED.

185. IT IS FURTHER ORDERED that pursuant to Sections 4(i), 4(j), and 310(d) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 310(d), that the Petitions to Defer Action filed by National Association of Broadcasters and U.S. Electronics, Inc. ARE DENIED.

186. IT IS FURTHER ORDERED that pursuant to Sections 4(i), 4(j), and 310(d) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 310(d), that the Motion to Consolidate and the Petition filed by Primosphere Limited Partnership ARE DENIED.

187. IT IS FURTHER ORDERED that pursuant to Sections 4(i), 4(j), and 310(d) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 310(d), that the Petition to Designate Application for Hearing and the Motion to Designate and for Summary Decision filed by U.S. Electronics, Inc. ARE DENIED.

188. IT IS FURTHER ORDERED that this *Memorandum Opinion and Order and Report and Order*, including the repeal of the rule prohibiting one SDARS licensee from acquiring control of the other SDARS licensee, SHALL BE EFFECTIVE upon adoption.⁵⁶¹

⁵⁶¹ See 47 C.F.R. § 1.4(b)(3). Repeal of the merger prohibition in the Commission's *1997 SDARS Service Rules Order* is a rule of particular applicability that is not subject to the Administrative Procedure Act's publication requirement, 5 U.S.C. § 552(a)(1)(D); see *supra*, ¶ 162 ("the prohibition against merger applies only to the two Applicants; it has no application beyond this proceeding."), and may be effective on adoption under the Commission's rules. 47 C.F.R. §§ 1.4(b)(3), 1.103. Further, the prohibition's repeal is not subject to the statutory 30-day waiting period under the Administrative Procedure Act because it "relieves a restriction." 5 U.S.C. § 553(d)(1). In addition, the Congressional review procedures of Subtitle E of the Small Business Regulatory Enforcement Fairness Act of 1996, 5 U.S.C. § 801, *et seq.*, do not apply here because repeal of the merger prohibition is not a "rule" within the meaning of 5 U.S.C. § 804(3)(A) (excluding from the definition of the term "rule" "any rule of particular applicability, including a rule that approves or prescribes for the future rates, wages, prices, services, or allowances therefore, corporate or financial structures, reorganizations, mergers, or acquisitions thereof, or accounting practices or disclosures bearing on any of the foregoing").

189. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Memorandum Opinion and Order and Report and Order*, including the Final Regulatory Flexibility Analysis Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

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been received for the information collection requirements.

FOR FURTHER INFORMATION CONTACT: Steven Spaeth, International Bureau, telephone (202) 418-1539 or via the Internet at steven.spaeth@fcc.gov.

SUPPLEMENTARY INFORMATION: This summary of the Commission's *Eighth Report and Order*, IB Docket No. 00-248, and *Order on Reconsideration*, CC Docket No. 95-117, FCC 08-246, adopted October 10, 2008, and released October 17, 2008. The complete text of this *Eighth Report and Order* and *Order on Reconsideration* is available for inspection and copying during normal business hours in the FCC Reference Center (Room), 445 12th Street, SW., Washington, DC 20554, and also may be purchased from the Commission's copy contractor, Best Copy and Printing, Inc., Portals II, 445 12th Street, SW., Room CY-B402, Washington, DC 20554. It is also available on the Commission's Web site at <http://www.fcc.gov>.

Paperwork Reduction Act Analysis: The actions taken in the *Eighth Report and Order* have been analyzed with respect to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13 (44 U.S.C. 3501-3520), and found to impose new and modified requirements. Implementation of these new and modified requirements will be subject to approval by the Office of Management and Budget (OMB) as prescribed by the PRA, and will go into effect upon announcement in the **Federal Register** of OMB approval. The Commission will publish a separate notice in the **Federal Register** inviting comment on the new and revised information collection requirements contained in this document. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, 44 U.S.C. 3506(c)(4), we will also seek specific comment on how the Commission might "further reduce the information collection burden for small business concerns with fewer than 25 employees."

Regulatory Flexibility Analysis

As required by the Regulatory Flexibility Act of 1980, as amended (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Third Further Notice of Proposed Rulemaking (Third Further Notice)* in IB Docket No. 00-248, 70 FR 33426 (June 8, 2005). The Commission sought written public comment on the proposals in the *Third Further Notice*, including comment on the IRFA. This

Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.¹

A. Need for, and Objectives of, the Report and Order

The Telecommunications Act of 1996 requires the Commission in every even-numbered year beginning in 1998 to review all regulations that apply to the operations or activities of any provider of telecommunications service and to determine whether any such regulation is no longer necessary in the public interest due to meaningful economic competition. Our objective is to repeal or modify any rules in part 25 that are no longer necessary in the public interest, as required by section 11 of the Communications Act of 1934, as amended.

We codify streamlined procedures that allow for routine treatment of applications for earth stations that will comply with an off-axis EIRP envelope.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

No comments were submitted directly in response to the IRFA in the *Third Further Notice*.

C. Description and Estimate of the Number of Small Entities to Which Rules Will Apply

The RFA directs agencies to provide a description of, and, where feasible, an estimate of, the number of small entities that may be affected by the rules adopted herein.² The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."³ In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act.⁴ A small business concern is one which: (1) Is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).⁵

1. *Cable Services.* The SBA has developed a small business size

¹ See 5 U.S.C. 604.

² 5 U.S.C. 604(a)(3).

³ 5 U.S.C. 601(6).

⁴ 5 U.S.C. 601(3) (incorporating by reference the definition of "small business concern" in 15 U.S.C. 632). Pursuant to the RFA, the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the **Federal Register**." 5 U.S.C. 601(3).

⁵ 15 U.S.C. 632.

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 25

[IB Docket No. 00-248; CC Docket No. 95-117; FCC 08-246]

Satellite Licensing Procedures

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Commission adopts new procedures for non-routine earth station applications, and adopts a reasonableness standard for contention protocol usage. These actions are necessary to expedite the licensing of earth stations often used to provide satellite-based broadband Internet access services.

DATES: Effective December 24, 2008, except for the amendments to §§ 25.115, 25.134, 25.218, and 25.220, which contain information requirements that have not been approved by OMB. The Federal Communications Commission will publish a document in the **Federal Register** announcing the effective date for these rules once OMB approval has

standard for Cable and Other Program Distribution, which consists of all such firms having \$12.5 million or less in annual receipts.⁶ According to Census Bureau data for 1997, in this category there was a total of 1,311 firms that operated for the entire year.⁷ Of this total, 1,180 firms had annual receipts of under \$10 million, and an additional fifty-two firms had receipts of \$10 million to \$24,999,999.⁸ Thus, under this size standard, the majority of firms can be considered small.

The Commission has developed its own small business size standard for a small cable operator for the purposes of rate regulation. Under the Commission's rules, a "small cable company" is one serving fewer than 400,000 subscribers nationwide.⁹ Based on our most recent information, we estimate that there were 1,439 cable operators that qualified as small cable companies at the end of 1995.¹⁰ Since then, some of those companies may have grown to serve over 400,000 subscribers, and others may have been involved in transactions that caused them to be combined with other cable operators. Consequently, we estimate that there are fewer than 1,439 small cable companies that may be affected by the proposed rules.

The Communications Act of 1934, as amended, also contains a size standard for a "small cable operator," which is "a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000."¹¹ The Commission has determined that there are 67,700,000 subscribers in the United States.¹² Therefore, an operator serving fewer than 677,000 subscribers shall be deemed a small operator, if its annual revenues, when combined with the total annual revenues of all of its affiliates, do

not exceed \$250 million in the aggregate.¹³ Based on available data, we estimate that the number of cable operators serving 677,000 subscribers or less totals approximately 1,450.¹⁴ We do not request or collect information on whether cable operators are affiliated with entities whose gross annual revenues exceed \$250,000,000,¹⁵ and therefore are unable to estimate accurately the number of cable system operators that would qualify as small cable operators under the definition in the Communications Act.

2. *Satellite Telecommunications.* The rules proposed in the *Third Further Notice* would affect providers of satellite telecommunications services, if adopted. Satellite telecommunications service providers include satellite operators and earth station operators. The Commission has not developed a definition of small entities applicable to satellite operators. Therefore, the applicable definition of small entity is generally the definition under the SBA rules applicable to Satellite Telecommunications.¹⁶ This definition provides that a small entity is expressed as one with \$12.5 million or less in annual receipts.¹⁷ 1997 Census Bureau data indicate that, for 1997, 273 satellite communication firms had annual receipts of under \$10 million. In addition, 24 firms had receipts for that year of \$10 million to \$24,999,990.¹⁸

3. *Auxiliary, Special Broadcast and other program distribution services.* This service involves a variety of transmitters, generally used to relay broadcast programming to the public (through translator and booster stations) or within the program distribution chain (from a remote news gathering unit back to the station). The Commission has not developed a definition of small entities applicable to broadcast auxiliary licensees. Therefore, the applicable definition of small entity is the

definition under the Small Business Administration (SBA) rules applicable to radio broadcasting stations,¹⁹ and television broadcasting stations.²⁰ These definitions provide that a small entity is one with either \$6.0 million or less in annual receipts for a radio broadcasting station or \$12.0 million in annual receipts for a TV station.²¹ There are currently 3,237 FM translators and boosters, 4913 TV translators.²² The FCC does not collect financial information on any broadcast facility and the Department of Commerce does not collect financial information on these auxiliary broadcast facilities. We believe, however, that most, if not all, of these auxiliary facilities could be classified as small businesses by themselves. We also recognize that most translators and boosters are owned by a parent station which, in some cases, would be covered by the revenue definition of small business entity discussed above. These stations would likely have annual revenues that exceed the SBA maximum to be designated as a small business (as noted, either \$6.0 million for a radio station or \$12.0 million for a TV station). Furthermore, they do not meet the Small Business Act's definition of a "small business concern" because they are not independently owned and operated.

4. *Microwave Services.* Microwave services include common carrier,²³ private-operational fixed,²⁴ and broadcast auxiliary radio services.²⁵ At present, there are approximately 22,015 common carrier fixed licensees and 61,670 private operational-fixed licensees and broadcast auxiliary radio licensees in the microwave services. The Commission has not yet defined a small business with respect to

¹⁹ 13 CFR 121.201, NAICS code 515112.

²⁰ 13 CFR 121.201, NAICS code 515120.

²¹ 13 CFR 121.201.

²² FCC News Release, *Broadcast Station Totals as of September 30, 1999*, No. 71831 (Jan. 21, 1999).

²³ See 47 CFR 101 *et seq.* (formerly, part 21 of the Commission's Rules).

²⁴ Persons eligible under parts 80 and 90 of the Commission's rules can use Private Operational-Fixed Microwave services. See 47 CFR parts 80 and 90. Stations in this service are called operational-fixed to distinguish them from common carrier and public fixed stations. Only the licensee may use the operational-fixed station, and only for communications related to the licensee's commercial, industrial, or safety operations.

²⁵ Auxiliary Microwave Service is governed by part 74 of Title 47 of the Commission's Rules. See 47 CFR part 74 *et seq.* Available to licensees of broadcast stations and to broadcast and cable network entities, broadcast auxiliary microwave stations are used for relaying broadcast television signals from the studio to the transmitter, or between two points such as a main studio and an auxiliary studio. The service also includes mobile TV pickups, which relay signals from a remote location back to the studio.

⁶ 13 CFR 121.201, NAICS code 517510.

⁷ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size (Including Legal Form of Organization)," Table 4, NAICS code 513220 (issued October 2000).

⁸ *Id.*

⁹ 47 CFR 76.901(e). The Commission developed this definition based on its determinations that a small cable company is one with annual revenues of \$100 million or less. See *Implementation of Sections of the Cable Television Consumer Protection and Competition Act of 1992: Rate Regulation*, MM Doc. Nos. 92-266 and 93-215, Sixth Report and Order and Eleventh Order on Reconsideration, 10 FCC Rcd 7393, 7408-7409 (paras. 28-30) (1995).

¹⁰ Paul Kagan Assocs., Inc., Cable TV Investor, Feb. 29, 1996 (based on figures for Dec. 30, 1995).

¹¹ 47 U.S.C. 543(m)(2).

¹² See *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (2001).

¹³ 47 CFR 76.1403(b).

¹⁴ See *FCC Announces New Subscriber Count for the Definition of Small Cable Operator*, Public Notice, 16 FCC Rcd 2225 (2001).

¹⁵ We do receive such information on a case-by-case basis only if a cable operator appeals a local franchise authority's finding that the operator does not qualify as a small cable operator pursuant to section 76.901(f) of the Commission's rules. See 47 CFR 76.990(b).

¹⁶ "This industry comprises establishments primarily engaged in providing point-to-point telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications." Small Business Administration, NAICS code 517310.

¹⁷ 13 CFR 120.121, NAICS code 517310.

¹⁸ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, "Establishment and Firm Size," Table 4, NAICS 513340 (Issued Oct. 2000).

microwave services. For purposes of this FRFA, we will use the SBA's definition applicable to cellular and other wireless communications companies—i.e., an entity with no more than 1,500 persons.²⁶ We estimate that all of the Fixed Microwave licensees (excluding broadcast auxiliary licensees) would qualify as small entities under the SBA definition for radiotelephone (wireless) companies.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

The rules adopted in the *Eighth Report and Order* are not intended to increase the reporting, recordkeeping and other compliance requirements of any licensee, and we do not anticipate any differential treatment to be received by larger and smaller entities. The reporting requirements associated with the off-axis EIRP envelope method for reviewing earth station applications are the same as the reporting requirements associated with one of the earth station application procedures adopted in the *Fifth Report and Order* in IB Docket No. 00–248, 70 FR 32249 (June 2, 2005). These requirements will not affect small businesses differently from other non-routine earth station applicants.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered

The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives: (1) The establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.²⁷

In this *Eighth Report and Order*, the Commission considers and rejects a proposal to require analog video earth station operators to comply with an off-axis EIRP envelope. Commenters persuasively argued that such a requirement would have been burdensome for all analog video earth station operators, including small business analog video earth station operators.

F. Report to Congress

The Commission will send a copy of the *Eighth Report and Order*, including this FRFA, in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. 801(a)(1)(A). In addition, the Commission will send a copy of the *Eighth Report and Order*, including FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the *Eighth Report and Order* and FRFA (or summaries thereof) will also be published in the **Federal Register**. See 5 U.S.C. 604(b).

Summary of Report and Order

The *Eighth Report and Order* adopts an off-axis equivalent isotropically radiated power (EIRP) approach for licensing non-routine FSS earth stations, thus giving earth station operators greater flexibility to make technical adjustments and request routine application processing. Part 25 specifies technical requirements for “routine” FSS earth station applications. “Routine” applications are those that can be granted without a detailed engineering review. There are many non-routine earth stations that can be licensed without increasing the risk of harmful interference, but determining whether a particular non-routine earth station can be licensed requires a detailed engineering review. Licensing non-routine earth stations is important because they are often used to provide broadband Internet access.

The off-axis EIRP approach is based on a limit on the EIRP of side lobes. Decreasing the diameter of an earth station antenna increases the side lobes. Increasing the power into an earth station antenna also increases the side lobes. Thus, an earth station operator could compensate for a high power level by increasing its antenna diameter, or vice versa. An off-axis EIRP rule would make it easier for earth station license applicants to make these trade-offs, and to obtain Commission authorizations on a more expedited basis.

The *Eighth Report and Order* also adopts rules based on a study on contention protocols submitted by a commenter in this proceeding. This contention protocol issue is related to very small aperture terminal (VSAT) networks. VSAT networks are generally comprised of a hub station transmitting to a satellite, which then transmits the signal to multiple remote earth stations, or vice versa. VSAT networks use a number of different techniques, or protocols, to prevent or limit

interference among the multiple remote earth stations, and to prevent them from interfering with other adjacent satellite networks. Sometimes, the remotes are assigned different frequencies, or transmit times. This is known as Frequency Division Multiple Access (FDMA), and Time Division Multiple Access (TDMA). Other protocols are referred to as “contention protocols.” Under this approach, the VSAT system operator allows simultaneous transmissions to interfere with each other, but uses statistical techniques to keep the intra-VSAT network interference to a minimum.

Simultaneous transmissions in contention protocol usage are called “collisions.” Collisions result in power levels in excess of the levels allowed by the Commission's rules, although for no more than tens of milliseconds. Originally, the Commission assumed that the power levels during “collisions” could increase the likelihood of harmful interference. Therefore, the Commission has requested comment on a number of proposals over the course of this proceeding to limit various aspects of contention protocol usage to reduce the probability and duration of collisions. However, the record in this proceeding includes a technical study that convincingly shows contention protocol usage decreases the likelihood of harmful interference in most areas of the country, and the increases in other areas are *de minimis*. Based on this study, the *Eighth Report and Order* decides not to adopt any of the contention protocol proposals considered previously in this proceeding. Instead, contention protocol users are required to be “reasonable,” which is defined as not increasing the likelihood of harmful interference any more than the sample VSAT networks modeled in the study discussed in the *Eighth Report and Order*.

In addition, the *Eighth Report and Order* considers and rejects a proposal to revise procedures for licensing earth stations in the Quiet Zone. The “Quiet Zone” is a 13,000 square mile area in Virginia, West Virginia, and Maryland, created to protect radio astronomy. The current procedure, in place since 1958, requires the Commission to notify the National Radio Astronomy Observatory (NRAO) when it receives an application for an earth station in the Quiet Zone. In an earlier phase of this proceeding, NRAO proposed replacing the traditional notification procedure with a coordination procedure. The *Eighth Report and Order* does not adopt NRAO's proposal, because the current notification requirement has been in place since 1958, and nothing in the

²⁶ See 13 CFR 121.201, NAICS code 517212.

²⁷ 5 U.S.C. 603(c)(1)–(c)(4).

record suggests that it has not been sufficient.

Finally, the Commission considers several miscellaneous issues raised in petitions for reconsideration of the *Fifth Report and Order* in IB Docket No. 00–248, 70 FR 32249 (June 2, 2005), the *Sixth Report and Order* in IB Docket No. 00–248, 70 FR 33373 (June 8, 2005), and the *1996 Streamlining Order*, 62 FR 5924 (Feb. 10, 1997). Based on those petitions for reconsideration, the Commission clarified, among other things, that non-routine earth stations need not be afforded more protection from interference than a routine earth station would. The Commission also clarified the satellites with whom a target satellite operator must coordinate prior to the time a non-routine earth station operator communicating with that target satellite operator plans to begin operations. All other issues raised in these petitions for reconsideration were dismissed as moot, denied because they were outside the scope of the proceeding, or denied because the Commission had considered and rejected the petitioner's proposal in a previous Order.

Ordering Clauses

Accordingly, *it is ordered*, pursuant to sections 4(i), 7(a), 303(c), 303(f), 303(g), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 157(a), 303(c), 303(f), 303(g), 303(r), that this *Eighth Report and Order* in IB Docket No. 00–248 is hereby *adopted*.

It is further ordered that part 25 of the Commission's rules *is amended* as set forth below. An announcement of the effective date of these rule revisions will be published in the **Federal Register**.

It is further ordered that the Consumer and Governmental Affairs Bureau, Reference Information Center, *shall send* a copy of this Order, including the Final Regulatory Flexibility Certification, to the Chief Counsel for Advocacy of the Small Business Administration.

It is further ordered, pursuant to § 1.106 of the Commission's rules, 47 CFR 1.106, that the Petition for Reconsideration of the *Fifth Report and Order* filed by the Satellite Industry Association (SIA) is *granted in part* and *denied in part*.

It is further ordered, pursuant to § 1.106 of the Commission's rules, 47 CFR 1.106, that the Petition for Reconsideration of the *Sixth Report and Order* filed by SIA is *Granted*.

It is further ordered, pursuant to § 1.106 of the Commission's rules, 47 CFR 1.106, that the Petition for Reconsideration of the *Sixth Report and*

Order filed by Boeing is *dismissed as moot*.

It is further ordered, pursuant to § 1.106 of the Commission's rules, 47 CFR 1.106, that the Petitions for Reconsideration of the *1996 Streamlining Order* filed by EDS Corporation (EDS) and GE American Communications, Inc. (GE Americom) are *dismissed as moot*.

It is further ordered, pursuant to § 1.106 of the Commission's rules, 47 CFR 1.106, that the Petition for Reconsideration of the *1996 Streamlining Order* filed by Telquest Ventures, Inc. (Telquest) is *denied*.

List of Subjects in 47 CFR Part 25

Satellites.

Federal Communications Commission.

Marlene H. Dortch,
Secretary.

■ For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR part 25 as follows:

PART 25—SATELLITE COMMUNICATIONS

■ 1. The authority citation for part 25 continues to read as follows:

Authority: 47 U.S.C. 701–744. Interprets or applies Sections 4, 301, 302, 303, 307, 309, and 332 of the Communications Act, as amended, 47 U.S.C. Sections 154, 301, 302, 303, 307, 309, and 332, unless otherwise noted.

■ 2. Section 25.115 is amended by adding paragraphs (h) and (i) to read as follows:

§ 25.115 Application for earth station authorizations.

* * * * *

(h) Any earth station applicant filing an application pursuant to § 25.218 of this chapter must file three tables showing the off-axis EIRP level of the proposed earth station antenna of the plane of the geostationary orbit, the elevation plane, and towards the horizon. In each table, the EIRP level must be provided at increments of 0.1° for angles between 0° and 10° off-axis, and at increments of 5° for angles between 10° and 180° off-axis.

(1) For purposes of the off-axis EIRP table in the plane of the geostationary orbit, the off-axis angle is the angle in degrees from the line connecting the focal point of the antenna to the target satellite, within the plane determined by the focal point of the antenna and the line tangent to the arc of the geostationary satellite orbit at the position of the target satellite.

(2) For purposes of the off-axis EIRP table in the elevation plane, the off-axis

angle is the angle in degrees from the line connecting the focal point of the antenna to the target satellite, within the plane perpendicular to the plane determined by the focal point of the antenna and the line tangent to the arc of the geostationary satellite orbit at the position of the target satellite.

(3) For purposes of the off-axis EIRP table towards the horizon, the off-axis angle is the angle in degrees from the line determined by the intersection of the horizontal plane and the elevation plane described in paragraph (h)(2) of this section, in the horizontal plane. The horizontal plane is the plane determined by the focal point of the antenna and the horizon.

(4) In addition, in an attachment to its application, the earth station applicant must certify that it will limit its pointing error to 0.5°, or demonstrate that it will comply with the applicable off-axis EIRP envelopes in § 25.218 of this part when the antenna is mispointed at its maximum pointing error.

(i) Any earth station applicant filing an application for a VSAT network made up of FSS earth stations and planning to use a contention protocol must include in its application a certification that it will comply with the requirements of § 25.134(g)(4).

■ 3. Section 25.134 is amended by adding paragraph (g)(4) to read as follows:

§ 25.134 Licensing provisions of Very Small Aperture Terminal (VSAT) and C-band Small Aperture Terminal (CSAT) networks.

* * * * *

(g) * * *

(4) Any earth station applicant filing an application to operate a VSAT network after December 24, 2008 in the Ku-band and planning to use a contention protocol must certify that its contention protocol usage will be reasonable.

* * * * *

■ 4. Section 25.138 is amended by revising paragraph (a)(4) to read as follows:

§ 25.138 Blanket Licensing provisions of GSO FSS Earth Stations in the 18.3–18.8 GHz (space-to-Earth), 19.7–20.2 GHz (space-to-Earth), 28.35–28.6 GHz (Earth-to-space), and 29.25–30.0 GHz (Earth-to-space) bands.

(a) * * *

(4) GSO FSS earth station antenna off-axis EIRP spectral density for cross-polarized signals shall not exceed the following values, in all directions relative to the GSO arc, under clear sky conditions:

8.5–25log(θ)–10log(N)	dBW/40 kHz	For	2.0° < θ ≤ 7.0°
– 12.63–10log(N)	dBW/40 kHz	For	7.0° < θ ≤ 9.2°

where θ is the angle in degrees from the axis of the main lobe. For systems where more than one earth station is expected to transmit simultaneously in the same bandwidth, *e.g.*, CDMA systems, N is the likely maximum number of simultaneously transmitting co-frequency earth stations in the receive beam of the satellite. N=1 for TDMA and FDMA systems.

* * * * *

■ 5. Section 25.209 is amended by revising paragraphs (a), (b), and (c)(1), removing and reserving paragraph (d), revising paragraph (f), and removing and reserving paragraph (g), to read as follows:

§ 25.209 Antenna performance standards.

(a) The gain of any antenna to be employed in transmission from an earth

station in the fixed-satellite service shall lie below the envelope defined below:

(1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location, for earth stations not operating in the Ka-band or conventional Ku-band:

29–25log ₁₀ θ	dBi	For	1.5° ≤ θ ≤ 7°
8	dBi	For	7° < θ ≤ 9.2°
32–25log ₁₀ θ	dBi	For	9.2° < θ ≤ 48°
– 10	dBi	For	48° < θ ≤ 180°

where θ is the angle in degrees from the axis of the main lobe, and dBi refers to dB relative to an isotropic radiator. For the purposes of this section, the peak gain of an individual sidelobe may not exceed the envelope defined above for θ between 1.5 and 7.0

degrees. For θ greater than 7.0 degrees, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the gain envelope given above by more than 3 dB.

(2) In the plane of the geostationary satellite orbit as it appears at the particular earth station location, for earth stations operating in the Ka-band or conventional Ku-band:

29–25log ₁₀ θ	dBi	For	1.5° ≤ θ ≤ 7°
8	dBi	For	7° < θ ≤ 9.2°
32–25log ₁₀ θ	dBi	For	9.2° < θ ≤ 48°
– 10	dBi	For	48° < θ ≤ 85°
0	dBi	For	85° < θ ≤ 180°

(3) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference

paths, for all earth stations not operating in the Ka-band or conventional Ku-band:

Outside the main beam, the gain of the antenna shall lie below the envelope defined by:

32–25log ₁₀ θ	dBi	For	3° < θ ≤ 48°
– 10	dBi	For	48° < θ ≤ 180°

where θ and dBi are defined above. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the gain envelope given above by more than 6 dB. The region of the main

reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(4) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference

paths, for all earth stations operating in the Ka-band or conventional Ku-band:

Outside the main beam, the gain of the antenna shall lie below the envelope defined by:

32–25log ₁₀ θ	dBi	For	3° < θ ≤ 48°
– 10	dBi	For	48° < θ ≤ 85°
0	dBi	For	85° < θ ≤ 180°

where θ and dBi are defined above. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the gain envelope given above by more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(5) Elliptical earth station antennas may be operated only when the major axis of the antenna is aligned with the plane of the geostationary satellite orbit as it appears at the particular earth station location.

(b) The off-axis cross-polarization gain of any antenna to be employed in

transmission from an earth station to a space station in the domestic fixed-satellite service shall be defined as follows:

(1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

19–25log ₁₀ θ	dBi	For	1.8° < θ ≤ 7°
– 2	dBi	For	7° < θ ≤ 9.2°

where θ is the angle in degrees from the axis of the main lobe, and dBi refers to dB relative to an isotropic radiator.

(2) In all other directions, or in the plane of the horizon including any out-

of-plane potential terrestrial interference paths:

19–25log ₁₀ θ	dBi	For	3° < θ ≤ 7°
–2	dBi	For	7° < θ ≤ 9.2°

where θ and dBi are defined above.

(c)(1) Earth station antennas licensed for reception of radio transmissions from a space station in the fixed-satellite service are protected from radio interference caused by other space stations only to the degree to which harmful interference would not be expected to be caused to an earth station employing an antenna conforming to the referenced patterns defined in paragraphs (a) and

(b) of this section, and protected from radio interference caused by terrestrial radio transmitters identified by the frequency coordination process only to the degree to which harmful interference would not be expected to be caused to an earth station conforming to the reference pattern defined in paragraphs (a)(3) and (a)(4) of this section.

* * * * *

(f) An earth station with an antenna not conforming to the standards of paragraphs (a) and (b) of this section will be authorized only if the applicant meets its burden of demonstrating that its antenna will not cause unacceptable interference. For ESVs in the C-band, this demonstration must comply with the procedures set forth in § 25.221. For ESVs in the Ku-band, this demonstration must comply with the procedures set forth in § 25.222. For feeder-link earth stations in the 17/24

GHz BSS, this demonstration must comply with the procedures set forth in § 25.223. For other FSS earth stations, this demonstration must comply with the procedures set forth in §§ 25.218 or 25.220. In any case, the Commission will impose appropriate terms and conditions in its authorization of such facilities and operations.

* * * * *

■ 6. Section 25.212 is amended by revising paragraph (c) to read as follows:

§ 25.212 Narrowband analog transmissions, digital transmissions, and video transmissions in the GSO Fixed-Satellite Service.

* * * * *

(c) In the 14.0 through 14.5 GHz band, an earth station with an antenna equivalent diameter of 1.2 meters or greater may be routinely licensed for transmission of narrowband analog services with bandwidths up to 200 kHz if the maximum input power spectral density into the antenna does not exceed –8 dBW/4 kHz and the maximum transmitted satellite carrier EIRP density does not exceed 17 dBW/4 kHz. Such earth stations may be routinely licensed for transmission of narrowband and/or wideband digital services, including digital video services, if the maximum input spectral power density into the antenna does not exceed –14 dBW/4 kHz, and the

maximum transmitted satellite carrier EIRP density does not exceed +10.0 dBW/4 kHz. Antennas transmitting in the 14.0 through 14.5 GHz band with a major and/or minor axis smaller than 1.2 meters are subject to the provisions of § 25.220, which may include power reduction requirements.

* * * * *

■ 7. Section 25.218 is added to read as follows:

§ 25.218 Off-axis EIRP envelopes for FSS earth station operations.

(a) This section applies to all earth station applications, except for:

- (1) ESV applications,
- (2) Analog video earth station applications,
- (3) Applications for feeder-link earth stations in the 17/24 GHz BSS.

(b) Earth station applications subject to this section are eligible for routine processing if they meet the applicable off-axis EIRP envelope set forth in this section below. For purposes of this section, the term “extended Ku-band” is the 10.7 through 11.7 GHz, 12.75 through 13.25 GHz, and 13.75 through 14.0 GHz band. The term “conventional Ku-band” is defined in § 25.201 of this chapter.

(c) *C-band analog earth station operations.* (1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

29.5–25log ₁₀ θ	dBW/4 kHz	For	1.5° ≤ θ ≤ 7°
8.5	dBW/4 kHz	For	7° < θ ≤ 9.2°
32.5–25log ₁₀ θ	dBW/4 kHz	For	9.2° < θ ≤ 48°
–9.5	dBW/4 kHz	For	48° < θ ≤ 180°

where θ is the angle in degrees from the line connecting the focal point of the antenna to the target satellite, and the geostationary orbit plane is determined by the focal point of the antenna and the line tangent to the arc of the geostationary satellite orbit at the position of the target satellite. For the purposes of this

section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe

exceeds the envelope given above by more than 3 dB.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

32.5–25log ₁₀ θ	dBW/4 kHz	For	3° ≤ θ ≤ 48°
–9.5	dBW/4 kHz	For	48° < θ ≤ 180°

where θ is the angle in degrees from the line connecting the focal point of the antenna to the target satellite, within any plane that includes that line, with the exception of the plane determined by the focal point of the antenna and the line tangent to the arc of the

geostationary satellite orbit at the position of the target satellite. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dB. The region

of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(d) *C-band digital earth station operations.* (1) In the plane of the

geostationary satellite orbit as it appears at the particular earth station location:

26.3–10log ₁₀ (N)–25log ₁₀ θ	dBW/4 kHz	For	1.5° ≤ θ ≤ 7°
5.3–10log ₁₀ (N)	dBW/4 kHz	For	7° < θ ≤ 9.2°
29.3–10log ₁₀ (N)–25log ₁₀ θ	dBW/4 kHz	For	9.2° < θ ≤ 48°
–12.7–10log ₁₀ (N)	dBW/4 kHz	For	48° < θ ≤ 180°

where θ and the plane of the geostationary satellite orbit are defined in paragraph (c)(1) of this section, and N is defined below. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the

sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dB. For digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-

frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

29.3–10log ₁₀ (N)–25log ₁₀ θ	dBW/4 kHz	For	3° ≤ θ ≤ 48°
–12.7–10log ₁₀ (N)	dBW/4 kHz	For	48° < θ ≤ 180°

where θ is defined in paragraph (c)(2) of this section, and N is defined in paragraph (d)(1) of this section. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no

individual sidelobe exceeds the envelope given above by more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(e) *Conventional Ku-band analog earth station operations.* (1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

21–25log ₁₀ θ	dBW/4 kHz	For	1.5° ≤ θ ≤ 7°
0	dBW/4 kHz	For	7° < θ ≤ 9.2°
24–25log ₁₀ θ	dBW/4 kHz	For	9.2° < θ ≤ 48°
–18	dBW/4 kHz	For	48° < θ ≤ 85°
–8	dBW/4 kHz	For	85° < θ ≤ 180°

where θ and the plane of the geostationary satellite are defined in paragraph (c)(1) of this section. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ

between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dB.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

24–25log ₁₀ θ	dBW/4 kHz	For	3° ≤ θ ≤ 48°
–18	dBW/4 kHz	For	48° < θ ≤ 85°
–8	dBW/4 kHz	For	85° < θ ≤ 180°

where θ is defined in paragraph (c)(2) of this section. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by

more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(f) *Conventional Ku-band digital earth station operations.* (1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

15–10log ₁₀ (N)–25log ₁₀ θ	dBW/4 kHz	For	1.5° ≤ θ ≤ 7°
–6–10log ₁₀ (N)	dBW/4 kHz	For	7° < θ ≤ 9.2°
18–10log ₁₀ (N)–25log ₁₀ θ	dBW/4 kHz	For	9.2° < θ ≤ 48°
–24–10log ₁₀ (N)	dBW/4 kHz	For	48° < θ ≤ 85°
–14–10log ₁₀ (N)	dBW/4 kHz	For	85° < θ ≤ 180°

where θ and the plane of the geostationary satellite orbit are defined in paragraph (c)(1) of this section, and N is defined below. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the

sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dB. For digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-

frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

18–10log ₁₀ (N)–25log ₁₀ θ	dBW/4 kHz	For	3° ≤ θ ≤ 48°
–24–10log ₁₀ (N)	dBW/4 kHz	For	48° < θ ≤ 85°

-14-10log ₁₀ (N)	dBW/4 kHz	For	85° < θ ≤ 180°
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where θ is defined in paragraph (c)(2) of this section, and N is defined in paragraph (f)(1) of this section. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no

individual sidelobe exceeds the envelope given above by more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(g) *Extended Ku-band analog earth station operations.* (1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

21-25log ₁₀ θ	dBW/4 kHz	For	1.5° ≤ θ ≤ 7°
0	dBW/4 kHz	For	7° < θ ≤ 9.2°
24-25log ₁₀ θ	dBW/4 kHz	For	9.2° < θ ≤ 48°
-18	dBW/4 kHz	For	48° < θ ≤ 180°

where θ and the plane of the geostationary satellite orbit are defined in paragraph (c)(1) of this section. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°.

For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dB.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

24-25log ₁₀ θ	dBW/4 kHz	For	3° ≤ θ ≤ 48°
-18	dBW/4 kHz	For	48° < θ ≤ 180°

where θ is defined in paragraph (c)(2) of this section. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by

more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

(h) *Extended Ku-band digital earth station operations.* (1) In the plane of the geostationary satellite orbit as it appears at the particular earth station location:

15-10log ₁₀ (N)-25log ₁₀ θ	dBW/4 kHz	For	1.5° ≤ θ ≤ 7°
-6-10log ₁₀ (N)	dBW/4 kHz	For	7° < θ ≤ 9.2°
18-10log ₁₀ (N)-25log ₁₀ θ	dBW/4 kHz	For	9.2° < θ ≤ 48°
-24-10log ₁₀ (N)	dBW/4 kHz	For	48° < θ ≤ 180°

where θ and the plane of the geostationary satellite orbit are defined in paragraph (c)(1) of this section, and N is defined below. For the purposes of this section, the peak EIRP of an individual sidelobe may not exceed the envelope defined above for θ between 1.5° and 7.0°. For θ greater than 7.0°, the envelope may be exceeded by no more than 10% of the

sidelobes, provided no individual sidelobe exceeds the envelope given above by more than 3 dB. For digital SCPC using frequency division multiple access (FDMA) or time division multiple access (TDMA) technique, N is equal to one. For digital SCPC using code division multiple access (CDMA) technique, N is the maximum number of co-

frequency simultaneously transmitting earth stations in the same satellite receiving beam.

(2) In all other directions, or in the plane of the horizon including any out-of-plane potential terrestrial interference paths:

18-10log ₁₀ (N)-25log ₁₀ θ	dBW/4 kHz	For	3° ≤ θ ≤ 48°
-24-10log ₁₀ (N)	dBW/4 kHz	For	48° < θ ≤ 85°

where θ is defined in paragraph (c)(2) of this section and N is defined in paragraph (h)(1) of this section. For the purposes of this section, the envelope may be exceeded by no more than 10% of the sidelobes provided no individual sidelobe exceeds the envelope given above by more than 6 dB. The region of the main reflector spillover energy is to be interpreted as a single lobe and shall not exceed the envelope by more than 6 dB.

■ 8. Section 25.220 is amended by revising paragraphs (a) and (d), and removing and reserving paragraphs (c), (e), and (f), to read as follows:

§ 25.220 Non-conforming transmit/receive earth station operations.

(a)(1) This section applies to earth station applications, other than ESV

applications and 17/24 GHz BSS feeder link applications, in which the proposed earth station operations do not fall within the applicable off-axis EIRP envelope specified in Section 25.218 of this chapter.

(2) The requirements for petitions to deny applications filed pursuant to this section are set forth in § 25.154.

* * * * *

(d)(1) The applicant must submit the certifications listed in paragraphs (d)(1)(i) through (d)(1)(iv) of this section. The applicant will be authorized to transmit only to the satellite systems included in the coordination agreements referred to in the certification required by paragraph

(d)(1)(ii) of this section. The applicant will be granted protection from receiving interference only with respect to the satellite systems included in the coordination agreements referred to in the certification required by paragraph (d)(1)(ii) of this section, and only to the extent that protection from receiving interference is afforded by those coordination agreements.

(i) A statement from the satellite operator acknowledging that the proposed operation of the subject non-conforming earth station with its satellite(s) has the potential to receive interference from adjacent satellite networks that may be unacceptable.

(ii) A statement from the satellite operator that it has coordinated the operation of the subject non-conforming earth station accessing its satellite(s), including its required downlink power density based on the information contained in the application, with all adjacent satellite networks within 6° of orbital separation from its satellite(s), and the operations will operate in conformance with existing coordination agreement for its satellite(s) with other satellite systems, except as set forth in paragraph (d)(4) of this section.

(iii) A statement from the satellite operator that it will include the subject non-conforming earth station operations in all future satellite network coordinations, and

(iv) A statement from the earth station applicant certifying that it will comply with all coordination agreements reached by the satellite operator(s).

(2) A license granted pursuant to paragraph (d)(1) of this section will include, as a condition on that license, that if a good faith agreement cannot be reached between the satellite operator and the operator of a future 2° compliant satellite, the earth station operator shall accept the power density levels that would accommodate the 2° compliant satellite.

(3) In the event that a coordination agreement discussed in paragraph (d)(1)(ii) of this section is reached, but that coordination agreement does not address protection from interference for the earth station, that earth station will be protected from interference to the same extent that an earth station that meets the requirements of § 25.209 of this title would be protected from interference.

(4) Notwithstanding paragraph (d)(1)(ii) of this section, a party applying for an earth station license pursuant to this section will not be required to certify that its target satellite operator has reached a coordination agreement with another satellite operator whose satellite is within 6° of orbital separation from its satellite in cases where the off-axis EIRP density level of the proposed earth station operations will be less than or equal to the levels specified by the applicable off-axis EIRP envelope set forth in § 25.218 of this chapter in the direction of the part of the geostationary orbit arc within 1° of the nominal orbit location of the adjacent satellite.

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GAO

Accountability * Integrity * Reliability

Comptroller General
of the United States

United States Government Accountability Office
Washington, DC 20548

Decision

Matter of: Rocketplane Kistler

File: B-310741

Date: January 28, 2008

James H. Roberts, III, Esq., Kevin F. Kelly, Esq., and Carrol H. Kinsey, Jr., Esq., Van Scoyoc Kelly PLLC, for the protester.

Vincent A. Salgado, Esq., and Karen M. Reilley, Esq., National Aeronautics and Space Administration, for the agency.

Guy R. Pietrovito, Esq., and James A. Spangenberg, Esq., Office of the General Counsel, GAO, participated in the preparation of the decision.

DIGEST

The National Aeronautics and Space Administration could use a Space Act agreement under that agency's "other transactions" authority, and was not required to use a procurement contract, for the development and demonstration of a space transportation system, where the principal purpose of the announcement was not to acquire goods or services for the direct benefit of the agency, but to stimulate a public purpose authorized by law.

DECISION

Rocketplane Kistler protests the terms of announcement No. JSC-COTS-2, issued by the National Aeronautics and Space Administration (NASA) for the award of a funded Space Act agreement for the development and demonstration of various space transportation capabilities to and from low-Earth orbit. Rocketplane contends that the solicited services must be acquired using a procurement contract.

We deny the protest.

NASA has established the Commercial Crew and Cargo program to:

- implement U.S. Space Exploration policy with investments to stimulate the commercial space industry,
- facilitate U.S. private industry demonstration of cargo and crew space transportation capabilities with the goal of

achieving safe, reliable, cost effective access to low-Earth orbit, and

- create a market environment in which commercial space transportation services are available to Government and private sector customers.

Announcement at 1. In support of these objectives, NASA informed interested firms that the agency envisioned a two-phased approach to be known as the commercial orbital transportation (COTS) project. Phase 1 was described as a “period of development and demonstration by private industry, in coordination with NASA, of various space transportation capabilities . . . determined to be most desirable for the Government and other customers.” Id. at 2. Phase 2 was described as a “planned competitive procurement of orbital transportation services to resupply the [International Space Station] with cargo and crew.” Id.

The announcement here was issued as a continuation of the phase 1 development of the COTS project and stated that:¹

As a continuation of the project initiated in 2006, NASA intends to enter into a second round of agreements with private industry to develop and demonstrate the vehicles, systems, and operations needed to resupply, return cargo from, and transport crew to and from a human space facility, with the International Space Station providing the representative requirements for such a facility.

Id. at 1. The announcement solicited proposals for demonstrations involving an end-to-end space transportation system of services including ground operations and integration, launch, rendezvous, proximity operations, docking or berthing, orbital operations, reentry, and safe disposal or return. Id. at 2.

Instructions for the preparation of technical proposals and business plans were provided, and participants were informed that, based upon the evaluation of these proposals and plans, a firm, or firms, would be selected for the negotiation of funded Space Act agreement(s).² Id. at 16-24. The participants were informed that they were expected to secure the funding necessary to complete the proposed capability

¹ Previously, Rocketplane and Space Exploration Technologies Corporation received Space Act agreements supporting phase 1 of the COTS project. See Exploration Partners, LLC, B-298804, Dec. 19, 2006, 2006 CPD ¶ 201 at 3.

² A funded Space Act agreement is an agreement under which appropriated funds will be transferred to a domestic agreement partner to accomplish an agency mission. NASA Policy Directive, NPD 1050.1H, Nov. 29, 2006, at 2.

demonstration, although funding from NASA could be considered one of the sources of funding. In this regard, the announcement provided that NASA anticipated providing up to \$174 million for funding spread over fiscal years 2008 through 2010 among the firm, or firms, selected for Space Act agreements. Id. at 12. The announcement also stated

[p]ayments will be made upon the successful completion of performance milestones negotiated with NASA. NASA's contribution will be a fixed amount and will not be increased based on the participant's ability to obtain private funding. A startup milestone payment will be considered.

Id. at 3.

Rocketplane protests that the principal purpose of the announcement is to obtain research and development (R&D) services for the direct benefit of NASA,³ and that therefore NASA was required to obtain these services under a procurement contract and not a Space Act agreement. Protest at 2-3.

Under the Competition in Contracting Act of 1984 and our Bid Protest Regulations, we review protests concerning alleged violations of procurement statutes or regulations by federal agencies in the award or proposed award of contracts for procurement of goods and services, and solicitations leading to such awards. 31 U.S.C. §§ 3551(1), 3552 (2000); 4 C.F.R. § 21.1(a) (2007). We have found that Space Act agreements, which are issued by NASA under its "other transactions" authority pursuant to the National Aeronautics and Space Act of 1958 (the Space Act), 42 U.S.C. § 2473(c)(5) (2000), are not procurement contracts, and therefore we generally do not review protests of the award, or solicitations for the award, of these agreements under our bid protest jurisdiction. Exploration Partners, LLC, supra, at 4-5. We will review, however, a timely protest that an agency is improperly using a non-procurement instrument, such as a Space Act agreement, where a procurement contract is required, to ensure that an agency is not attempting to avoid the requirements of procurement statutes and regulations. Id. at 5; Energy Conversion Devices, Inc., B-260514, June 16, 1995, 95-2 CPD ¶ 121 at 2.

The Federal Grant and Cooperative Agreement Act establishes the general criteria that agencies must follow in deciding which legal instrument to use when entering into a funding relationship with a state, locality or other recipient for an authorized

³ That is, the protester argues, the announcement seeks "research and development efforts of a commercial space sector contractor to develop and produce transport vehicles that can take equipment and ultimately crew to and from the International Space Station." Protest at 2.

purpose. 31 U.S.C. §§ 6301-6308 (2000). Under these criteria, an agency must use a procurement contract when:

- (1) the principal purpose of the instrument is to acquire (by purchase, lease, or barter) property or services for the direct benefit or use of the United States Government; or
- (2) the agency decides in a specific instance that the use of a procurement contract is appropriate.

31 U.S.C. § 6303; see also Federal Acquisition Regulation (FAR) § 35.003(a) (“Contracts shall be used only when the principal purpose is the acquisition of supplies and services for the direct benefit of the Federal Government”). On the other hand, a procurement contract would not be required to carry out a public purpose of support or stimulation authorized by law, where the principal purpose of the agreement is not to acquire property or services for the direct benefit or use of the agency. See, e.g., 31 U.S.C. § 6305 (cooperative agreements); see also Rick’s Mushroom Serv., Inc. v. United States, 76 Fed.Cl. 250, 258 (2007) (agreement was not a procurement contract, where it did not contemplate the transfer of goods or services directly to the government; there was no evidence of a buyer-seller relationship; and no direct benefit accrued to the government.)

NASA contends that the principal purpose of the announcement is not to acquire goods and services for the direct benefit and use of NASA. Specifically, the agency notes that:

NASA obtains no vehicles, supply service, prototype, hardware, or other property, no systems or vehicle designs, and only the minimum Government-purpose data rights legally required by the Space Act. The Announcement does not provide NASA any right to future use of systems and vehicles developed and demonstrated under COTS Phase 1, for [International Space Station] supply missions or for any other purpose. The participant, not NASA, proposes the capabilities it will demonstrate and establishes the technical and schedule milestones for those demonstrations.

Agency Report (AR) at 2. Instead, NASA states that the purpose of the announcement is to “encourage the growth of a future U.S. commercial market in which space transportation services will be available for commercial and Government customers.” Id. This purpose differs from that of an R&D contract, the agency argues, because an R&D contract is used to obtain research, and the results of that research for an agency’s use, see FAR §§ 35.010, 35.011, whereas here the announcement seeks to “incentivize the private sector to develop and demonstrate their own commercial

technologies” and allows those firms to retain the maximum intellectual property rights allowed by the Space Act.⁴ Supp. AR at 2.

We find that the announcement did not principally provide for the acquisition of goods and services for the direct benefit and use of NASA. The record supports the agency’s arguments that the principal purpose of the announcement is to encourage, support and stimulate the development of a commercial market for space transportation, from which NASA could potentially acquire orbital transportation services. Although we agree with Rocketplane that such services in support of the growth of a commercial space transportation industry also support the government’s space exploration policy, which NASA is directed to foster, we do not find that supporting and stimulating efforts in support of a lawfully mandated public policy establishes that an agency is acquiring services for its own direct benefit and use. See Rick’s Mushroom Serv., Inc. v. United States, 76 Fed.Cl. at 258 (agreement was not a procurement contract, even though it was entered into to carry out a public purpose of support or stimulation authorized by law). Instead, we agree with NASA that the agreement’s purpose should control whether the services are “principally” for the agency’s direct benefit or use, or, as is the case here, to support or stimulate a public purpose authorized by law.

Rocketplane also argues that NASA’s own policy directive states that funded Space Act agreements, such as that to be entered here, “may be used only when the Agency objective cannot be accomplished through the use of a procurement contract, grant, or cooperative agreement.” See NASA Policy Directive, NPD 1050.1H, Nov. 29, 2006, at 2. Rocketplane contends that the agency “failed to make any required baseline determination” as to whether the objectives contained in [the announcement] could not be accomplished through the use of an R&D contract. Protester’s Comments at 2.

However, the record shows that NASA “considered the objectives and purposes of the COTS Demonstrations, and whether they were appropriate for and could be accomplished under a contract, grant, cooperative agreement, or ‘other transaction,’ when planning the project strategy prior to the original COTS announcement in 2006.” See Supp. AR at 3; AR, Tab H, Commercial Crew/Cargo Project Strategy Briefing, Nov. 15, 2005, at 15-16. NASA concluded, as noted above, that its primary purpose was to stimulate the commercial space industry to provide creative, innovative, cost effective solutions for space transportation and that the announcement would not seek the acquisition of goods and services for the agency. AR, Tab H, Commercial Crew/Cargo Project Strategy Briefing, Nov. 15, 2005, at 16. In any event, we generally will not review an alleged violation of an internal agency

⁴ The announcement states that NASA will not obtain rights to a participant’s background intellectual property and “that title to all property acquired for the COTS demonstrations will remain with the Participant(s).” Announcement at 10.

policy, such as NASA's policy directive here. See Hughes Space and Commc'ns Co.; Lockheed Missiles & Space Co., Inc., B-266225.6 et al., Apr. 15, 1996, 96-1 CPD ¶ 199 at 17.

The protest is denied.

Gary L. Kepplinger
General Counsel

[REDACTED]

Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America concerning Cooperation on the Civil International Space Station'' (commonly referred to as the ISS Intergovernmental Agreement, or IGA); and launch agreements for science or space exploration activities unrelated to the ISS.

DATES: *Effective Date:* These amendments become effective April 28, 2008.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION:

I. Background

On October 23, 2006, NASA published a notice of proposed rulemaking (NPRM), Cross-Waiver of Liability, 71 FR (Federal Register) 62061 (October 23, 2006), which discussed the background of Part 1266 and the use of cross-waivers in various NASA agreements. The NPRM also explained the considerations underlying NASA's proposed amendments to Part 1266, which were: (1) To update and ensure consistency in the use of cross-waiver of liability provisions in NASA agreements; and (2) to address shifts in areas of NASA mission and program emphases that warrant an adjustment of the NASA cross-waiver provisions so that they remain current.

II. Description of Final Rule and Discussion of Comments

In this Final Rule, NASA makes clerical edits to the wording in sections 1266.100 (Purpose) and 1266.101 (Scope). In sections 1266.102 (Cross-waiver of liability for agreements for activities related to the International Space Station) and 1266.104 (Cross-waiver of liability for launch agreements for science or space exploration activities unrelated to the International Space Station), NASA generally makes clerical changes, adds a new definition of the term "transfer vehicle," defines the term "Party" in section 1266.102 and revises the term's definition in section 1266.104, clarifies the scope of the sixth group of potential claims to which the cross-waiver of liability shall not apply, and deletes the specific reference to Expendable and Reusable Launch Vehicles (ELVs and RLVs, respectively) from section 1266.104.

In response to the NPRM of October 23, 2006, NASA received comments from four entities: The Boeing Company (Boeing); Marsh USA, Inc. (Marsh); United Space Alliance (USA); and the European Space Agency, which subsequently withdrew its comments. In general, the commenters supported the proposed amendments, but with several suggested changes. The commenters also submitted some general questions about the Rule. In an effort to provide additional information on its intentions and plans, NASA will address these questions in section M in this document.

A. Deleting Section 14 CFR 1266.103

In the NPRM, NASA proposed deleting section 1266.103, regarding the cross-waiver of liability during Space Shuttle (Shuttle) operations, in light of direction from President George W. Bush that the Shuttle be retired from service by 2010 and the fact that, with the exception of the fifth Hubble Servicing Mission, currently scheduled for August 2008, current mission plans envision no other Shuttle missions unrelated to the ISS. Because the ISS cross-waiver in section 1266.102 covers Shuttle operations for missions to the ISS, NASA determines that there is no longer a need to retain the section of Part 1266 requiring a separate cross-waiver of liability to be used during Shuttle operations. The commenters urged NASA to retain section 1266.103 for as long as Shuttle operations continue and prime contracts and subcontracts with cross-waiver and indemnity provisions remain in place. The commenters contend that although current mission plans envision no other non-ISS missions for the Shuttle, those plans could change and therefore it would be premature to delete section 1266.103. One commenter noted that the Shuttle program "may be extended for up to an additional five years if the options under the current Space Program Operations Contract are fully exercised, with unknown missions into the future." (Marsh at page 2)

Having reviewed and considered the points raised by the commenters, NASA will proceed with the removal of section 1266.103 for several legal and policy reasons. With the exception of the fifth Hubble Servicing Mission, NASA has stated that the remaining Shuttle flights will be dedicated solely to ISS missions.¹ Since any NASA agreements

¹ See, for example, the Written Statement of Michael D. Griffin, Administrator, National Aeronautics and Space Administration, Before the Senate Commerce, Science and Transportation

Continued

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

14 CFR Part 1266

[NOTICE: (08-014)]

RIN 2700-AB51

Cross-Waiver of Liability

AGENCY: National Aeronautics and Space Administration.

ACTION: Final rule.

SUMMARY: The National Aeronautics and Space Administration (NASA) is amending its regulations which provide the regulatory basis for cross-waiver provisions used in the following two categories of NASA agreements: agreements for International Space Station (ISS) activities pursuant to the "Agreement Among the Government of

for Shuttle missions to the ISS would already be covered by section 1266.102, which governs cross-waivers of liability for agreements for activities related to ISS, there is no longer a need to retain section 103.

Indeed, for future missions, retention of section 103 could potentially result in less-than-fully reciprocal waivers of liability among users involved in Shuttle launch activities (since the scope of "Protected Space Operations" under section 103 is broader than the scope of "Protected Space Operations" under section 102). Under section 103, the cross-waiver encompasses parties to any NASA agreement for Shuttle launch services; however, the cross-waiver established by the IGA, and implemented by section 102, encompasses only parties to agreements for ISS activities. If NASA were to prolong the use of cross-waivers under section 103 for non-ISS Shuttle missions, while parties to agreements for Shuttle missions to the ISS remain bound by cross-waivers under section 102, parties to agreements for the non-ISS missions would be waiving claims against ISS participants but, conversely, ISS participants would not necessarily be waiving claims against them. The potential for less than fully reciprocal waivers has existed since the Rule first went into effect in 1991, but has resulted in no actual conflicts. This is due primarily to the fact that the Shuttle was rapidly transitioned from performing orbital missions on a cooperative or reimbursable basis to being dedicated almost exclusively to ISS assembly. However, the potential existence of less-than-fully reciprocal waivers should not continue. Section 309 of the Space Act,² codified at 42 U.S.C. § 2458c, confirms and clarifies the authority of the NASA Administrator to conclude reciprocal cross-waivers in cooperative agreements. To reduce the potential for inconsistency among NASA mission agreements containing cross-waiver provisions of differing scope, NASA has decided to remove section 103.

Although NASA has stated that, with the exception of the Hubble Servicing Mission, the Shuttle is to be used solely for servicing the ISS (and, thus, all NASA agreement cross-waivers for ISS Shuttle missions will be based on the provisions of section 102), the question remains: what would NASA do if the Agency is subsequently authorized to use the Shuttle for an activity unrelated

to the ISS? In this hypothetical case, the provisions of section 104, which provide the regulatory basis for cross-waivers of liability for launch agreements for science or space exploration activities unrelated to the ISS, could be utilized.

NASA is mindful of the concerns raised by industry relative to maintaining stability in Shuttle contracts. In this regard, for as long as Shuttle operations continue and prime contracts and subcontracts remain in place, the risk allocation provisions of those contracts, like all other provisions of those contracts, will continue to be operative. With respect to NASA's implementation of changes to the NASA procurement regulations, the Proposed Rule provided that, "To be made fully effective, the cross-waivers required by this Part will necessitate concomitant changes to NASA procurement regulations. NASA plans to implement these changes as expeditiously as possible after this Proposed Rule becomes final." In response to the NPRM, NASA was asked whether there is a schedule for implementation of the changes to the corresponding clauses in the NASA Federal Acquisition Regulation (FAR) Supplement (NFS) to reflect the current revisions to 14 CFR 1266. NASA plans to alter the NASA procurement regulations, i.e., the NFS, soon after this Rule becomes final.

B. Defining the Term "Party" in Section 1266.102

NASA received the comment that the term "Party" in section 1266.102 was not defined and that a definition was necessary to apply the cross-waiver requirements to NASA ISS contractors. The comment suggested that the term "Party" be defined as follows: "'Party' means a person or entity that signs an agreement involving the ISS."

NASA agrees that defining the term "Party" in section 1266.102 would add clarity to the Rule. Thus, NASA will define the term "Party" in 1266.102 as follows: "The term 'Party' means a party to a NASA agreement involving activities in connection with the ISS." The definition will be placed in subsection 1266.102(b)(1) in order to make parallel the order of definitions in section 1266.102 and in section 1266.104. The definition of the term "Partner State," which was formerly located in 1266.102(b)(1), will be moved to a new subsection 1266.102(b)(8).

C. Tailoring the Scope of the Cross-waiver

NASA received the comment that subsections 1266.102(a) and 1266.104(a) contain a misleading sentence:

"Provided that the waiver of claims is reciprocal, the parties may tailor the scope of the cross-waiver clause in these agreements to address the specific circumstances of a particular cooperation." The commenter contended that this sentence is not clear and could lead to inconsistent waivers in NASA agreements.

NASA understands the concern and will strike the sentence proposed in the NPRM. As background, the authority to tailor cross-waiver provisions is a feature of certain framework agreements between the U.S. and other countries for cooperation in the exploration and use of outer space. These international agreements cover a wide range of activities, ranging from launching missions into outer space to simple terrestrial activities (e.g., exchanges of data). For a simple terrestrial data exchange, it is not necessary to utilize a cross-waiver provision as extensive as what would be needed in an agreement to launch a spacecraft and, thus, in the context of a framework agreement, the sentence is appropriate. However, for purposes of this Rule, which addresses high-risk launches to, and operations in, outer space, NASA agrees with the commenters on the need for consistent cross-waivers in this specific area.

D. Relocating the Sentence Regarding the Term "Related Entity"

NASA received the comment that the following sentence was misplaced in subsection 1266.102(b)(2)(iii): "The term 'related entity' may also apply to a State, or an agency or institution of a State, having the same relationship to a Partner State as described in paragraphs (b)(2)(i) through (b)(2)(iii) of this section or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph (b)(3)(iv) of this section." The comment pointed out that the sentence may have been erroneously inserted into subparagraph (b)(2)(iii) before the final sentence of that subparagraph " * * * The term 'contractors' and 'subcontractors' include suppliers of any kind." The comment suggested that it should follow subparagraph (iii) as a separate statement or subparagraph. NASA agrees with the comment and has revised the Rule as suggested. The sentence defining contractors and subcontractors to include suppliers serves as a general clarification of the term "related entity" and should stand alone, thus, applying to all three subsections, rather than being included as part of one of the subsections as formerly drafted. NASA will also make a corresponding change in subsection 1266.104(b)(2).

Committee—Subcommittee on Space, Aeronautics, and Related Sciences, November 15, 2007.

² The National Aeronautics and Space Act of 1958, as amended, 42 U.S.C. 2451, *et seq.*

E. Clarifying "This Agreement" Versus "the Agreement"

NASA received the comment that the use of the term "this Agreement" was confusing in subsection 1206.102(c)(4)(ii) in the parenthetical language to the second exception of the cross-waiver, i.e., "Claims made by a natural person, his/her estate, survivors or subrogees (except when a subrogee is a Party to this Agreement or is otherwise bound by the terms of this cross-waiver)* * *" (italics added) The term "this Agreement" appears in a related context in subsection 1206.104(c)(4)(ii). The comment queried whether the word "Agreement" should be capitalized and whether it should be a defined term.

NASA understands the source of this confusion and will correct both sections to read "the agreement" rather than "this Agreement," as recommended by the comment. It may be useful in this context to recall a principal purpose of this Rule. Rather than prescribing standard text to be inserted automatically into a NASA agreement, the regulation instead provides the regulatory basis for cross-waiver clauses to be incorporated into NASA agreements either related to the ISS (section 102) or for launch agreements involving science or space exploration activities unrelated to the ISS (section 104). As such, when a specific cross-waiver is incorporated into a NASA agreement, several conforming changes will need to be made to the text as it appears in this Rule. For one, references in the Rule to "the agreement" (referring to a NASA agreement in which a cross-waiver provision will be inserted) will need to be changed to "this Agreement" in the text of the agreement itself. It seems unnecessary to define the term "the agreement," because it should be evident that the agreement being referred to is the Space Act agreement containing the cross-waiver. In this context, it may also be useful to clarify that the agreements to which this Rule applies are agreements concluded pursuant to NASA's authority under sections 203(c)(5) and (c)(6) of the Space Act. These agreements do not include procurement contracts governed by the Federal Acquisition Regulations System, 48 CFR Part 1 *et seq.*

F. Defining the Terms "ELV" and "RLV"

Another comment NASA received recommended that the definition of "launch vehicle" found in 1266.104(b)(4) be amended to specifically include ELVs and RLVs. After further consideration, NASA has determined that the proposed change is unnecessary. The term "launch vehicle"

is defined as "an object or any part thereof intended for launch, launched from Earth, or returning to Earth which carries payloads or persons or both." ELVs and RLVs are already included in this definition. A fundamental premise of NASA cross-waivers of liability is that they are to be broadly construed to achieve the desired objectives of furthering space exploration, use, and investment. One way to further this goal is to avoid unnecessary, narrow delineations in terminology. For example, the term "Expendable Launch Vehicles" should encompass Evolved Expendable Launch Vehicles (EELV). An EELV is one type of ELV. Similarly, ELVs and RLVs, for that matter, are types of launch vehicles. Thus, there appears to be no compelling reason why ELVs and RLVs should be separately defined.

Indeed, the comment prompted reexamination of the title to section 1266.104 which, at the Proposed Rule stage, was "Cross-waiver of liability for science and space exploration agreements for missions launched by Expendable Launch Vehicles or Reusable Launch Vehicles." In order to streamline the Rule and avoid unnecessary, narrow delineations in terminology, NASA has decided to delete the reference in section 1266.104 to whether vehicles launching science or space exploration missions are expendable or reusable. Two factors led to this conclusion: (1) NASA would utilize the same cross-waiver for science or space exploration missions unrelated to the ISS, irrespective of the type of vehicle selected to launch the mission into orbit; and (2) NASA has no current plans to develop a fully reusable launch vehicle. Although the Shuttle has both expendable and reusable components, technically the vehicle is neither an Expendable nor a fully Reusable Launch Vehicle. Vehicles being developed in the Constellation program will utilize a mix of reusable and expendable components. Thus, the title of section 1266.104 has been changed to "Cross-waiver of liability for launch agreements for science or space exploration activities unrelated to the International Space Station." This formulation closely parallels the title to section 1266.102 "Cross-waiver of liability for agreements for activities related to the International Space Station." Deletion of the reference to the specific type of vehicle used to launch a science or space exploration mission into orbit necessitates a corresponding change to the definition of "Party" in section 104, as is explained in section G.

G. Revising the Term "Party" in Section 1266.104

As mentioned in the previous section, NASA will alter the definition of the term "Party" to reflect the deletion of the reference to ELVs and RLVs from section 104 and clarify the Rule's application. Thus, NASA will revise the definition proposed in the NPRM as follows: "The term 'Party' means a party to a NASA agreement for science or space exploration activities unrelated to the ISS that involve a launch."

Secondly, in response to the NPRM, NASA received a comment which suggested that the definition of the term "Party" in section 1266.104 be revised from "a party to a NASA agreement* * *" to read "person or entity." While the rationale for the comment is not entirely clear, it appears that the comment may be confusing the term "Party" with subsequent references to "persons" or "entities" referenced later in the Rule, i.e., in the terms of the actual cross-waiver found in subsection (c)(1) "This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations" (emphasis added). The terms are distinct. A "Party" is a defined term—a party to a NASA agreement. However, entities other than parties to NASA agreements could potentially be injured by a particular activity. For this reason, the cross-waiver is carefully constructed to identify those within its scope. The terms "persons" or "entities" are descriptive and generic; they refer to persons (real or juridical) who may be involved in or brought into Protected Space Operations by virtue of their activities.

H. Clarifying the Duration of "Protected Space Operations"

NASA received the identical comment from Boeing, Marsh, and USA that, in subsection 1266.104(b)(6), NASA should not proceed with removal of the following sentence: "Protected Space Operations begins at the signature of the agreement and ends when all activities done in implementation of the agreement are completed." All three commenters asserted that this change should be rejected, because "[t]his restricts the scope of cross-waivers for the protection of NASA ELV or RLV contractors and sub-contractors." (See USA comments at page 5, Marsh comments at page 4, and Boeing comments at page 2.)

NASA accepts these suggestions and will retain the sentence in the Final Rule. The proposed deletion had been grounded in recognition that, as a general matter, the cross-waiver in any NASA agreement becomes effective, like all terms of any agreement unless otherwise specified, at the time the agreement itself becomes effective and ends upon termination or expiration of the agreement. However, the sentence is useful in clarifying that the obligations of the agreement's cross-waiver will survive expiration or termination of the agreement itself, since Protected Space Operations does not end until all activities done in implementation of the agreement are completed. Although NASA agreements typically include a "Continuing Obligations" clause recognizing that certain obligations of the parties, including those related to liability and risk of loss, shall continue to apply after expiration or termination of the agreement, it is useful to retain this express acknowledgement in the text of the waiver itself.

I. Defining the Term "Transfer Vehicle"

In subsection 1266.104(b)(6)(i), "Protected Space Operations" is defined to include: "Research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer vehicles, payloads, or instruments, as well as related support equipment and facilities and services." (Emphasis supplied.) One comment recommended that the term "transfer vehicle" required definition. The comment contended that a clarification would enhance understanding of the Rule and its applicability to other vehicles being developed under the Constellation program and otherwise. In the current definition section, the term "launch vehicle" (defined as "an object or any part thereof intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both") addresses vehicles that operate between the Earth and space, but does not address vehicles intended to operate solely in outer space.

NASA agrees that defining the term "transfer vehicle" would add clarity to the Rule. Moreover, as a logical corollary of defining transfer vehicles, NASA has decided to clarify the Rule's application to landers. NASA's planned successor to the Shuttle, the Orion spacecraft, would feature, for its lunar landing missions, a Lunar Surface Access Module (LSAM). In NASA's view, when the LSAM or any transfer vehicle is launched, it would be a payload and, thus, within the existing definition of Protected Space

Operations. The term "payload" is broadly defined to include "all property to be flown or used on or in a launch vehicle." However, when a lander or transfer vehicle becomes operational, it could no longer be considered a "payload" but, rather, a space vehicle.

NASA will insert the following new definition of "transfer vehicle" in subsection 1266.104(b)(9): "The term 'transfer vehicle' means any vehicle that operates in space and transfers payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A transfer vehicle also includes a vehicle that departs from and returns to the same location on a space object." Pursuant to this definition, a "transfer vehicle" would include a lander that had become operational, since landers operate between a space object and the surface of a celestial body. Before it becomes operational, the lander would be considered a payload. For purposes of this Rule, it is not necessary to define the precise point when the LSAM becomes operational, because it would be within Protected Space Operations at launch as a payload and then, subsequently, as a transfer vehicle. In either case, it would fall within the definition of Protected Space Operations.

Since NASA does intend that this Rule apply to current and future NASA mission agreements, including vehicles still to be developed under the Constellation program, the definition of Protected Space Operations will be amended to include a reference to transfer vehicles, since operational transfer vehicles would be neither launch vehicles nor payloads. Thus, the Final Rule makes minor changes to the definition of "Protected Space Operations" in both subsections 1266.102(b)(6) and 1266.104(b)(6) for accuracy and consistency.

For subsection 1266.102(b)(6), the definition of "Protected Space Operations" will be changed from "* * * all launch vehicle activities, ISS activities, and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of the IGA * * *" to "all launch or transfer vehicle activities, ISS activities, and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of the IGA * * *" with the addition of the words "or transfer" between the words "launch" and "vehicle." As the term "transfer vehicle" has been used but not defined in section 1266.102, NASA will create a

new subsection 1266.102(b)(7) adding the above definition of "transfer vehicle" to the ISS section of this Rule.

For subsection 1266.104(b)(6), the definition of "Protected Space Operations" will be changed from: "* * * all ELV or RLV activities and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an agreement for launch services * * *" to "* * * all launch or transfer vehicle activities and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an agreement for launch services * * *."

J. Capitalizing the Word "Agreement" in Subsection 1266.104(b)(6)(ii)

NASA received the comment that the word "Agreement" in subsection 1266.104(b)(6)(ii) should not be capitalized. NASA agrees with the comment and will remove the initial capital letter in the following sentence: "The term 'Protected Space Operations' excludes activities on Earth that are conducted on return from space to develop further a payload's product or process for use other than for activities within the scope of an Agreement for launch services." The term "Agreement" in that sentence will be changed to lowercase—this provision parallels the definition of the term "Protected Space Operations" of section 1266.102 in regard to ISS products or processes. Removal of the capitalization of the word "Agreement" is also elaborated above, in section E, and the reader is referred to that section for further discussion.

K. Rewording the Sixth Exception to the Cross-waiver

In NASA's experience, the wording of the sixth exception to the cross-waiver has occasionally raised questions on the part of NASA's agreement partners and contractors regarding the purpose and scope of the exception. Subsections 1266.102(c)(4)(vi) and 1266.104(c)(4)(vi) had each provided that, notwithstanding the other provisions of the section, the cross-waiver of liability shall not be applicable to "Claims by or against a Party arising out of or relating to the other Party's failure to meet its contractual obligations set forth in the Agreement."

The Final Rule seeks to clarify the exception. The purpose of the exception is to avoid any interpretation that the cross-waiver would be a defense to a claim arising from a party's failure to perform any obligation set forth in an agreement. The waiver cannot be used by a party as a means of shielding itself

from claims for nonperformance. To clarify this point, NASA will replace the current formulation found in the sixth exception to the cross-waiver with the following: “(vi) Claims by a Party arising out of or relating to another Party’s failure to perform its obligations under the agreement.”

L. Clarifying the Scope of the Cross-waiver in Section 1266.104(c)(1)

In reviewing the NPRM, NASA noticed a minor omission in the wording of the cross-waiver in 1266.104(c)(1) that occurred during the editing/publication process. The words “whatever the legal basis for such claims” were inadvertently omitted from the first part of the sentence. Thus, they will be returned to the text to ensure that the waiver in 1266.104(c)(1) closely parallels the ISS waiver in 1266.102(c)(1). Thus, that part of the sentence in its entirety will read: “The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims, against: * * *.” This change is a clarification and not a substantive change. The sentence previously stated that “the cross-waiver shall apply to any claims for damage against: * * *.” The modification underscores that the words “any claims for damage” mean any claims, whatever their legal basis.

M. Responding to General Questions Received

Although NASA has no obligation to respond to questions received in response to the NPRM, NASA appreciates the opportunity to answer the questions that were submitted and provide additional explanation regarding certain aspects of the Rule.

1. Will NASA extend this Rule to neighboring launch vehicle or launch site operators?

NASA received the following question: Since NASA is expanding the scope of the cross-waiver in section 104 to address comanifested payloads on the same vehicle, “* * * why not extend the cross-waivers to all NASA contractors/subcontractors involved in ELV or RLV activities on the same launch site?” (USA comments at page 2)

As background, launch operators of different launches often work in close proximity at a single launch site. For example, when launch operator A launches from one launch pad, launch operator B may be within the impact limit lines or a hazard area created by the launch. Nonetheless, for security or mission assurance reasons, launch operator B may wish to keep some of its personnel working at the second launch

pad, even during the launch of launch operator A’s launch vehicle.

The Federal Aviation Administration (FAA) has studied thoroughly the issue of neighboring launch operators. In the above example, the FAA considers that the launch operators are engaged in activities in support of separate launches. Furthermore, the launch operators share no privity of contract for the launch that is about to take place. “For these reasons, the FAA treats them as ‘the public’ with respect to each other.”³ In the regulations which govern licensing and safety requirements for operation of a launch site (14 CFR 420.5), the FAA defines the “public” as “people and property that are not involved in supporting a licensed launch, and includes those people and property that may be located within the boundary of a launch site, * * * and any other launch operator and its personnel.” To ensure consistency, NASA will utilize the same approach, particularly in light of the possibility that an FAA-licensed commercial launch and a NASA program launch could occur at the same site. Thus, absent any contractual relationship between the launch operators for the separate launch activities at issue (and, thus, absent any effective cross-waiver), NASA will consider neighboring launch operators to be members of the public with respect to each other. As a result, any claims by or against them would be outside the scope of the cross-waiver.

2. Are individual employees waiving their claims?

In both subsections 1266.102(c)(1)(iv) and 1266.104(c)(1)(iv), the Rule provides that the cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims, against “* * * the employees of any of the entities identified in paragraphs (c)(1)(i) through (c)(1)(iii) of this section.” NASA received the following questions: “Does this language mean that employees of an entity (or their survivors) cannot sue another Party? Doesn’t this say that, by virtue of employment, the employee waives rights that it otherwise would have?” (USA comments at page 3)

The answer to both questions is “no.” The quoted language in no way affects the rights of any employee (or the employee’s survivors) to present a claim for damage. By its terms, the language states that it is limited to claims against

employees of the entities listed in subsections (c)(1)(i) through (c)(1)(iii) (emphasis added). Claims of or by an individual are not extinguished. In fact, claims of an individual are specifically excluded from the cross-waiver’s scope by virtue of subsection (c)(4)(ii), which provides: This cross-waiver shall not be applicable to “* * * claims made by a natural person, his/her estate, survivors or subrogees * * *.” Thus, no individual employee’s claims are barred under the Rule’s language. This was the case under the original Rule published in 1991, and it remains so.

3. Will this Rule apply to the COTS program?

NASA was asked whether the cross-waiver will apply to NASA’s Commercial Orbital Transportation Services (COTS) program. Announced on January 18, 2006, COTS is a NASA program that provides financial and other assistance to selected commercial launch companies with the goal of fostering a competitive market for resupplying the International Space Station.

First, NASA’s cross-waiver Rule states explicitly that the cross-waiver will not be applicable when 49 U.S.C. Subtitle IX, Chapter 701 is applicable. See subsections 1266.102(c)(6) and 1266.104(c)(6). 49 U.S.C. Subtitle IX, Chapter 701 is popularly referred to as the Commercial Space Launch Act.

Second, on August 18, 2006, NASA’s Exploration Systems Mission Directorate announced that Space Exploration Technologies (SpaceX) and Rocketplane Kistler (RpK) were each winners for Phase I of the COTS program. NASA executed a funded agreement under the Space Act with each of the companies. For launch and re-entry, the agreements recognize that the cross-waiver and insurance requirements of the FAA license and permit process will govern the allocation of risks and liability of the U.S. Government, including NASA. However, both agreements also require the COTS participant to demonstrate rendezvous, proximity operations, docking or berthing, or other activities that are related to, or which could affect, the ISS. Thus, to the extent that the FAA licenses or permits do not apply to activities under the agreements, such as during on-orbit activities, and to the extent that such activities are related to the ISS, the provisions of this Rule regarding NASA’s cross-waiver for ISS activities will apply. At such time as it becomes possible for NASA to acquire from a commercial provider the delivery to and return of crew and cargo from the ISS, NASA would contract for such

³ See Department of Transportation, Federal Aviation Administration, Licensing and Safety Requirements for Launch, Supplemental Notice of Proposed Rulemaking, *Federal Register*, July 30, 2002 (Volume 67, Number 146) at page 49475.

services consistent with applicable procurement regulations, including the cross-waiver requirements of the NASA FAR Supplement (NFS), as discussed above in section A.

4. Does the term “related entity” include related legal entities of a contractor or subcontractor?

NASA received a question from USA regarding the scope of the term “related entity.” In subsections 1266.102(b)(2) and 1266.104(b)(2), given that the term “related entity” includes a contractor or subcontractor at any tier, the submitter asked, “Does the reference to a ‘contractor or subcontractor’ include the related legal entities of the contractor or subcontractor? For example, is a subsidiary able to sue another ‘party’ since such entity is not the ‘entity’ that actually has a contract that would incorporate the cross-waiver?” (USA comments at page 2)

Absent additional facts, under NASA’s original cross-waiver regulation from 1991, there is nothing to indicate that an entity’s parent or subsidiary would fall within the scope of the term “related entity.” The term “related entity” is defined under sections 102 and 104 of the Rule as, “a contractor or subcontractor of a Party at any tier; a user or customer of a Party at any tier; or a contractor or subcontractor of a user or customer of a Party at any tier.”

However, the structure of the space launch industry has undergone significant change since the Rule was first published in 1991. Many contractors in the space business are utilizing alternative forms of business relationships. For example, USA is NASA’s prime contractor for Shuttle and ISS operations. Established in 1996 as a limited liability company (LLC), USA is owned by The Boeing Company and Lockheed Martin Corporation in equal share. USA’s primary business is operating and processing NASA’s Shuttle fleet and the ISS at the Johnson and Kennedy Space Centers. This work is currently defined by the Space Program Operations Contract between NASA and USA. The contract runs from October 1, 2006, through September 30, 2010, which is the currently scheduled termination date for Shuttle operations. The contract includes five, one-year options that could extend the contract through Fiscal Year 2015—options intended for ISS operations and Shuttle close out activities. A second example of the changing nature of the space launch business can be seen in United Launch Alliance (ULA), which is a joint venture between Boeing and Lockheed Martin. ULA operates space launch systems for U.S. Government customers

using the Atlas V, Delta II, and Delta IV launch vehicles.

Considering this evolving launch industry structure, there are foreseeable circumstances in which a party’s parent or subsidiary may be considered a “related entity.” For example, where a parent or subsidiary corporation has loaned equipment to a NASA contractor or subcontractor and the equipment is subsequently damaged as a result of activities under a NASA agreement, there may well be a contractual arrangement between the companies under which the equipment transfer occurred. If no actual contract exists, such a loan of equipment alternatively could be construed as a bailment. In either circumstance, the parent or subsidiary could be considered a lower-tier NASA contractor or subcontractor and, thus, within the current definition of “related entity.” Under such circumstances, assuming that the entities causing and sustaining the damage were thereby engaged in activities within the scope of “Protected Space Operations,” a claim of the parent or subsidiary would be waived.

In essence, USA’s question relates to the circumstances in which a party involved in activities pursuant to a NASA agreement should extend the cross-waiver to parents, subsidiaries, and other related legal entities. The answer to the question is found in the terms of the cross-waiver clause. While section (c)(1) of the clause contains the terms of the waiver, section (c)(2) of the clause obligates the party agreeing to the terms of section (c)(1) to extend those terms to the party’s related entities. Whether a party is obliged to extend the cross-waiver to parents or subsidiaries will always depend on the specific facts of the cooperation. A related entity may be a parent, subsidiary, shareholder, partner, joint venture participant, or the like, if that entity is involved in Protected Space Operations under a NASA agreement. What makes a parent or subsidiary company a related entity is not its legal or corporate affiliation with a party, but rather its actions in becoming involved in Protected Space Operations under a NASA agreement. If a parent or subsidiary is not involved in Protected Space Operations, then there is no obligation for a party to extend (or “flow down”) the cross-waiver to them. In such a circumstance, if a parent or subsidiary were not involved in Protected Space Operations and yet were to suffer damage as a true third party, then its claims for damage would not be barred by the cross-waiver.

List of Subjects in 14 CFR Part 1266

Space transportation and exploration.

III. The Amendment

■ In consideration of the foregoing, the National Aeronautics and Space Administration revises Part 1266 of Title 14, Code of Federal Regulations, to read as follows:

PART 1266—CROSS-WAIVER OF LIABILITY

Sec.

1266.100 Purpose.

1266.101 Scope.

1266.102 Cross-waiver of liability for agreements for activities related to the International Space Station.

1266.103 [Reserved]

1266.104 Cross-waiver of liability for launch agreements for science or space exploration activities unrelated to the International Space Station.

Authority: 42 U.S.C. 2458c and 42 U.S.C. 2473 (c)(1), (c)(5) and (c)(6).

§ 1266.100 Purpose.

The purpose of this Part is to ensure that consistent cross-waivers of liability are included in NASA agreements for activities related to the ISS and for NASA’s science or space exploration activities unrelated to the ISS that involve a launch.

§ 1266.101 Scope.

The provisions at § 1266.102 are intended to implement the cross-waiver requirement in Article 16 of the intergovernmental agreement entitled, “Agreement Among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America concerning Cooperation on the Civil International Space Station (IGA).” Article 16 establishes a cross-waiver of liability for use by the Partner States and their related entities and requires that this reciprocal waiver of claims be extended to contractually or otherwise-related entities of NASA by requiring those entities to make similar waivers of liability. Thus, NASA is required to include IGA-based cross-waivers in agreements for ISS activities that fall within the scope of “Protected Space Operations,” as defined in § 1266.102. The provisions of § 1266.102 provide the regulatory basis for cross-waiver clauses to be incorporated into NASA agreements for activities that implement the IGA and the memoranda of understanding between the United States and its respective international partners. The provisions of § 1266.104 provide the regulatory basis for cross-waiver clauses to be incorporated into NASA launch agreements for science or

space exploration activities unrelated to the ISS.

§ 1266.102 Cross-waiver of liability for agreements for activities related to the International Space Station.

(a) The objective of this section is to implement NASA's responsibility to flow down the cross-waiver of liability in Article 16 of the IGA to its related entities in the interest of encouraging participation in the exploration, exploitation, and use of outer space through the International Space Station (ISS). The IGA declares the Partner States' intention that the cross-waiver of liability be broadly construed to achieve this objective.

(b) For the purposes of this section:

(1) The term "Party" means a party to a NASA agreement involving activities in connection with the ISS.

(2)(i) The term "related entity" means:

(A) A contractor or subcontractor of a Party or a Partner State at any tier;

(B) A user or customer of a Party or a Partner State at any tier; or

(C) A contractor or subcontractor of a user or customer of a Party or a Partner State at any tier.

(ii) The terms "contractor" and "subcontractor" include suppliers of any kind.

(iii) The term "related entity" may also apply to a State, or an agency or institution of a State, having the same relationship to a Partner State as described in paragraphs (b)(2)(i)(A) through (b)(2)(i)(C) of this section or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph (b)(6) of this section.

(3) The term "damage" means:

(i) Bodily injury to, or other impairment of health of, or death of, any person;

(ii) Damage to, loss of, or loss of use of any property;

(iii) Loss of revenue or profits; or

(iv) Other direct, indirect, or consequential damage.

(4) The term "launch vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.

(5) The term "payload" means all property to be flown or used on or in a launch vehicle or the ISS.

(6) The term "Protected Space Operations" means all launch or transfer vehicle activities, ISS activities, and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of the IGA, MOUs concluded pursuant to the IGA, and implementing arrangements. It includes, but is not limited to:

(i) Research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer vehicles, the ISS, payloads, or instruments, as well as related support equipment and facilities and services; and

(ii) All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services. "Protected Space Operations" also includes all activities related to evolution of the ISS, as provided for in Article 14 of the IGA. "Protected Space Operations" excludes activities on Earth which are conducted on return from the ISS to develop further a payload's product or process for use other than for ISS-related activities in implementation of the IGA.

(7) The term "transfer vehicle" means any vehicle that operates in space and transfers payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A transfer vehicle also includes a vehicle that departs from and returns to the same location on a space object.

(8) The term "Partner State" includes each Contracting Party for which the IGA has entered into force, pursuant to Article 25 of the IGA or pursuant to any successor agreement. A Partner State includes its Cooperating Agency. It also includes any entity specified in the Memorandum of Understanding (MOU) between NASA and the Government of Japan to assist the Government of Japan's Cooperating Agency in the implementation of that MOU.

(c)(1) Cross-waiver of liability: Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this section based on damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims, against:

(i) Another Party;

(ii) A Partner State other than the United States of America;

(iii) A related entity of any entity identified in paragraph (c)(1)(i) or (c)(1)(ii) of this section; or

(iv) The employees of any of the entities identified in paragraphs (c)(1)(i) through (c)(1)(iii) of this section.

(2) In addition, each Party shall, by contract or otherwise, extend the cross-waiver of liability, as set forth in paragraph (c)(1) of this section, to its related entities by requiring them, by contract or otherwise, to:

(i) Waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this section; and

(ii) Require that their related entities waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this section.

(3) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

(4) Notwithstanding the other provisions of this section, this cross-waiver of liability shall not be applicable to:

(i) Claims between a Party and its own related entity or between its own related entities;

(ii) Claims made by a natural person, his/her estate, survivors or subrogees (except when a subrogee is a Party to the agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;

(iii) Claims for damage caused by willful misconduct;

(iv) Intellectual property claims;

(v) Claims for damage resulting from a failure of a Party to extend the cross-waiver of liability to its related entities, pursuant to paragraph (c)(2) of this section; or

(vi) Claims by a Party arising out of or relating to another Party's failure to perform its obligations under the agreement.

(5) Nothing in this section shall be construed to create the basis for a claim or suit where none would otherwise exist.

(6) This cross-waiver shall not be applicable when 49 U.S.C. Subtitle IX, Chapter. 701 is applicable.

§ 1266.103 [Reserved].

§ 1266.104 Cross-waiver of liability for launch agreements for science or space exploration activities unrelated to the International Space Station.

(a) The purpose of this section is to implement a cross-waiver of liability between the parties to agreements for NASA's science or space exploration

activities that are not related to the International Space Station (ISS) but involve a launch. It is intended that the cross-waiver of liability be broadly construed to achieve this objective.

(b) For purposes of this section:

(1) The term "Party" means a party to a NASA agreement for science or space exploration activities unrelated to the ISS that involve a launch.

(2) (i) The term "related entity" means:

(A) A contractor or subcontractor of a Party at any tier;

(B) A user or customer of a Party at any tier; or

(C) A contractor or subcontractor of a user or customer of a Party at any tier.

(ii) The terms "contractor" and "subcontractor" include suppliers of any kind.

(iii) The term "related entity" may also apply to a State or an agency or institution of a State, having the same relationship to a Party as described in paragraphs (b)(2)(i)(A) through (b)(2)(i)(C) of this section, or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph (b)(6) of this section.

(3) The term "damage" means:

(i) Bodily injury to, or other impairment of health of, or death of, any person;

(ii) Damage to, loss of, or loss of use of any property;

(iii) Loss of revenue or profits; or

(iv) Other direct, indirect, or consequential damage.

(4) The term "launch vehicle" means an object, or any part thereof, intended for launch, launched from Earth, or returning to Earth which carries payloads or persons, or both.

(5) The term "payload" means all property to be flown or used on or in a launch vehicle.

(6) The term "Protected Space Operations" means all launch or transfer vehicle activities and payload activities on Earth, in outer space, or in transit between Earth and outer space in implementation of an agreement for launch services. Protected Space Operations begins at the signature of the agreement and ends when all activities done in implementation of the agreement are completed. It includes, but is not limited to:

(i) Research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer vehicles, payloads, or instruments, as well as related support equipment and facilities and services; and

(ii) All activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services. The term

"Protected Space Operations" excludes activities on Earth that are conducted on return from space to develop further a payload's product or process for use other than for the activities within the scope of an agreement for launch services.

(7) The term "transfer vehicle" means any vehicle that operates in space and transfers payloads or persons or both between two different space objects, between two different locations on the same space object, or between a space object and the surface of a celestial body. A transfer vehicle also includes a vehicle that departs from and returns to the same location on a space object.

(c)(1) Cross-waiver of liability: Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in paragraphs (c)(1)(i) through (c)(1)(iv) of this section based on damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for damage, whatever the legal basis for such claims, against:

(i) Another Party;

(ii) A party to another NASA agreement that includes flight on the same launch vehicle;

(iii) A related entity of any entity identified in paragraphs (c)(1)(i) or (c)(1)(ii) of this section; or

(iv) The employees of any of the entities identified in paragraphs (c)(1)(i) through (c)(1)(iii) of this section.

(2) In addition, each Party shall extend the cross-waiver of liability, as set forth in paragraph (c)(1) of this section, to its own related entities by requiring them, by contract or otherwise, to:

(i) Waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this section; and

(ii) Require that their related entities waive all claims against the entities or persons identified in paragraphs (c)(1)(i) through (c)(1)(iv) of this section.

(3) For avoidance of doubt, this cross-waiver of liability includes a cross-waiver of claims arising from the Convention on International Liability for Damage Caused by Space Objects, which entered into force on September 1, 1972, where the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is

damaged by virtue of its involvement in Protected Space Operations.

(4) Notwithstanding the other provisions of this section, this cross-waiver of liability shall not be applicable to:

(i) Claims between a Party and its own related entity or between its own related entities;

(ii) Claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to the agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, or other impairment of health of, or death of, such person;

(iii) Claims for damage caused by willful misconduct;

(iv) Intellectual property claims;

(v) Claims for damages resulting from a failure of a Party to extend the cross-waiver of liability to its related entities, pursuant to paragraph (c)(2) of this section; or

(vi) Claims by a Party arising out of or relating to another Party's failure to perform its obligations under the agreement.

(5) Nothing in this section shall be construed to create the basis for a claim or suit where none would otherwise exist.

(6) This cross-waiver shall not be applicable when 49 U.S.C. Subtitle IX, Chapter 701 is applicable.

Michael D. Griffin,

Administrator.

[FR Doc. E8-2868 Filed 2-25-08; 8:45 am]

BILLING CODE 7510-13-P

**NATIONAL AERONAUTICS AND
SPACE ADMINISTRATION****[Notice (08-054)]****National Environmental Policy Act;
Disposition of Space Shuttle
Program's Real and Personal Property****AGENCY:** National Aeronautics and
Space Administration (NASA).**ACTION:** Finding of no significant
impact.

SUMMARY: Pursuant to the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4321 *et seq.*), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR parts 1500-1508), and NASA policy and procedures (14 CFR Part 1216, Subpart 1216.3), NASA has made a Finding of No Significant Impact (FONSI) with respect to the disposition of the Space Shuttle Program's (SSP's) real and personal property using a structured process consisting of a coordinated series of actions. Under Presidential direction, NASA will cease operations of its SSP by 2010. A number of assets will be dispositioned during the transition and retirement (T&R) activities. NASA proposes to implement a structured process for the disposition of the SSP real and personal property consisting of a coordinated series of actions. SSP T&R activities would include potential retirement, transfer, and disposal of property. SSP property disposition activities would extend for several years beyond 2010. On January 14, 2004, President George W. Bush presented his Vision for U.S. Space

Exploration (hereinafter "the Vision") to the nation. Congress expressly endorsed the President's exploration initiative and provided additional direction for the initiative in the NASA Authorization Act of 2005. In announcing the Vision, the President directed NASA to use the Space Shuttle to fulfill its obligation to complete assembly of the International Space Station and then retire the Space Shuttle by 2010. Under Presidential direction, NASA will cease operations of its SSP activities at all locations, including Kennedy Space Center (KSC), Florida; Johnson Space Center (JSC), Ellington Field (EF), and El Paso Forward Operating Location (EPFOL), Texas; Stennis Space Center (SSC), Mississippi; Michoud Assembly Facility (MAF), Louisiana; Marshall Space Flight Center (MSFC), Alabama; White Sands Test Facility (WSTF), New Mexico; Dryden Flight Research Center (DFRC) and Palmdale (Air Force Plant 42, Site 1), California; and the associated contractor facilities. The cessation of SSP operations will necessitate the disposition of all program-related assets. Public comments received on the Draft Programmatic Environmental Assessment (PEA) during the public review period conducted from February 27, 2008, through March 28, 2008, are provided along with responses in Appendix E of the Final PEA.

DATES: July 11, 2008.

ADDRESSES: The Final PEA may be reviewed at the following location:

(a) NASA Headquarters, Library, Room 1J20, 300 E Street, SW., Washington, DC 20546-0001 (202-358-0168).

It also may be examined at the following locations by contacting the pertinent Freedom of Information Act Office:

(b) NASA, George C. Marshall Space Flight Center, Huntsville, AL 35812 (256-544-1837); and

(c) NASA, John F. Kennedy Space Center, FL 32899 (321-867-2745).

Hard copies of the Final PEA also may be viewed at other NASA Centers (see **SUPPLEMENTARY INFORMATION** below). Limited hard copies of the Final PEA are available, on a first request basis, by contacting Donna L. Holland at the address or telephone number indicated herein. The Final PEA will be available for viewing online at the following address: http://www.nasa.gov/mission_pages/shuttle/main/pea.html.

FOR FURTHER INFORMATION CONTACT:

General: Ms. Monica Vest, Government Community Relations Dept., NASA MSFC, CS30, Marshall Space Flight

Center, AL 35812, Phone: (256) 544-5560, mail: Monica.M.Vest@nasa.gov.

Technical: Ms. Donna L. Holland, Environmental Engineering Office, NASA MSFC, AS10, Marshall Space Flight Center, AL 35812, Phone: (256) 544-7201, e-mail:

Donna.L.Holland@nasa.gov.

SUPPLEMENTARY INFORMATION: NASA has reviewed the Final PEA prepared for the disposition of the SSP's real and personal property and has determined that it represents an accurate and adequate analysis of the scope and level of associated environmental impacts. The Final PEA is hereby incorporated by reference in this FONSI.

Under NASA's Proposed Action, SSP transition and property disposal activities would be expected to occur at the following NASA sites:

- Dryden Flight Research Center, Edwards Air Force Base, California.
- George C. Marshall Space Flight Center, Huntsville, Alabama.
- John F. Kennedy Space Center, Brevard County, Florida.
- John C. Stennis Space Center, Hancock County, Mississippi.
- Johnson Space Center El Paso Forward Operating Location, El Paso, Texas.
- Johnson Space Center Ellington Field, Houston, Texas.
- Johnson Space Center White Sands Test Facility (and the U.S. Army's White Sands Missile Range), Las Cruces, New Mexico.
- Lyndon B. Johnson Space Center, Houston, Texas.
- Langley Research Center, Hampton, Virginia.
- Michoud Assembly Facility, New Orleans, Louisiana.
- Palmdale Air Force Plant 42, Site 1, Palmdale, California.

The Final PEA may be viewed at the following NASA locations by contacting the pertinent Freedom of Information Act Office in writing or by telephoning:

- (a) NASA, Ames Research Center, Moffett Field, CA 94035 (650-604-3273);
- (b) NASA, Dryden Flight Research Center, Edwards, CA 93523 (661-276-2704);
- (c) NASA, Glenn Research Center at Lewis Field, Cleveland, OH 44135 (1-866-404-3642);
- (d) NASA, Goddard Space Flight Center, Greenbelt, MD 20771 (301-286-4721);
- (e) NASA, John C. Stennis Space Center, MS 39529 (228-688-2118);
- (g) NASA, Lyndon B. Johnson Space Center, Houston, TX 77058 (281-483-8612);
- (h) NASA, Langley Research Center, Hampton, VA 23681 (757-864-2497);

(i) NASA, Michoud Assembly Facility, New Orleans, LA 70189 (504-257-2629); and

(j) NASA, White Sands Test Facility, Las Cruces, NM 88004 (505-524-5024).

In addition the Final PEA may be examined at:

(k) Jet Propulsion Laboratory, Visitors Lobby, Building 249, 4800 Oak Grove Drive, Pasadena, CA 91109.

Alternatives that were evaluated include the: (1) No-Action Alternative; and (2) the Proposed Action Alternative. Under the No-Action Alternative, NASA would not implement the proposed comprehensive and coordinated effort to disposition SSP property under a structured and centralized SSP process. Instead, the disposition of SSP property would occur on a Center-by-Center and item-by-item basis in the normal course of NASA's ongoing facility and program management. Under the Proposed Action (which is also NASA's Preferred Alternative), NASA would conduct disposition actions for real and personal property using a structured process consisting of a coordinated series of actions in accordance with 41 CFR, Chapter 101, "Federal Property Management Regulations;" Subchapter H, "Utilization and Disposal;" Federal Acquisition Regulation (FAR) Part 45; 48 CFR Part 45, "Government Property"; and NASA FAR Supplement Part 1845, 48 CFR 1845, "Government Property".

When the SSP disposes of or transfers real or personal property, the responsible NASA Center will evaluate the property using Federal and NASA property management regulations and guidance.

The notice of availability of the Draft PEA was published in the **Federal Register** on February 28, 2008. Notice also was published in local newspapers serving communities near NASA Centers and installations primarily involved in SSP. NASA received 20 comments on the Draft PEA. Environmental concerns were expressed in the context of general interest and support, historic and cultural property disposition, and natural resource management. These comments are addressed in the Final PEA, and were considered along with responses in reaching NASA's decision.

The analyses of environmental impacts due to activities associated with the disposition of shuttle property revealed minimal to no impact on environmental resources with the exception of the effect on historical resources. The impact to historic resources was found to be moderate, but adverse. The moderate impact is due to the potential for demolition or modification of buildings that will no

longer be needed after the retirement of the SSP. NASA believes that the ultimate impact will be moderate because, before any final decision is made about demolishing or modifying any facility, NASA will conduct an appropriate level of environmental and cultural resource analysis. If any such properties are listed in or eligible for listing in the National Register of Historic Places, NASA will take no action that would affect any such property until the National Historic Preservation Act Section 106 process is complete.

On the basis of the evaluations documented in the SSP T&R Final PEA, the environmental impacts associated with the proposed action would not individually or cumulatively have a significant impact on the quality of the human environment. An Environmental Impact Statement need not and will not be prepared, and NASA is issuing this Finding of No Significant Impact.

William H. Gerstenmaier,

Associate Administrator for Space Operations.

[FR Doc. E8-15751 Filed 7-10-08; 8:45 am]

BILLING CODE 7510-13-P

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Astronaut Code of Professional Responsibility

This code of professional responsibility of the National Aeronautics and Space Administration's Astronaut Corps acknowledges our responsibility to the Agency, to the public, and to each other. It directs us in the performance of our professional duties and expresses the basic tenets of ethical and professional conduct. Adherence to this code calls for a constant commitment to honorable behavior and ensures the continued privilege of participation in our Nation's space program.

Competence

In return for the faith that the public places in us, we will continually seek to demonstrate our dedication to professional excellence. We recognize that lives are always at risk in human space flight and make extra effort to know our jobs and to perform them flawlessly. The opportunities, and therefore the responsibilities, that we have been given are a unique privilege that demands the highest level of competence.

Teamwork

We are highly visible members of a large team of skilled and dedicated people. Mission accomplishments belong to the team, not to the individual.

Integrity

Integrity requires us to observe both the rule and the spirit of technical and ethical standards. Honesty and forthrightness in all dealings with co-workers and the public are our foundations.

We will strive to avoid the appearance of impropriety and readily acknowledge the limits of our expertise.

Relationships

We establish relationships of trust with our co-workers throughout the NASA community. We will maintain our professional standards in these relationships in both the work and social environments. We will protect and balance the best interests of our co-workers, families, and NASA.

Personal Behavior

We will live in a manner that reflects credit and honor upon our profession. Astronauts will respect and uphold the law and their duties as citizens. Each of us accepts personal responsibility for our conduct.

Stewardship

We are custodians of valuable National resources and will avoid conflicts of interest that could lead to their exploitation. We will not take actions that put people or hardware at unreasonable risk.

Lifelong Commitment

We have a lifelong association with the Astronaut Corps. As such, our responsibilities to each other continue after our time at NASA. We will always consider the implications that our actions have on all active and former Astronauts and we will support each other in our adherence to this code.

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Dear Google Lunar X PRIZE Participant:

As part of your effort to win the Google Lunar X PRIZE, will your entry or any related facilities be capable of actively or passively sensing the Earth's surface, including bodies of water, from space by making use of the properties of the electromagnetic waves emitted, reflected, or diffracted by the sensed objects?

If so, and if your team is based wholly or partially in the USA, you may need to apply for a license from the National Oceanic and Atmospheric Administration (NOAA). This is because Land Remote Sensing Policy Act of 1992 and its implementing regulations require any person subject to the jurisdiction or control of the United States who operates or proposes to operate a private remote sensing space system that images the Earth, and/or establishes substantial connections with the United States regarding the operation of such a system to obtain a license from NOAA.

If you think this may apply to your team, NOAA strongly encourages you to contact us for a non-binding consultation at:

Email: noaa.crsi@noaa.gov

Phone: 301-713-2024 ext 213/202

Obtaining a license can take up to 120 days once application is received by NOAA.

Should you wish to review the regulations, found at 15 CFR Part 960, describing NOAA's licensing and regulation of such systems, they are available online at:
<http://www.licensing.noaa.gov/reference.html>.

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PEOPLE'S REPUBLIC OF CHINA
PERMANENT MISSION AT GENEVA

**Message from Foreign Minister Yang Jiechi of The People's
Republic of China to the Conference on Disarmament**

As the sole international body for conducting multilateral disarmament negotiations, the Conference on Disarmament is charged with the important mission of promoting global arms control and disarmament. China attaches great importance to the Conference and has actively participated in the discussions of all the items on its agenda, including "Prevention of an Arms Race in Outer Space".

Outer space has become an integral part of man's life and contributes to the well-being and social progress of all countries. Thanks to its unremitting efforts over the years, the international community has adopted a series of international legal instruments, contributing to the peaceful exploration and use of outer space.

A peaceful and tranquil outer space free from weaponization and arms race serves the common interests of all countries. It is therefore necessary for the international community to formulate new legal instruments to strengthen the current legal regime on outer space. The U.N. General Assembly has, for over twenty years, adopted resolutions with overwhelming majority, reiterating that the Conference on Disarmament has the primary role in the negotiation of a multilateral agreement on the prevention of an arms race in outer space.

In view of the above, China and Russian have drafted the *Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects*. We hope that the Conference on Disarmament will start substantive discussion and reach consensus on it as soon as possible, and China is ready to work with all the other members of the Conference on Disarmament toward this goal. I also hope that with the joint efforts of all its members, the Conference on Disarmament will make positive progress in its work this year.



RUSSIAN FEDERATION



Unofficial translation
Check against delivery

STATEMENT

BY

H.E. MR. SERGEY LAVROV

MINISTER OF FOREIGN AFFAIRS
OF THE RUSSIAN FEDERATION

AT THE PLENARY MEETING
OF THE CONFERENCE ON DISARMAMENT

Geneva, 12 February 2008

Mr. Secretary-General,
Mr. President,
Distinguished colleagues,
Ladies and gentlemen,

First of all, I would like to welcome all the participants in the Conference on Disarmament. I appreciate the opportunity to address this representative forum and to share our views on the state of the disarmament and non-proliferation process, which cannot but cause concern.

Scientific achievements and the use of advanced technologies offer unheard-of opportunities for addressing the primary task for any State, i.e. to ensure sustainable development and prosperity. The growing interdependence of the globalizing world and the emerging multipolar system create a favorable environment for expanding international cooperation with a view to taking maximum advantage of such opportunities for the benefit of all the countries and peoples. On the other hand, the new global threats and the aggravation of many existing ones, ranging from terrorism and proliferation of weapons of mass destruction to climate change, require from the international community to come up with a joint response. This is the imperative of the time.

Mankind has no other acceptable alternative but to ensure security collectively, through working together. This task is too tough, both in financial and military terms, for a single State or any narrow coalition to tackle. The very logic behind the evolution of present-day international relations proves futility of unilateral and bloc-based schemes, particularly force-oriented ones. Their champions are incapable of guaranteeing security even for themselves and only show the limits of what such a response can achieve. But the main thing is that such actions undermine stability by forcing other countries to take care of their security on their own. And this, as a rule, does damage to non-proliferation.

The Treaty on the Non-Proliferation of Nuclear Weapons is a pivotal element of the modern international security system. Here, in Geneva, a second

session of the Preparatory Committee for a regular review of the NPT will be held in a few months' time. We are interested in as constructive and efficient as possible work of this forum, which is called upon to create favourable conditions for a successful 2010 Review Conference. The important thing is to ensure further effectiveness of the Treaty proceeding from the unity of its three fundamental elements: non-proliferation, peaceful uses of atomic energy and disarmament.

Russian-American relations in the area of limitation and reduction of strategic offensive arms are of key importance to real disarmament. Unfortunately, there is no certainty about the future of this process. The SALT I Treaty expires in December 2009. Long in advance, as far back as three years ago, we offered the idea of developing and concluding a new full-fledged agreement on further and verifiable reduction and limitation of strategic offensive arms.

Our goal is to preserve stability and predictability in strategic relations between Russia and the United States. Therefore, we suggest that all the best elements of the existing Treaty be borrowed and placed in the foundation of a new agreement. Such a document, which should, of course, be legally binding, could provide for new, lower ceilings subject to verification on both strategic delivery vehicles (intercontinental ballistic missiles, sea launched ballistic missiles and heavy bombers), and their warheads. However, it has so far been impossible to arrive at acceptable solutions.

We hope that US negotiators will pay heed to the call of such authorities in this field as George Shultz, Henry Kissinger, Sam Nunn and William Perry, who argued in a convincing manner in favour of the need to continue nuclear disarmament, strengthen international non-proliferation regimes and maintain strategic stability on a multilateral basis. Many of their ideas are in line with Russia's initiatives, though there are, of course, aspects that call for further

discussion in seeking agreement on specific ways of resolving these not that simple tasks.

I wish to note specifically that we cannot but feel concerned over the situation where, with the looming prospect of expiration of the treaty limitations on strategic offensive arms, there are increasing efforts by the United States to deploy its global ABM system. It is well known that there is inseparable relationship between strategic offensive and defensive armaments, and it is impossible not to take that fact in account in future military planning. The desire to acquire an anti-missile "shield" while dismantling the "sheath", where the nuclear "sword" is kept is extremely dangerous. And if one also places on the balance pan the "global lightning strike" concept providing for striking with nuclear and conventional strategic means targets in any point of the Globe in a matter of an hour after a relevant decision has been made, the risks for strategic stability and predictability become more than obvious.

We think that strategic stability can no longer remain an exclusive domain of Russian-US relations. This residual bipolarity needs to be overcome through opening up this sphere to all interested states prepared to actively cooperate with a view to strengthening common security. It is our strong belief that such cooperation should be based on equality, mutual respect, a constructive dialogue, joint analysis and due account of the interests of all the sides in working out and making decisions.

It is these principles that Russia will continue to uphold in its foreign policy. The same principles traditionally underlie the work of the Conference on Disarmament which is a unique and indispensable international negotiating forum possessing a solid intellectual and professional potential. The Conference has made a substantial contribution to strengthening peace and security, as well as promoting disarmament and non-proliferation of weapons of mass destruction and their means of delivery through developing most important international legal instruments in this area.

However, the results produced by the Conference in the past cannot solve all current problems: new and highly grave challenges and threats that call for an urgent joint response have been emerging here. A delay is fraught with dangerous risks.

Like a great majority of other States, Russia is of course dissatisfied with a situation where the substantive work of the Conference has been blocked for ten years now, while there has been stagnation in the sphere of disarmament, arms control and non-proliferation. We are convinced that, given political will, the situation can be reversed. And the key prerequisite for this lies in favourable international conditions for a disarmament process that can only advance on the basis of reciprocity, the principle of equal security and compliance with international law.

Among the issues requiring the use of the Conference's potential is ensuring predictability of military activities in space. Without preventing an arms race in space international security will be wanting. Strategic stability which is central to the world's military and political equilibrium will be endangered.

The activities in the exploration and use of outer space have substantially expanded lately in their scale and importance. The interests of further dynamic development of international space cooperation require insistently measures aimed to prevent turning space into an arena of confrontation and to keep space free from any weapons.

Speaking last year in Munich, President Vladimir V. Putin, warned against the emergence of new high-tech destabilizing types of weapons and new areas of confrontation, particularly in outer space. He emphasized that militarization of outer space could trigger unpredictable consequences for the international community - no less serious than the onset of the nuclear era. The President also noted that a draft special treaty was being prepared aimed at preventing such a development. The document was developed by us jointly with

the People's Republic of China and circulated unofficially among interested delegations at the Conference last June. The overwhelming majority of our partners reacted positively to the document. Many states are looking forward to substantive work on this issue.

Today, the Russian Federation together with the People's Republic of China, are officially submitting a draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force Against Outer Space Objects (PPWT) to the Conference on Disarmament for consideration. Given its mandate, agenda and high expert potential on military space issues, we believe that the Conference is the most appropriate forum for multilateral work on the draft treaty.

The draft takes into account the proposals made by Member States of the Conference in the course of their joint work on the Treaty elements that were submitted earlier to the CD by Russia and China together with a group of co-sponsors and fruitfully discussed here over more than five years.

We are submitting the draft Treaty with a research mandate. It has been supported by the majority of Member States of the Conference and does not add any complications to achieving a compromise on the programme of work of the Conference. We hope that subsequently, when appropriate conditions are there, our work can be channeled into a negotiating format with establishment of a relevant ad hoc committee of the Conference.

Modern international space law does not prohibit deployment in space of weapons which do not belong to WMD. However, such weapons, if deployed in space, would have a global reach, high employment readiness and a capability for hidden engagement of space objects and rendering them inoperative. In contrast to WMD, such weapons would be fit for real use, generate suspicion and tensions among states and frustrate the climate of mutual trust and cooperation in space exploration, rather than being a means of containment.

Apart from this, weapons deployment in space by one state will inevitably result in a chain reaction. And this, in turn, is fraught with a new spiral in the arms race both in space and on the earth.

The draft PPWT prohibits the deployment of weapons of any kind in space, and the use or threat of force against space objects. The Treaty is to eliminate existing lacunas in international space law, create conditions for further exploration and use of space, preserve costly space property, and strengthen general security and arms control.

The task of preventing an arms race in space is on the Conference's agenda. It's time, by way of preempting, to start serious practical work in this field. Otherwise, we can miss the opportunity. Indeed, to prevent a threat is always easier than to remove it.

Let us not forget that the nuclear arms race was started with a view to preserving the monopoly to this type of weapons, but this monopoly was to last only four years. However, that spell was sufficient to channel the world politics along the "Cold War lines", which lasted for over four decades and resulted in a gigantic waste of material and other resources at the expense of finding solutions to the problem of development. Is it worthwhile "to repeat the history"?

All states have an equal and inalienable right to accessing space, its exploration and uses. It is logical that the problem of ensuring security in space is a common one for all of us, and we should find jointly such a solution to it as would work for strengthening international security and stability. We have no doubts that the PPWT is an effective and, at the same time, a realistic way to achieve that goal. We are prepared to closely cooperate with all Member States of the Conference.

There is another pressing issue that affects considerably strategic stability and international security and is linked to missile proliferation. In October 2007, President Vladimir V. Putin launched an initiative for rendering global the

obligations set forth in the Treaty between the USSR and the USA on the elimination of their intermediate-range and shorter-range missiles (INF Treaty).

The initiative was supported by our American partners. Our common position on the matter was reflected in the Joint Statement on the INF Treaty circulated as an official paper at the 62nd session of the UN General Assembly and the Conference on Disarmament. The majority of the international community members welcomed it. However, there are States that were not prepared to support the initiative for various reasons. We take note of their approaches and would like to continue searching jointly for a mutually acceptable solution to the problem.

To this end, we propose that a new multilateral agreement based on the relevant provisions of the existing INF Treaty be elaborated and concluded. Such an international legal arrangement could comprise the following basic elements.

Firstly, the obligation of the parties not to conduct flight testing and not to manufacture medium- and shorter-range missiles or their stages and launchers.

Secondly, the undertaking by states parties to eliminate, by an agreed deadline, all their medium- and shorter-range missiles, launchers thereof and associated supporting facilities and equipment.

Thirdly, the arrangement should set rules for counting and defining the types of medium- and shorter-range missiles, their deployment and movement, in the process of getting them ready for elimination, procedures for their elimination and compliance verification.

We will circulate unofficially the elements of the proposed Agreement for study by Member States of the Conference on Disarmament. We are open for a constructive dialogue and invite our partners to join us in this work.

To conclude, I would like to dwell briefly on the new Russia's foreign policy philosophy in the context of disarmament issues.

In the new age, the goal of any state is to play and to win in the world competitive struggle, rather than on battlefield. Russia's entire foreign policy is oriented towards preserving the historic prospect for an independent development, truly based on its identity, in the family of other nations, that has been offered to it for the first time. This will be impossible without continuing accelerated social and economic growth in the country, which will be one of the key guarantees of our security. Externally, Russia's security should be ensured by a more just and genuinely democratic architecture of international relations. Unfortunately, the world that shook off "the Cold War", has so far failed to attain a new equilibrium. The conflict potential, including in the areas close to the Russian frontiers, is very high.

That is why we have been consistently favouring collective actions being reaffirmed and legal principles strengthened in regional and global affairs on the basis of the UN Charter and recognition of indivisibility of security and development in the modern world.

That is why we favour setting up open collective security systems, first of all the formation of a single security space in the Euro-Atlantic area. We are convinced that there is no need for security against each other or against anyone, we need security against transnational threats.

That is why, as President V.Putin stated recently, we will not allow to draw us into a costly confrontation, including a new arms race detrimental to the internal development of the country.

That is why we favour maintaining continuity in the process of disarmament and arms control, its further development in terms of treaties and law and in the spirit of strategic openness.

It is not Russia that throws challenges to its international partners, it is life itself that throws challenges to all states without exception, first of all, to major states, which largely determine the future of the world. We have made our choice and are prepared to work jointly.

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CONFERENCE ON DISARMAMENT

CD/1839

29 February 2008

ENGLISH

Original: CHINESE and
RUSSIAN

LETTER DATED 12 FEBRUARY 2008 FROM THE PERMANENT REPRESENTATIVE OF THE RUSSIAN FEDERATION AND THE PERMANENT REPRESENTATIVE OF CHINA TO THE CONFERENCE ON DISARMAMENT ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE TRANSMITTING THE RUSSIAN AND CHINESE TEXTS OF THE DRAFT “TREATY ON PREVENTION OF THE PLACEMENT OF WEAPONS IN OUTER SPACE AND OF THE THREAT OR USE OF FORCE AGAINST OUTER SPACE OBJECTS (PPWT)” INTRODUCED BY THE RUSSIAN FEDERATION AND CHINA

We have the honour to transmit the Russian and the Chinese texts of the draft “Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects” (PPWT) introduced by the Russian Federation and the People’s Republic of China.

We would be grateful if this letter and the attached draft of the PPWT could be issued and circulated as official documents of the Conference on Disarmament.

(Signed): Valery Loshchinin
Ambassador
Permanent Representative
of the Russian Federation to
the Conference on Disarmament

(Signed): Wang Qun
Ambassador for Disarmament Affairs
Head of Delegation of the
People’s Republic of China to
the Conference on Disarmament

GE.08-60402 (E) 230408 230408

Draft

**TREATY ON PREVENTION OF THE PLACEMENT OF WEAPONS IN
OUTER SPACE AND OF THE THREAT OR USE OF FORCE AGAINST
OUTER SPACE OBJECTS**

The States Parties to this Treaty,

Reaffirming that outer space is playing an ever-increasing role in the future development of mankind,

Emphasizing the right to explore and use outer space freely for peaceful purposes,

Interested in preventing outer space from becoming an arena for military confrontation and ensuring security in outer space and the undisturbed functioning of space objects,

Recognizing that prevention of the placement of weapons in outer space and of an arms race in outer space would avert a grave danger for international peace and security,

Desiring to keep outer space as a sphere where no weapon of any kind is placed,

Noting that the existing agreements on arms control and disarmament relevant to outer space, including bilateral agreements, and the existing legal regimes concerning the use of outer space play a positive role in exploration of outer space and in regulating outer space activities, and should be strictly complied with, although they are unable to effectively prevent the placement of weapons in outer space and an arms race in outer space,

Recalling the United Nations General Assembly resolution on “Prevention of an arms race in outer space”, in which, inter alia, the Assembly expressed conviction that further measures should be examined in the search for effective and verifiable bilateral and multilateral agreements in order to prevent an arms race in outer space,

Have agreed on the following:

Article I

For the purposes of this Treaty:

(a) The term “outer space” means the space above the Earth in excess of 100 km above sea level;

(b) The term “outer space object” means any device designed to function in outer space which is launched into an orbit around any celestial body, or located in orbit around any celestial body, or on any celestial body, except the Earth, or leaving orbit around any celestial body towards this celestial body, or moving from any celestial body towards another celestial body, or placed in outer space by any other means;

(c) The term “weapon in outer space” means any device placed in outer space, based on any physical principle, which has been specially produced or converted to destroy, damage or disrupt the normal functioning of objects in outer space, on the Earth or in the Earth’s atmosphere, or to eliminate a population or components of the biosphere which are important to human existence or inflict damage on them;

(d) A weapon shall be considered to have been “placed” in outer space if it orbits the Earth at least once, or follows a section of such an orbit before leaving this orbit, or is permanently located somewhere in outer space;

(e) The “use of force” or the “threat of force” mean any hostile actions against outer space objects including, inter alia, actions aimed at destroying them, damaging them, temporarily or permanently disrupting their normal functioning or deliberately changing their orbit parameters, or the threat of such actions.

Article II

The States Parties undertake not to place in orbit around the Earth any objects carrying any kinds of weapons, not to install such weapons on celestial bodies and not to place such weapons in outer space in any other manner; not to resort to the threat or use of force against outer space objects; and not to assist or induce other States, groups of States or international organizations to participate in activities prohibited by this Treaty.

Article III

Each State Party shall take all necessary measures to prevent any activity prohibited by this Treaty on its territory or in any other place under its jurisdiction or control.

Article IV

Nothing in this Treaty may be interpreted as impeding the exercise by the States Parties of their right to explore and use outer space for peaceful purposes in accordance with international law, including the Charter of the United Nations and the Outer Space Treaty.

Article V

Nothing in this Treaty may be interpreted as impeding the exercise by the States Parties of their right of self-defence in accordance with Article 51 of the Charter of the United Nations.

Article VI

With a view to promoting confidence in compliance with the provisions of the Treaty and ensuring transparency and confidence-building in outer space activities, the States Parties shall implement agreed confidence-building measures on a voluntary basis, unless agreed otherwise.

Measures to verify compliance with the Treaty may form the subject of an additional protocol.

Article VII

If a dispute arises between States Parties concerning the application or the interpretation of the provisions of this Treaty, the parties concerned shall first consult together with a view to settling the dispute by negotiation and cooperation.

If the parties concerned do not reach agreement after consultation, an interested State Party may refer the situation at issue to the executive organization of the Treaty, providing the relevant argumentation.

Each State Party shall undertake to cooperate in the settlement of the situation at issue with the executive organization of the Treaty.

Article VIII

To promote the implementation of the objectives and provisions of this Treaty, the States Parties shall establish the executive organization of the Treaty, which shall:

- (a) Accept for consideration communications from any State Party or group of States Parties relating to cases where there is reason to believe that a violation of this Treaty by any State Party is taking place;
- (b) Consider matters concerning compliance with the obligations entered into by States Parties;
- (c) Organize and conduct consultations with the States Parties with a view to resolving any situation that has arisen in connection with the violation of this Treaty by a State Party;
- (d) Take steps to put an end to the violation of this Treaty by any State Party.

The title, status, specific functions and forms of work of the executive organization of the Treaty shall be the subject of an additional protocol to this Treaty.

Article IX

International intergovernmental organizations may take part in the Treaty. Provisions setting out different options for, and the procedure for, their participation in the Treaty shall be the subject of an additional protocol to this Treaty.

Article X

Any State Party may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary, who shall promptly circulate it to all States Parties. Upon the request of at least a third of the States Parties, the Depositary shall convene a conference to which all States Parties shall be invited to consider the proposed amendment.

Any amendment to this Treaty shall be approved by a majority of the votes of the States Parties. The amendment shall enter into force for all the States Parties in accordance with the procedures governing the entry into force of this Treaty.

Article XI

The Treaty shall be of unlimited duration.

Each State Party shall, in the context of the exercise of its national sovereignty, have the right to withdraw from the Treaty if it decides that extraordinary events related to the subject matter of this Treaty have jeopardized the supreme interests of its country. It shall notify the Depositary of the decision in writing six months in advance of its withdrawal from the Treaty.

Article XII

This Treaty shall be opened for signature by all States at United Nations Headquarters in New York. Any State which has not signed this Treaty before its entry into force may accede to it at any time.

This Treaty shall be subject to ratification by signatory States in accordance with their constitutional norms. Instruments of ratification or accession shall be deposited with the Secretary-General of the United Nations, who is hereby designated the Depositary of this Treaty.

Article XIII

This Treaty shall enter into force upon the deposit of instruments of ratification by twenty States, including all the permanent members of the United Nations Security Council.

For States whose instruments of ratification or accession are deposited after the entry into force of the Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

Article XIV

This Treaty, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send duly certified copies thereof to all signatory and acceding States.

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CONFERENCE ON DISARMAMENT

CD/1847

26 August 2008

Original: ENGLISH

**LETTER DATED 19 AUGUST 2008 FROM THE PERMANENT
REPRESENTATIVE OF THE UNITED STATES OF AMERICA
ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE
TRANSMITTING COMMENTS ON THE DRAFT “TREATY ON
PREVENTION OF THE PLACEMENT OF WEAPONS IN OUTER SPACE
AND OF THE THREAT OR USE OF FORCE AGAINST OUTER SPACE
OBJECTS (PPWT)” AS CONTAINED IN DOCUMENT CD/1839 OF
29 FEBRUARY 2008**

The Permanent Delegation of the United States of America to the Conference on Disarmament presents its complements to the Secretary-General of the Conference on Disarmament at the United Nations Office in Geneva, and has the honor to submit the United States’ paper on the draft “Treaty on Prevention of the Placement of Weapons in Outer Space and the Threat of Use of Force against Outer Space Objects (PPWT),” as contained in document CD/1839 of 29 February 2008.

We would be grateful if this letter and the attached paper could be issued and circulated as an official document of the Conference on Disarmament.

(Signed:)

Christina B. Rocca
Ambassador
Permanent Representative of the
United States of America
to the Conference on Disarmament

GE.08-62851

ANALYSIS OF A DRAFT “TREATY ON PREVENTION OF THE PLACEMENT OF WEAPONS IN OUTER SPACE, OR THE THREAT OR USE OF FORCE AGAINST OUTER SPACE OBJECTS”

CONTEXT

1. On February 12, 2008, the Foreign Minister of the Russian Federation, Sergey Lavrov, on behalf of Russian Federation and the People’s Republic of China, formally submitted a draft of a “Treaty on Prevention of the Placement of Weapons in Outer Space, or the Threat or Use of Force against Outer Space Objects” to the Conference on Disarmament (CD) for its consideration. This draft text for a legally binding Treaty contained a “research mandate” – a term of art indicating that the proponents will continue to urge the CD to address outer space, but will not press for the negotiation of text of its draft treaty for now. Having prepared the ground, however, Russia and China are now in a position to propose a “negotiating mandate” to work on specific text.

This draft Treaty (circulated to the Conference on Disarmament as CD/1839 on February 29, 2008) draws upon elements of a draft international agreement outlined in a working paper (CD/1679) originally submitted to the Conference on Disarmament by China, Russia, and five other nations on June 28, 2002.

THE CORE TREATY OBLIGATION

2. The core obligation of the draft Treaty lies in Article II, which reads:

“The States Parties undertake not to place in orbit around the Earth any objects carrying any kinds of weapons, not to install such weapons on celestial bodies and not to place such weapons in outer space in any other manner; not to resort to the threat or use of force against outer space objects; and not to assist or induce other States, groups of States or international organizations to participate in activities prohibited by this Treaty.”

ANALYSIS OF KEY PROVISIONS (*See summary table on page 7*)

3. Some key aspects of the wording in this draft Treaty are vague, so any analysis of the text is inherently provisional. However, it is possible to draw preliminary conclusions in several areas:

No Use Or Threats To Use Force Against Space Objects

4. The draft Treaty prohibits, among other things, the resort to the threat or use of force against outer space objects.¹

- (i) The term “hostile” – as it relates to prohibited actions and as contained in the Article I definitions of “use of force” and “threat of force” – appears to be intended to capture only actions which are taken against another country’s satellite(s), which are not part of a mutually-agreed cooperation program.

5. The definition of “use of force” in the draft Treaty also includes the following *significant departure* from the version outlined in the aforementioned 2002 (CD 1679) working paper:

- (i) Specifically, the draft definition of “use of force” captures *not only* “hostile” counter-space activities against another country’s space objects that result in permanent and irreversible damage, but *also hostile activities and actions that cause temporary and reversible effects*, such as from radio frequency jamming and optical sensor dazzling.
- (ii) Furthermore, another significant departure is that it also would capture the deliberate alteration of the orbit of another country’s satellite.

6. Article V states that nothing in the Treaty “may be interpreted as impeding the exercise by the States Parties of their right of self-defense in accordance with Article 51 of the Charter of the United Nations,” and thus can be interpreted as having a temporizing effect on the Article II prohibition.

- (i) It is not clear exactly how the drafters intend the Article II prohibition and the Article V inherent right of self-defense to be read together. For example, would it be possible for a country, in the self-proclaimed exercise of self-defense, to use an ASAT to destroy or temporarily disable a satellite -- an act that would otherwise be prohibited by Article II -- and still stay in compliance with the Treaty?
- (ii) One possible reading is that, if a Party determines that its self-defense depends upon its use of force against another country's space assets, it may, consistent with its Treaty obligations, employ such means.
- (iii) Furthermore, even though the term “threat of force” is defined within the term “use of force,” (“...the threat of [hostile] actions [against outer space objects]), exactly what would constitute a “threat” is not clear. For example,
 - (a) Would developing an ASAT capability constitute a threat?

¹The draft defines “‘use of force’ or the ‘threat of force’” to mean “any hostile actions against outer space objects including, *inter alia*, actions aimed at destroying them, damaging them, temporarily or permanently disrupting their normal functioning or deliberately changing their orbital parameters, or the threat of such actions.”

- (b) Would destroying one's own on-orbit satellite be construed as constituting a threat to others?
- (c) Would a close fly-by of either one's own, or another country's, satellite constitute a threat?
- (d) Does demonstrating a threat require some overt and unambiguous military action?

Space-Based Weapons

7. Article II prohibits the placement in orbit² around the Earth of any objects carrying any kind of weapons, the installation of such weapons on celestial bodies, and the stationing of any such weapons in outer space³ in any other manner.

8. When read together with the definitions in Article I, Article II of the draft Treaty prohibits the **deployment or stationing of any weapons in space, regardless of the military mission, and regardless of the specific technologies employed by the weapon system in question.**

- (i) In addition to anti-satellite (ASAT) systems, the draft Treaty prohibits the **deployment** of space-based **missile defense** interceptors, lasers, and other missile defense-related weapon capabilities employing other physical principles.
- (ii) There are **no** prohibitions, however, on the research, development, production, and terrestrial storage of space-based, for example, anti-satellite or missile defense weapons.

Terrestrial-Based Weapons

9. There are **no** prohibitions on the research, development, testing, production, storage, or deployment of **terrestrial-based** anti-satellite weapons (*e.g.*, direct-ascent ASAT interceptors, ground-based lasers, and jammers).

- (i) The deployment of terrestrial-based ASATs would **not** be prohibited, provided, for example, that such deployment is not read to constitute a "threat of force."

²Article I defines "outer space" to mean "the space above the Earth in excess of 100 km above sea level."

³"Weapon in outer space" is defined in Article I as "any device placed in outer space, based on any physical principle, which has been specially produced or converted to destroy, damage or disrupt the normal functioning of objects in outer space, on the Earth or in the Earth's atmosphere, or to eliminate a population or components of the biosphere which are important to human existence or inflict damage on them."

- (ii) To the extent that terrestrial-based ASATs could be used to substitute for, and perform the functions of, space-based weapons against, for example, space objects, their deployment would undermine the object and purpose of the proposed draft treaty.
- (iii) Furthermore, to the extent that terrestrial-based ASATs could perform the functions of space-based ASATs, the Treaty's Article II prohibitions would be irrelevant.

10. For terrestrial-based, *missile defense-related* "weapons," there are **no** direct or indirect constraints or limitations on related research, development, testing, production, storage, deployment, or operations.

Testing

11. The draft Treaty would prohibit the **testing** of *space-based* counter-space capabilities through the Article II prohibition on the placement in orbit around the Earth of "any objects carrying any kind of weapons."

12. The reference to "hostile" actions (against outer space objects) in the draft Treaty's definitions of "use of force" and "threat of force" establishes an important caveat and, thus, it may be possible to interpret the draft Treaty as ***not prohibiting tests against a country's own cooperative outer space objects (i.e., targets) employing ground-, sea-, or air-based weapons.***

- (i) For example, China's test of a ground-based, direct-ascent ASAT on January 11, 2007 against its own weather satellite would – under this interpretation – have been permitted under the draft Treaty provisions.

13. Additionally, terrestrial-based ***testing against another country's space object*** also would ***not be prohibited*** if the test only involved a "fly-by," with no physical impact (e.g., no intercept and creation of debris) on the space object target, unless it were construed to be a "threat" of hostile action.

Compliance/Enforcement Mechanism

14. Another potentially troublesome provision lies in Article VIII of the draft Treaty, which would require an "Executive Organization" (to be established by the States Party to the Treaty) to "organize and conduct consultations" and to "take steps to put an end to the violation."

- (i) Executive organizations do exist under arms control regimes, e.g., the creation of an Organization for the Prohibition of Chemical Weapons (OPCW) and a Comprehensive Nuclear Test Ban Treaty Organization (CNTBTO).

- (ii) Both the Chemical Weapons Convention and the Comprehensive Nuclear Test Ban Treaty explicitly recognize the need for the settlement of disputes in conformity with the provisions of the Charter of the United Nations.
- (iii) Neither the OPCW nor the CNTBTO has such an extraordinary mandate as the draft Treaty's "Executive Organization" and both offer ultimate recourse to the UN Security Council.

15. Such an open-ended and ill-defined compliance/enforcement authority, vested in an international body other than the UN Security Council, if taken literally, would be unprecedented and, furthermore, unacceptable. In particular, the types of "steps to put an end to the violation" are not specified or de-limited: thus, the Article VIII language could be interpreted very broadly, and potentially in a way contrary to the national security interests of a Party to this Treaty.

16. The failure to set sufficiently detailed parameters on the conduct of the "Executive Organization" is another serious flaw in the draft Treaty (although the text notes that an additional protocol would be negotiated to address the specific functions of the executive organization).

Treaty Amendment Process

17. The Article X provision regarding adoption of amendments to the draft Treaty by simple majority vote – without the right of a State Party to block adoption – also is unacceptable. No sovereign government would agree to a legally-binding instrument in which its national security interests could be jeopardized by a simple majority of subscribing States exercising their amendment rights. Any amendment process must be based upon the principle that no State Party should be bound by a subsequently adopted amendment unless it agrees to it implicitly or explicitly, in order to preserve that country's supreme national interests.

Verification Regime and Transparency and Confidence-Building Measures

18. The draft Treaty does not include an integral, legally-binding verification regime for effectively monitoring compliance with its obligations, including prohibitions.

19. More importantly, as acknowledged by Russian officials during informal PAROS discussions in the Conference on Disarmament on February 14, 2007, verification of an ASAT ban is unrealistic.

- (i) However, the draft Treaty does provide for the possibility of subsequently negotiating a verification protocol.

20. The draft Treaty also encourages the subsequent negotiation of voluntary transparency and confidence-building measures.

- (i) The United States supports voluntary TCBMs which can reduce the chance of miscalculation or misinterpretation during a crisis.
- (ii) However, such TCBMs should be developed without linkage to any arms control agreement.
- (iii) Any such TCBMs are not substitute for an effective verification regime.

The Russian-Chinese Treaty Proposal: Summary of Possible Implications*					
BASING MODE	SPACE-BASED COUNTER-SPACE	SPACE-BASED MISSILE DEFENSE	GROUND-BASED COUNTER-SPACE	SEA-BASED COUNTER-SPACE	AIR-BASED COUNTER-SPACE
• RESEARCH	NO CONSTRAINTS OR LIMITATIONS				
• DEVELOPMENT					
• TESTING AGAINST OWN COUNTRY'S SPACE OBJECTS	PROHIBITED	PROHIBITED	PERMITTED	PERMITTED	PERMITTED
• PRODUCTION	NO CONSTRAINTS OR LIMITATIONS				
• STORAGE					
• DEPLOYMENT	PROHIBITED	PROHIBITED	NO CONSTRAINTS OR LIMITATIONS		
• OPERATIONAL USE IN A HOSTILE ACTION AGAINST ANOTHER COUNTRY'S SPACE OBJECTS	PROHIBITED (Except when required for “self-defense”)				

***NOTE:** Some key aspects of the wording in Russia's draft Treaty are vague; any analysis of the text is inherently provisional

U.S. GOVERNMENT POLICY AND SELECTED KEY CONCLUSIONS

21. For the past thirty years, it has been the consistent policy of the United States to oppose arms control concepts, proposals, and legal regimes that:
- (i) seek prohibitions on military or intelligence uses of space; or
 - (ii) fail to preserve the rights of the United States to conduct research, development, testing, and operations in space for military, intelligence, civil, or commercial purposes.
22. The Russian-Chinese draft Treaty provides no grounds for the U.S. to either:
- (i) change its long-standing principle that arms control constraints or limitations on space-based systems or activities – beyond the existing in force regimes – are not in the national security interests on the United States;
 - (ii) support establishing an *ad hoc* committee to negotiate any such Treaty at the Conference on Disarmament.
23. If anything, several provisions in this submission (CD/1839) are even more unacceptable than the draft agreement outlined in a 2002 Chinese-Russian working paper (CD/1679).
24. For nearly three decades, the United States has consistently posited that it is not possible to develop an effectively verifiable agreement for the banning of either:
- (i) space-based “weapons” *or*
 - (ii) terrestrial-based anti-satellite systems.
25. Since the draft Treaty only bans the placement of weapons in space (and thus indirectly prevents the testing of on-orbit weapons), a Party could build a breakout capability – consistent with the provisions of the Treaty – as the proposed draft Treaty would not ban the research, development, production, or storage of (orbital) anti-satellite systems, nor would the proposed draft Treaty prohibit the testing of otherwise prohibited space-based weapons if they were tested against cooperative orbital targets by launching the test vehicle into a sub-orbital trajectory.
26. Further, as a general operating principle, the United States does not support an approach in which key legally-binding provisions required for the operation, viability, and effectiveness of an agreement would only be determined through subsequent negotiations. This proposed Treaty would require such subsequent negotiations.
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I

(Resolutions, recommendations and opinions)

RESOLUTIONS

COUNCIL

COUNCIL RESOLUTION

of 26 September 2008

‘Taking forward the European Space Policy’

(2008/C 268/01)

THE COUNCIL,

HAVING REGARD to the Framework Agreement between the European Community and the European Space Agency, which entered into force in May 2004, and to the increasing cooperation between the two parties;

RECALLING the orientations of the ‘Space Council’ meetings of 25 November 2004, 7 June 2005 and 28 November 2005;

EMPHASISING the Resolution of the ‘Space Council’ on 22 May 2007 which welcomed and supported the European Space Policy and established the policy base for space in Europe;

NOTING that the Resolution invited the European Commission, the ESA Director General and the European Union and ESA Member States, to monitor and evaluate the implementation of the policy within the scope of the Framework Agreement, including the implementation of the key issues defined in the annexes of the Resolution;

NOTING that the Member States, on the basis of the European Space Policy Implementation Plan, have identified as priorities two programmatic areas for action which are the successful implementation of both Galileo and GMES (Global Monitoring for Environment and Security), as well as a number of horizontal issues;

RECOGNISING the significant progress made in these areas as set out in the joint ESA-EC progress report, and WELCOMING the progress made in the setting-up of an international relations strategy for space in Europe;

REAFFIRMS in this context the importance for Europe to maintain an autonomous access to space, a world-class scientific programme, its leading satellite applications services in operational meteorology and commercial communications, and a sustained and innovative technology base;

UNDERLINES the importance to strengthen EC-ESA coordination of space technology development programmes, in particular on critical space technologies for European strategic non-dependence;

RECALLS the discussions among European ministers in charge of space at their informal meeting in Kourou, the space port of Europe, on 21 and 22 July 2008.

I. A VISION FOR EUROPE IN SPACE

RECOGNISING that the European Space Policy established the vision to strengthen Europe as a world-class space leader responding to the needs of European policies and objectives, in terms of applications, services and related infrastructures, contributing to its societal, cultural, economic and scientific influence, developing its industrial and scientific potential and assuring its political and technological autonomy in a reasoned, coherent and realistic manner;

RECOGNISING that this policy, based on the EU, ESA and their respective Member States involved in the European Space Programme, should continue to be implemented and further developed, maintaining ambitious goals within the capacities made available for research and operational applications;

EMPHASISING that all of Europe's space activities contribute to the goals of, and fully respect the principles set out by, the United Nations' 'Outer Space Treaty', in particular:

- the exploration and use of outer space for the benefit and in the interests of all countries and the recognition of outer space as a province of all mankind,
- the use of outer space for exclusively peaceful purposes,
- the promotion of international co-operation in the exploration and use of outer space,
- and that Europe supports the on-going efforts of the United Nations' Committee on the Peaceful Uses of Outer Space (COPUOS) on the mitigation and prevention of space debris;

UNDERLINING the importance of reinforcing public support for the development of space technologies, ensuring complementarities of actions and maximising synergies with non-space developments;

RECOGNISING that the European Union, ESA and their respective Member States are the three key actors of the European Space Policy, and HIGHLIGHTING that the European Union is taking increased responsibilities for space matters, especially related to space applications, consistent with those of a global actor and bringing an added-value to ESA and Member States while respecting roles and responsibilities of each of them;

CONSIDERING that, in these conditions and in the framework of the European Space Policy, the European Union, as well as ESA and their respective Member States, are main space actors, and they will develop Europe as a leading space power on the international scene. In this context, IDENTIFIES the following issues to be addressed:

- in line with the international relations strategy, promoting a coherent approach to international cooperation in space programmes in view of their global nature, while recognising that Europe should be able to face global competition. Solar System exploration, Earth environment and sustainable development are the priority domains for implementing international cooperation,
- ensuring for all the EU and ESA Member States an open and equitable access to the benefits of space activities in terms of public policies, scientific data, technological development, industrial activities and services,
- strengthening the existing mechanisms to coordinate European expertise and investments in space funded from Community, intergovernmental and national sources as well

as setting-up the mechanisms to improve synergies between civil and defence space programmes, while respecting the specific requirements of both sectors, including their decision competences and finance schemes,

- guaranteeing the continuity of autonomous, reliable and cost-efficient access to space at affordable conditions for the EU, ESA and their respective Member States, based on both the availability of a set of adequate and competitive world-class launchers and an operational European space port,
- federating through the EU, based on the policy needs of the EU, and of ESA and EU Member States, their demand for space applications, through a transparent process enabling the EU to identify user requirements, to establish priorities, and to ensure the continuity of services. Maintenance of the necessary tools to provide these services, including their funding, should be executed in partnership with the stakeholders concerned and the operators when appropriate,
- promoting the development of an appropriate regulatory framework to ease the swift emergence of innovative and competitive downstream services, in particular with the objective of guaranteeing sustained access to spectrum for all space-based applications,
- organising the governance of space in line with the Resolution of the 4th Space Council and with the political ambitions of EU, ESA and their respective Member States, in particular the optimisation of the decision-making process in the field of space in the Council of the European Union as well as in other EU institutions,
- developing adequate EU instruments and funding schemes, taking into account the specificities of the space sector, the need to strengthen its overall and its industry's competitiveness and the necessity of a balanced industrial structure; and allowing appropriate long-term Community investment for space related research and for the operation of sustainable space-based applications for the benefit of Europe and its citizens, in particular by examining all space-related policy consequences within the framework of the next financial perspective,

- strengthening the cooperation with developing countries;

UNDERLINES the added value for EU and ESA Member States' ministers in charge of space to meet as frequently as useful to address the main political issues on the basis of an appropriate roadmap.

II. CURRENT PRIORITIES

WELCOMES the following significant advances in the Galileo and GMES programmes:

- the successful launch and in-orbit validation of GIOVE-B, allowing to demonstrate critical new technologies needed for the performance of the Galileo system,
- the conclusions of the EU Council in November 2007 and the subsequent adoption by the European Parliament and the Council of the Regulation on the further implementation of the European GNSS programmes, clarifying the public governance of the Galileo deployment phase and the EGNOS operations and the implications of the actions for Galileo funding,
- the decision by ESA Member States to initiate the GMES Space Component programme; the conclusion of the EC-ESA agreement providing the Community contribution to this programme; and the provision by EC of initial operational funding through the implementation of a GMES preparatory action in 2008,
- the demonstration at the Lille GMES Forum of pre-operational GMES services,
- the launch of the GMES and Africa partnership through the 'Lisbon Process on GMES and Africa' with a view to serving the African users,
- the proposal on the fundamental architecture of GMES described in the Munich roadmap;

REAFFIRMS the continuing priority to implement both Galileo and GMES rapidly.

A. GALILEO

RECOGNISING that Galileo constitutes the first flagship space programme of the EU;

INVITES the Commission to take into consideration and analyse past difficulties in order to reap the full benefits of this experience;

LOOKS FORWARD the creation of the Galileo Inter-Institutional Panel;

UNDERLINES the need for increased coordination between the European Commission, ESA and their respective Member States, in relation to R & D for satellite navigation systems, services and applications;

HIGHLIGHTS the continued co-operation with international partners on issues of system compatibility and interoperability;

INVITES the Commission to address the legal implications of the European Community becoming the owner of those tangible

and intangible assets it has funded related to space applications, such as those of the Galileo and EGNOS programmes, in particular with respect to liability issues.

B. GMES

RECALLING that GMES is a user-driven initiative that should maximise the use of existing space and non-space Earth Observation centres, capacities and services in Europe, including EUMETSAT, the EU Satellite Centre ...;

STRESSES that the in-situ Earth observation infrastructures which Member States support, together with space observation infrastructures, represent a major contribution to the Earth observation capacities and should be made available to GMES on a permanent basis;

HIGHLIGHTS that data and service continuity is indispensable and that such continuity must be guaranteed by the European Union, in particular through long-term funding, based on partnerships for the various GMES components;

REAFFIRMS the role of ESA as development and procurement agency for the dedicated GMES Sentinel missions, and as coordinator for the whole GMES Space Component, including contributions made available by Member States, EUMETSAT and further GMES partners;

INVITES the Commission to define an adequate GMES legal framework, involving the Council General Secretariat where appropriate, and to explore the implications of certification of satellite remote sensed data;

STRESSES that many GMES information services have the nature of a European public good and must be made available according to a full and open access principle, subject to some constraints such as security;

IDENTIFIES the need to elaborate an action plan leading to the setting-up of an EU GMES programme, aiming at securing the continuity of GMES services and of the critical observation data which they require. This action plan should include:

- an approach for the overall GMES governance and all its components, identifying the relevant actors with their role and responsibilities, and based on a series of GMES partnerships, as well as arrangements for appropriate participation of ESA Member States which are not members of the EU,
- a plan for sustainable funding of GMES, based on an assessment of the overall financing needs for GMES and the definition of the budgetary strategy at national and European levels, taking into account the three successive stages: R & D stage to be funded from R & D appropriations, transition stage with mixed R & D and operational funding, operational stage with dedicated funding for operations involving the users,

- the definition of operational service delivery mechanisms for each GMES service, including identification of their operators,
- the definition between the EU and Member States of a process to formalise their commitments to contribute to GMES through existing *in situ* observation and service infrastructures,
- the identification of the role of the GEO initiative and other intergovernmental or multilateral initiatives, such as CEOS, in accessing the whole range of data available, as well as the contribution of GMES to these international endeavours,
- a process to establish a comprehensive data policy for all data generated by the GMES system, including appropriate labelling and a data security policy which will ensure that all sensitive data is fully protected and kept confidential.

WELCOMES:

- the proposal of the European Commission for a new preparatory action in the Preliminary Draft Budget for 2009, paving the way for a future funding of the operational phase of GMES,
- the intention of the Commission to address all of these issues in a Communication to be adopted by the end of October 2008, having consulted with the main stakeholders, in particular agreeing with ESA an overall programmatic approach for the GMES Space Component,
- the intention of the ESA DG, having consulted with ESA Member States and the Commission, to submit a proposal for the GMES Space Component Segment 2 programme for subscription to the ESA Council at Ministerial level in November 2008.

III. NEW PRIORITIES WITHIN THE EUROPEAN SPACE POLICY

HIGHLIGHTS that the European Council welcomed on 14 March 2008 the joint report from the High Representative and the European Commission on Climate Change and International Security which in particular recalled that the majority of UN emergency appeals for humanitarian aid in 2007 were climate related, and identified the multiplier effect of climate change on security risks;

RECALLS that the European Council asked the Council of the European Union to submit recommendations on appropriate follow-up action in the field;

IDENTIFIES the following four priority areas in the implementation of the European Space Policy for the coming period.

A. SPACE AND CLIMATE CHANGE

CONSIDERING that climate challenges facing humanity are of global concern, and that the EU is adapting its policies to address them;

EMPHASISES the objective to improve the qualitative and quantitative understanding of the extent of climate change and of its consequences and the need to continue and expand the European contributions to this understanding and related modelling, in order to provide the evidence base for key decisions to be taken in environment policy;

RECOGNISES the unique contribution of space programmes which, through their global observation capacity and long-term coverage, provide the series of data requested by the scientific community for research into climate change, while complementing other observation and measurement tools;

RECOGNISES the contribution of the ESA Living Planet Programme and the national Earth science space missions, of EUMETSAT operational programmes, and of the GMES Space Component infrastructure to the collection of observations enabling Europe to derive time series of climate parameters and to understand the major climate processes;

CALLS FOR the scientific community, in conjunction with the European Commission, ESA and EUMETSAT, to define how the range of GMES services and European space observation archives can contribute most effectively to the provision of data including Essential Climate Variables for scientific research;

INVITES the Commission to conduct a study to assess the needs for full access to standardised data and for increased computing power, and the means to fulfil them, taking into account existing capacities and networking in Europe;

WELCOMES the joint preparation by ESA and EUMETSAT of a programme proposal for Meteosat Third Generation (MTG) to be submitted to the ESA Council at Ministerial level in November 2008 and subsequently to the EUMETSAT Council; its central role being in operational meteorology, MTG will also contribute to GMES, to the monitoring of climate and thus to the detection of global climate change.

B. CONTRIBUTION OF SPACE TO THE LISBON STRATEGY

EMPHASISES that space, as a high tech R & D domain and through the economic exploitation of its results, can contribute to reaching the Lisbon goals so as to fulfil the economic, educational, social and environmental ambitions of the EU and the expectations of its citizens, and so as to achieve the objectives for growth and employment by providing new business opportunities and innovative solutions for various services, throughout Europe, thus contributing to territorial cohesion;

CONSIDERS that, with the adoption by the European Parliament and Council on 18 December 2006 of the Community Seventh Framework Programme for Research, Technological Development and Demonstration and its new thematic chapter Space as part of the Cooperation Specific Programme, space has been recognised by the EU as one of the priorities and key building blocks of the European knowledge-based society;

UNDERLINES that space applications, such as satellite telecommunications, the EGNOS and Galileo systems and GMES, are expected to create substantial global market opportunities, especially for SMEs, through the development of value-added downstream services; and that the EU, ESA and their respective Member States must accordingly maximise the value they secure from these space assets. This growth should be promoted to accelerate the emergence of economic opportunities and the development of services seamlessly integrating navigation, observation and communications satellite systems and combining them with terrestrial networks. To achieve this requires appropriate regulatory framework, sustained access to radio-spectrum for space applications, and development of standards in relevant areas;

TAKES NOTE that space activities could thus be considered for inclusion into the Lead Market Initiative.

C. SPACE AND SECURITY

HIGHLIGHTS the important contribution of space to the CFSP/ESDP including the Petersberg tasks, and thus to the security of European citizens;

RECALLS that space assets have become indispensable for our economy and that their security must thus be ensured; UNDERLINES the need for Europe, in line with its ambition to strengthen its status as world-class space leader, to develop a European capability for the monitoring and surveillance of its space infrastructure and of space debris, initially based on existing national and European assets, taking benefit of relationships which may be established with other partner nations and their capabilities;

CONSIDERS that, taking into account the international and political nature of this capability, the European Union will take, liaising with ESA and their respective Member States, an active role to set up progressively this capability and an appropriate governance structure;

UNDERLINES the need for Europe to have the ability to detect non-compliance with implementation of international treaties and obligations, being a key instrument to safeguard and promote European values;

WELCOMES, within the decision competences and finance schemes of the existing framework, the setting up of the structured dialogue among European institutional actors in response to the 2007 Space Council Resolution, with the aim of achieving a substantial increase in the coordination of space, security and defence related activities, including the European Commission, the General Secretariat of the Council, the European Defence Agency, ESA and Member States;

RECALLING that GMES relies on some dual use observation capacities and that Galileo, GMES and satellite communications systems will provide services which may be of interest for some security applications;

RECOGNISES that the uses made by any military users of Galileo or GMES must be consistent with the principle that Galileo and GMES are civil systems under civil control, and consequently that any change to this principle would require examination in the framework of the Title V/TEU and in particular Articles 17 and 23 thereof, as well as in the framework of the ESA Convention;

HIGHLIGHTS the need to:

- define the way and means to improve the coordination between civilian and defence space programmes in long-term arrangements,
- develop a capacity to meet European user needs for comprehensive situational awareness of the space environment through a coordinated activity within Europe, and possibly with other partners,
- recognise Europe's dependence on overseas suppliers for selected critical space technologies and components, establish mitigation strategies to ensure guaranteed European access, and take practical steps to pursue reduction of Europe's dependence;

UNDERLINES the benefits of drawing on existing capacities and infrastructures at national as well as European level;

TAKES NOTE of the intention of the ESA DG to submit a proposal for a programme on space situational awareness, for subscription at the ESA Council at Ministerial level in November 2008, setting the basis for the operational capability and respecting the roles of the European Defence Agency and of the EU and ESA Member States.

D. SPACE EXPLORATION

WELCOMES the successful launch of the ESA Columbus laboratory and the successful demonstrations of the Automated Transfer Vehicle 'Jules Verne' as truly European technology development projects and crucial elements for ensuring European access to the International Space Station ISS and its sustained utilisation;

AFFIRMS that space exploration is a political and global endeavour and that Europe should undertake its action within a worldwide programme, without any monopoly or appropriation by one country; the different actors taking part with their own capacities and priorities;

HIGHLIGHTS the need for Europe to develop a common vision and long-term strategic planning for exploration, ensuring key positions for Europe, therefore based on its domains of excellence; thus the necessary political dialogue with the other states involved in the worldwide exploration programme has to be further developed and promoted on the international scene by the European Union, ESA and their respective Member States, each one in its own role, and in close coordination among each other;

WELCOMES the proposal by the Commission to organise a high level political conference on a long term global vision for space exploration, opening a public debate on the European role in this global endeavour, and based on appropriate preparatory studies coordinated by ESA to assess the European domains of excellence, and elaborate different scenarios for a European contribution with associated costs and planning;

TAKES NOTE of the Global Exploration Strategy outlining the global coordination of the major powers' plans for human and robotic exploration, including the possibility, at a later stage, of a human expedition to Mars;

AFFIRMS that Europe, building on its successful track record in exploration over a number of decades, in which science has been the key driver, is committed to playing a significant role in the international enterprise to explore the Solar system and to develop a deep understanding of the conditions for life to function beyond our planet and ACKNOWLEDGES the fact that establishing Europe as a fundamental pillar of these activities will be achieved only through sustained investment;

REALISES that the technologies to be developed must be assessed carefully with a perspective of taking key decisions, and HIGHLIGHTS that these may have a lasting impact on the perception of Europe's scientific and technological capabilities in the world and the self-perception of European citizens;

UNDERLINES the value of space exploration for inspiring young Europeans to choose a career in science and technology and to strengthen these capabilities in Europe.



**COUNCIL OF
THE EUROPEAN UNION**

**Brussels, 3 December 2008 (04.12)
(OR. fr)**

16560/08

LIMITE

**PESC 1595
CODUN 59**

NOTE

from :	General Secretariat
to :	COREPER/COUNCIL
Subject :	Council conclusions and draft Code of Conduct for outer space activities

Delegations will find attached:

- in Annex I, draft Council conclusions concerning the draft Code of Conduct for outer space activities,
- in Annex II, the text of the draft Code of Conduct for outer space activities,

which have been finalised by the Working Party on Global Disarmament and Arms Control and endorsed by the Political and Security Committee and are now submitted to the Council, via Coreper, for adoption (Annex I) and to serve as a basis for consultations with third countries (Annex II).

**Draft Council conclusions on
the draft Code of Conduct for outer space activities**

The Council considers that strengthening the security of activities in outer space is an important goal in the context of the expanding space activities that contribute to the development and security of States. This objective is part of the European Union's space policy.

The Council supports the annexed European Union draft for a Code of Conduct for outer space activities, in which States would participate on a voluntary basis, and which includes transparency and confidence-building measures, as a basis for consultations with key third countries that have activities in outer space or have interests in outer space activities, with the aim of reaching a text that is acceptable to the greatest number of countries.

DRAFT
CODE OF CONDUCT
FOR OUTER SPACE ACTIVITIES

Preamble

The Subscribing States,

Noting that all States should actively contribute to the promotion and strengthening of international cooperation relating to the activities in the exploration and use of outer space for peaceful purposes (hereinafter referred to as outer space activities);

Recognising the need for the widest possible adherence to relevant existing international instruments that promote the peaceful uses of outer space in order to meet emerging new challenges;

Convinced that the use of existing space technology, space telecommunications, and their applications, has important consequences in the economic, social and cultural development of nations;

Further recognising that space capabilities – including associated ground and space segments and supporting links – are vital to national security and to the maintenance of international peace and security;

Recalling the initiatives aiming at promoting a peaceful, safe and secure outer space environment, through international cooperation;

Recalling the importance of developing transparency and confidence-building measures for activities in outer space;

Taking into account that space debris could constitute a threat to outer space activities and potentially limit the effective deployment and exploitation of associated space capabilities;

Reaffirming their commitment to resolve any conflict concerning actions in space by peaceful means;

Recognising that a comprehensive approach to safety and security in outer space should be guided by the following principles: (i) freedom of access to space for all for peaceful purposes, (ii) preservation of the security and integrity of space objects in orbit, (iii) due consideration for the legitimate defence interests of States;

Conscious that a comprehensive code, including transparency and confidence-building measures could contribute to promoting common and precise understandings;

Adopt the following Code (hereinafter referred to as "the Code").

I. Core principles and objectives

1. Purpose and scope

- 1.1.** The purpose of the present code is to enhance the safety, security and predictability of outer space activities for all.
- 1.2.** The present Code is applicable to all outer space activities conducted by a Subscribing State or jointly with other State(s) or by non-governmental entities under the jurisdiction of a Subscribing State, including those activities within the framework of international intergovernmental organisations.
- 1.3.** This Code, in codifying new best practices, contributes to transparency and confidence-building measures and is complementary to the existing framework regulating outer space activities.
- 1.4.** Adherence to this Code and to the measures contained in it is voluntary and open to all States.

2. General principles

The Subscribing States resolve to abide by the following principles:

- the freedom of access to, exploration and use of outer space and exploitation of space objects for peaceful purposes without interference, fully respecting the security, safety and integrity of space objects in orbit;
- the inherent right of individual or collective self-defence in accordance with the United Nations Charter;
- the responsibility of States to take all the appropriate measures and cooperate in good faith to prevent harmful interference in outer space activities;
- the responsibility of States, in the conduct of scientific, commercial and military activities, to promote the peaceful exploration and use of outer space and take all the adequate measures to prevent outer space from becoming an area of conflict;

3. Compliance with and promotion of treaties, conventions and other commitments relating to outer space activities

3.1. The Subscribing States reaffirm their commitment to:

- the existing legal framework relating to outer space activities;
- making progress towards adherence to, and implementation of:
 - (a) the existing framework regulating outer space activities, inter alia:
 - the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967);
 - the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (1968);
 - the Convention on International Liability for Damage Caused by Space Objects (1972);
 - the Convention on Registration of Objects Launched into Outer Space (1975);
 - the Constitution and Convention of the International Telecommunications Union and its Radio Regulations (2002);
 - the Treaty banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (1963) and the Comprehensive Nuclear Test Ban Treaty (1996);
 - the International Code of Conduct against Ballistic Missile Proliferation (2002).

(b) declarations and Principles, inter alia:

- the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space as stated in UNGA Resolution 1962 (XVIII);
- the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as stated in UNGA Resolution 47/68;
- the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries as stated in UNGA Resolution 51/122;
- the Recommendations on the Practice of States and International Organisations in Registering Space Objects as stated in UNGA Resolution 62/101;
- the Space Debris Mitigation Guidelines of the United Nations Committee for the Peaceful Uses of Outer Space as stated in UNGA Resolution 62/217.

3.2. The Subscribing States also reiterate their support to encourage coordinated efforts in order to promote universal adherence to the above mentioned instruments.

II. General Measures

4. Measures on space operations

- 4.1.** The Subscribing States will establish and implement national policies and procedures to minimise the possibility of accidents in space, collisions between space objects or any form of harmful interference with other States' right to the peaceful exploration and use of outer space.
- 4.2.** The Subscribing States will, in conducting outer space activities:
- refrain from any intentional action which will or might bring about, directly or indirectly, the damage or destruction of outer space objects unless such action is conducted to reduce the creation of outer space debris and/or justified by imperative safety considerations;
 - take appropriate steps to minimise the risk of collision;
 - abide by and implement all International Telecommunications Union recommendations and regulations on allocation of radio spectra and orbital assignments.
- 4.3.** When executing manoeuvres of space objects in outer space, for example to supply space stations, repair space objects, mitigate debris, or reposition space objects, the Subscribing States agree to take all reasonable measures to minimise the risks of collision.
- 4.4.** The Subscribing States resolve to promote the development of guidelines for space operations within the appropriate fora for the purpose of protecting the safety of space operations and long term sustainability of outer space activities.

5. Measures on space debris control and mitigation

In order to limit the creation of space debris and reduce its impact in outer space, the Subscribing States will:

- refrain from intentional destruction of any on-orbit space object or other harmful activities which may generate long-lived space debris;
- adopt, in accordance with their national legislative processes, the appropriate policies and procedures in order to implement the Space Debris Mitigation Guidelines of the United Nations Committee for the Peaceful Uses of Outer Space as endorsed by UNGA Resolution 62/217.

III. Cooperation mechanisms

6. Notification of outer space activities

- 6.1.** The Subscribing States commit to notify, in a timely manner, to the greatest extent feasible and practicable, all potentially affected Subscribing States on the outer space activities conducted which are relevant for the purposes of this Code, inter alia:
- the scheduled manoeuvres which may result in dangerous proximity to space objects;
 - orbital changes and re-entries, as well as other relevant orbital parameters;
 - collisions or accidents which have taken place;
 - the malfunctioning of orbiting space objects with significant risk of re-entry into the atmosphere or of orbital collision.
- 6.2.** The Subscribing States reaffirm their commitment to the Principles Relevant to the Use of Nuclear Power Sources in Outer Space as stated in UNGA Resolution 47/68.

7. Registration of space objects

The Subscribing States undertake to register space objects in accordance with the Convention on Registration of Objects launched in Outer Space and to provide the United Nations Secretary-General with the relevant data as set forth in this Convention and in the Recommendations on the Practice of States and International Organisations in Registering Space Objects as stated in UNGA Resolution 62/101.

8. Information on outer space activities

8.1. The Subscribing States resolve to share, on an annual basis, and, where available, information on:

- national space policies and strategies, including basic objectives for security and defence related activities;
- national space policies and procedures to prevent and minimise the possibility of accidents, collisions or other forms of harmful interference;
- national space policies and procedures to minimise the creation of space debris;
- efforts taken in order to promote universal adherence to legal and political regulatory instruments concerning outer space activities.

8.2. The Subscribing States may also consider providing timely information on space environmental conditions and forecasts to other Subscribing States or private entities through their national space situational awareness capabilities.

9. Consultation mechanism

- 9.1.** Without prejudice to existing consultation mechanisms provided for in Article IX of the Outer Space Treaty of 1967 and in Article 56 of the ITU Constitution, the Subscribing States have decided on the creation of the following consultation mechanism:
- A Subscribing State with reason to believe that certain outer space activities conducted by one or more Subscribing State(s) are, or may be, contrary to the purposes of the Code may request consultations with a view to achieving acceptable solutions regarding measures to be adopted in order to prevent or minimise the inherent risks.
 - The Subscribing States involved in a consultation process will decide on a timeframe consistent with the timescale of the identified risk triggering the consultations.
 - Any other Subscribing State which may be affected by the risk and requests to take part in the consultations will be entitled to take part.
 - The Subscribing States participating in the consultations shall seek solutions based on an equitable balance of interests.
- 9.2.** In addition, the Subscribing States may propose to create a mechanism to investigate proven incidents affecting space objects. The mechanism, to be agreed upon at a later stage, could be based on national information and/or national means of investigation provided on a voluntary basis by the Subscribing States and on a roster of internationally recognised experts to undertake an investigation.

IV. Organisational aspects

10. Biennial meeting of Subscribing States

10.1. The Subscribing States decide to hold meetings biennially or as otherwise agreed by Subscribing States, to define, review and further develop this Code and ensure its effective implementation. The agenda for such biennial meetings could include: (i) review of the implementation of the Code, (ii) evolution of the Code and (iii) additional measures which appear necessary.

10.2. The decisions will be taken by consensus of the Subscribing States present at the meeting.

11. Central point of contact

A central point of contact shall be nominated among Subscribing States to:

- receive and announce the subscription of additional States;
- maintain the electronic information-sharing system;
- serve as secretariat at the biennial meetings of Subscribing States;
- carry out other tasks as agreed by Subscribing States.

12. Outer Space Activities Database

The Subscribing States will create an electronic database to:

- collect and disseminate notifications and information submitted in accordance with the provisions of this Code;
- channel requests for consultations.

* * *

Annex
(List of Subscribing States)

EUROPEAN PARLIAMENT

2004



2009

Committee on Foreign Affairs

2008/2030(INI)

8.4.2008

DRAFT REPORT

on the contribution of space-supported systems to ESDP
(2008/2030(INI))

Committee on Foreign Affairs

Rapporteur: Karl von Wogau

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MOTION FOR A EUROPEAN PARLIAMENT RESOLUTION

on the contribution of space-supported systems to ESDP (2008/2030(INI))

The European Parliament,

- having regard to the European Security Strategy entitled ‘A secure Europe in a better world’, adopted by the European Council on 12 December 2003,
 - having regard to the EU Strategy against proliferation of Weapons of Mass Destruction, adopted by the European Council on 12 December 2003,
 - having regard to the EU-Russia cooperation on space policy creating in 2006 the Tripartite Space Dialogue between the European Commission, the European Space Agency and Roscosmos (the Russian Space Agency),
 - having regard to the Council resolution of 22 May 2007 on the European Space Policy,
 - having regard to the Treaty on the Functioning of the European Union (TFEU) and the Treaty on European Union (TEU), as amended by the Treaty of Lisbon, and its relevant clauses on European Space Policy (Article 189 of the TFEU), permanent structured cooperation on security and defence matters (Articles 42(6) and 46 of the TEU and a related protocol) and enhanced cooperation in the civilian area (Part Six, Title III); as well as the solidarity clause (Article 222 of the TEU) and mutual assistance provisions in the event of armed aggression against a Member State or States (Article 42(7) of the TEU),
 - having regard to its resolution of 29 January 2004 on the action plan for implementing the European space policy¹,
 - having regard to its resolution of 14 April 2005 on the European Security Strategy²,
 - having regard to the Rule 45 of its Rules of Procedure,
 - having regard to the report of the Committee on Foreign Affairs (A6-0000/2008),
- A. whereas the various political and security challenges which the European Union is increasingly facing make an autonomous European Space Policy a strategic necessity,
- B. whereas the lack of a common approach to space policy between EU Member States results in overly costly programmes,

¹ OJ C 96 E, 21.4.2005, p. 136.

² OJ C 33 E, 9.2.2006, p. 580.

- C. whereas the crisis management operations under the framework of the European Security and Defence Policy (ESDP) suffer from a lack of interoperability between space assets operated by EU Member States,
- D. whereas the European Union is lacking a comprehensive European space-based architecture for security and defence purposes,
- E. whereas freedom from space-based threats and secure sustainable access to, and use of, space must be the guiding principles of the European Space Policy,
- F. whereas the development of a new generation of launchers takes approximately 15 years and the present generation of launchers will need replacing in the next 20 years,
- G. whereas development of space assets by the USA, Russia, Japan and other emerging space-faring states, most notably China, India, South Korea, Taiwan, Brazil, Israel, Iran, Malaysia, Pakistan, South Africa and Turkey, is rapidly advancing,
- H. whereas the French Presidency of the European Union during the second semester of 2008 will set out an advancement of the European Space policy as one of its priorities,

General considerations

1. Notes the importance of the space dimension to the security of the European Union and the need for a common approach necessary for exerting European sovereignty in space;
2. Underlines the need for space assets in order that the political and diplomatic activities of the European Union may be based on independent, reliable and complete information in support of its crisis management operations and global security, especially the monitoring of proliferation of weapons of mass destruction and verification of international treaties, the protection of critical infrastructure and of the European Union's borders, and civil protection in the event of natural and man-made disasters and crises;
3. Welcomes the adoption of the European Space Policy by the 'Space Council' as proposed by a joint communication presented by the Commission and the European Space Agency, especially the chapter on security and defence; recommends, therefore, that a White Paper implementing the European Security Strategy should refer to it;
4. Applauds the inclusion of a legal basis for the European Space Policy in the Treaty of Lisbon; also welcomes the possibilities of permanent structured cooperation in security and defence matters and enhanced cooperation in the civilian area;
5. Encourages the Member States of the European Union, the European Space Agency and the various stakeholders to make greater and better use of the existing national and multinational space systems and to foster their mutual complementarity; notes in this respect that common capabilities are needed for ESDP in three areas:

telecommunications, observation and navigation; recommends the sharing and exchange of these data in line with the EU concept for Network Centric Operations Architecture;

Autonomous threat assessment

6. Calls on the Member States to pool and exchange the geospatial intelligence necessary for autonomous EU threat assessment;

Earth observation and reconnaissance

7. Urges that the European Union Satellite Centre (EUSC) be fully developed to make full use of its potential; moreover, recommends the urgent conclusion of agreements between the EUSC and the EU Member States to provide imagery available to ESDP operation and force commanders while ensuring complementarity with GMES observation capacities and derived security-related information; in this regard, welcomes the Tactical Imagery Exploitation Station project, run jointly by the European Defence Agency (EDA) and the EUSC;
8. Urges the EU Member States having access to the various types of radar, optical and weather observation satellites and reconnaissance systems (Helios, SAR-Lupe, TerraSAR-X, Rapid Eye, Cosmo-Skymed, Pleiades) to make them compatible; welcomes the bilateral and multilateral agreements between the leading EU countries (e.g. SPOT, ORFEO, the Helios cooperative framework, the Schwerin agreement, and the future MUSIS); recommends that the MUSIS system be brought within a European framework;
9. Emphasises the importance of GMES for foreign as well as security and defence policies of the European Union; urges the creation of an operational budget line to ensure the sustainability of GMES services in response to users' needs;

Navigation – positioning – timing

10. Underlines the necessity of Galileo for autonomous ESDP operations, for the Common Foreign and Security Policy (CFSP) and for Europe's own security; notes that, in particular, its public-regulated service will be vital in the field of navigation, positioning and timing, not least in order to avoid unnecessary risks; welcomes the agreement on the public financing of the project from the budget of the European Union;

Telecommunications

11. Underlines the necessity of secure satellite-supported communication for ESDP operations (EU Military Staff, EU Headquarters, deployable headquarters) and EU Member States' deployments under UN, NATO and other similar organisations;
12. Requests that the current and future satellite telecommunication systems at the disposal of the countries of the European Union (e.g. Skynet, Syracuse, Sicral, SATCOM Bw, Spainsat) be mutually interoperable in order to provide for cost reduction;

13. Supports the cooperative development of a Software-Defined Radio (SDR) by the Commission and the European Defence Agency; notes that SDR will contribute to better interoperability of the ground segment of telecommunications systems;

Space surveillance

14. Supports the creation of a European space surveillance system leading to space situational awareness (including, for example, GRAVES, TIRA) to monitor the space infrastructure, space debris and, possibly, other threats;

Satellite-based early warning against ballistic missiles

15. Deplores the fact that EU Member States do not have access to instant data on ballistic missile launches around the world; expresses support, therefore, for projects leading towards satellite-based early warning against ballistic missile launches (such as the French ‘Spirale’); furthermore, calls for information acquired through these future systems to be available to all Member States of the European Union in order to protect their population and to support possible countermeasures;

Signal intelligence

16. Supports the development and exchange of signal intelligence (electronic intelligence such as Essaim and communications intelligence) at European level;

Autonomous access to space and international environment

17. Supports secure, independent and sustainable access to space for the European Union as one of the preconditions of its autonomous action;
18. Recommends that the European non-commercial satellites be carried into orbit by European launchers from the territory of the European Union, bearing in mind the aspects of security of supply and protection of the European Defence Technological and Industrial Base;
19. Recommends that strategic long-term investment in new European launchers be initiated as soon as possible, in order to keep up with the rising global competition;

Governance

20. Recommends a strong inter-pillar cooperation framework for space and security (involving the Commission, the Council, the European Defence Agency and the European Union Satellite Centre, in order to safeguard the security policy and data security linked with the ESDP);
21. Strongly recommends that the smaller EU countries with reduced possibilities to finance their own space assets be given access to operational data under a reinforced ESDP framework;

Financing

22. Calls on the European Union to set up an operational budget for space assets that serve to support the ESDP and European security interests;
23. Is alarmed by the fact that the lack of coordination among Member States results in a scarcity of resources due to unnecessary duplication of activities; therefore supports the idea of the launching of joint programmes by the Member States, which will provide costs savings in the longer term;
24. Furthermore, notes that the cost of the absence of a common European approach to the procurement, maintenance and functioning of space assets is estimated to amount to hundreds of millions of euros;
25. Notes that the estimates of available expertise suggest that the level of investment needed to address the European security and defence needs in terms of satellite telecommunications should increase from the current budget of EUR 500 million per year to EUR 900 million per year in the period between 2008 and 2022, and that the appropriate expenditure of the European Union on Earth observation and intelligence gathering, including signal intelligence, should increase from the present EUR 650 million per year until 2012 to EUR 750 million in the period 2012-2017 and should further increase to EUR 850 million per year in the period 2017-2027;
26. Takes the view that the European Union, the European Space Agency, the European Defence Agency and their Member States should provide for reliable and adequate funding for the space activities envisaged and the research connected therewith; attaches great importance to the financing from the budget of the EU, such as on the Galileo project;

Protection of space infrastructure

27. Underscores the vulnerability of strategic space assets as well as the infrastructure allowing access to space, e.g. launchers and space ports; therefore stresses the need for them to be adequately protected by ground-based theatre missile defence, planes and space surveillance systems; furthermore supports the sharing of data with international partners in the event that satellites are rendered inoperable by enemy action;
28. Calls for the vulnerability of future European satellite systems to be reduced through anti-jamming, shielding and multi-orbital constellation architectures;
29. Emphasises that the protective measures must be fully compliant with international standards regarding peaceful uses of outer space and commonly agreed transparency and confidence-building measures (TCBMs);

International legal regime for uses of space

30. Reiterates the importance of the principle of the use of space for peaceful purposes expressed in the 1967 Outer Space Treaty; is therefore concerned by the possible future weaponisation of space;
31. Calls for the international legal regime to be strengthened so as to regulate and protect non-aggressive space uses and for the strengthening of TCBMs, within the framework of the drafting by the UN Committee on the Peaceful Uses of Outer Space (COPUOS) of space debris mitigation guidelines consistent with those of the Inter-Agency Debris Coordination Committee as well as the development by the UN Conference on Disarmament (CD) of a multilateral agreement on the Prevention of an Arms Race in Outer Space (PAROS); furthermore, asks the EU Presidency to represent the EU proactively in COPUOS;
32. Calls on all international actors to restrain from using offensive equipment in space, such as the Chinese anti-satellite system tested in January 2007; recommends, therefore, the adoption of voluntary, legally binding international instruments focusing on banning the use of weapons against space assets and the stationing of weapons in space;
33. Calls on all space users to register their satellites, including military satellites, by way of a space security confidence-building measure promoting transparency; supports the Council's pursuit of a comprehensive EU Code of Conduct on Space Objects;
34. Urges the United Nations and the European Union to engage in the active diminution of, and protection from, space debris harmful to satellites;

Transatlantic cooperation on space policy and missile defence

35. Urges the European Union and the North Atlantic Treaty Organization to launch a strategic dialogue on space policy and missile defence; especially on the complementarity and interoperability of systems for satellite communications, space surveillance, and early warning of ballistic missiles, as well as protection of European forces by a theatre missile defence system;
36. Calls on the European Union and the United States of America to engage in a strategic dialogue on the use of space assets;

Other international cooperation

37. Welcomes the strengthened cooperation between the European Union and the Russian Federation within the framework of the Tripartite Space Dialogue set up in 2006 between the European Commission, the European Space Agency and Roscosmos (the Russian Space Agency), including space applications (satellite navigation, Earth observation and satellite communications) as well as access to space (launchers and future space transportation systems);

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38. Instructs its President to forward this resolution to the Council, the Commission, the European Space Agency, the parliaments of the Member States and the Secretaries-General of the United Nations, the North Atlantic Treaty Organization and the Organization for Security and Co-operation in Europe.

EXPLANATORY STATEMENT

1. Introduction

The **European Security Strategy of 2003** uses a **wide notion of security**. The tasks deriving from the strategy include peace-keeping operations, protection of critical infrastructure and of our common outside borders, counter-proliferation and treaty verification.

The capability to meet these challenges depends and will increasingly do so on the **availability of satellite-based systems**. In order to close the existing capability gaps in this field, the rapporteur proposes a closer cooperation in the development of common European systems in the area of space technology.

2. European Space Policy

The report welcomes the adoption by the EU Council of the **European Space Policy (ESP)** as proposed by a joint communication of the European Commission and ESA, esp. the chapter on security and defence.

The Council is invited to make a reference to the ESP in a **White Paper implementing the European Security Strategy**.

Moreover, the **Lisbon Treaty** establishes a legal basis for the European Space Policy as well as the possibilities of permanent structured cooperation on security and defence matters and enhanced cooperation in the civilian area.

3. Satellite-based systems

The satellite-based systems in the field of **Earth observation and reconnaissance, telecommunications, navigation, positioning and timing**, are the ‘eyes and ears’ of those who possess them. These can have military or civilian character.

Therefore **it is crucial for the EU countries to have access to data acquired by such systems**, in order to provide the decision-makers in the ESDP and CFSP framework with proper information. As it is widely recognized that space assets are a necessity for the EU crisis management operations and can give the EU a crucial edge on the monitoring of proliferation and verification of international treaties, the EU Member States, ESA and various stakeholders should therefore be encouraged to make the best use of the existing national and multinational space systems and to foster their mutual complementarity.

These capabilities can, however, become the ‘**Achilles heel**’ if aimed at by hostile state or non-state actors or simply collided with space debris. Therefore, it is recommended to construct a space surveillance system that could provide for a better protection of European satellites.

The **Earth observation** can provide for a permanent and long-range surveillance for a

constantly refreshed situation monitoring and terrain mapping. The **telecommunications** satellites (Satcom) often constitute the only accessible means to set up a fully functional 'information chain'. They can be used to transmit remotely collected data to distant headquarters as well as to disseminate information on the field to the different units.

Further normalisation and standardisation at European level in the field of research, technical development and production could be considerable in both Earth observation and Satcom areas. As a result, **loss-making duplications would be avoided**, and **economies of scale and savings could be generated**.

Moreover, ESDP operations could benefit from a **higher level of interoperability** between the space assets operated by EU Member States.

The EU Member States have developed several space systems to fulfil their security needs on a national basis. However, the budgetary constraints and need for interoperability argues for a **more integrated European approach**. France is a leader in this evolution, developing bilateral or multilateral framework agreements with other EU Member States (Germany, Italy, the UK and Spain).

3.1. Earth Observation and reconnaissance

Several countries have developed or are developing their own **Earth observation (EO) systems**: France (since 1986 with SPOT 1 until Helios B and Pleiades), Italy (Cosmo-SkyMed), Germany (SAR-Lupe), Spain (SEOSAT, in the framework of the European GMES project), Sweden (SVEA project, still waiting for Armed Forces authorization), Great Britain (Topsat). Some of them were conceived to be dual-use and others to be used by more than one country. The EU Member States managing the various types of radar, optical and weather observation satellites and reconnaissance systems must provide for their compatibility.

The **bi- and multi-lateral agreements** between the leading EU countries must be therefore strongly supported as a means to save tax-payers money. France and Italy, that have signed the 'Torino Agreement', based on the combination of the two respective capabilities (optical and radar observation –ORFEO¹), to complement their reciprocal programmes. For the same reason, France and Germany also signed a bi-lateral capacities exchange agreement between SAR Lupe and Helios II in 2002 (Schwerin agreement). The European Parliament could give its **support to creation of a 'Europeanised' reconnaissance system, such as the planned future MUSIS²**.

With regard to European Union capabilities in EO field, the **EU Satellite Centre (EUSC)**, based in Torrejon (Spain), provides synthetic imagery analysis for security in support of ESDP operations, using open and Member States' sources. Pending the conclusion of agreements between the EUSC and the EU Member States to provide available imagery to ESDP operations, EUSC is **not making full use of its potential**.

¹ ORFEO –Optical and Radar Federated Earth Observation, French -Italian agreement involving Cosmo-Skymed and Pleiades.

² MUSIS– Multinational Space-Based Imaging System for Surveillance, reconnaissance and observation (based on BOC document–Besoin Opérationnel Commun).

Finally, **GMES** (Global Monitoring for Environment and Security) is a European initiative run by the European Commission and is intended to provide services for civil security in the environment and humanitarian dimension, but also in the contribution to the verification of some disarmament treaties. GMES will be based on observation data received from Earth Observation satellites and ground based information. Once the first services are ready in 2008 (mapping, support for emergency management and forecasting), it **should be available in support of ESDP operations** and an operational budget line should be established in the EU budget.

Furthermore, the EU Member States should pool and exchange geospatial intelligence not only for the ESDP operations but also for **autonomous EU threat assessment**.

3.2. Telecommunications

Military and security communities are increasingly relying on commercial systems to provide larger bandwidth for complex military systems. **Secure communication is a necessity for every ESDP operations** if it is to be successful. Current military Satcom architectures mainly consist of **two levels of services: unprotected communications**; and highly **protected military transmission**. In Europe, only **few countries have developed high security level capability** (due to technological and budget difficulties), and two of them (**France and the United Kingdom**) are nuclear countries. The United Kingdom uses its own Skynet system, with the last Skynet V version conceived as dual-use. The French armed forces, after using the civilian satellite platform (Telecom-2), have opted for a military-only programme (Syracuse III). **Italy and Spain** have developed their own military Satcom (SICRAL and Spainsat, respectively). Moreover, the French, Italian and British capabilities, pooled together, have been chosen by **NATO** to provide a first so-called '**Satcom Post-2000**' architecture for communications. Finally, from 2009, two new **German military satellites** will be launched in 2009 (called SatcomBw).

Your **rapporteur requests** that the **current and future satellite telecommunication systems at the disposal of the EU are mutually interoperable**. Ideally, future generations of Satcom should be launched and financed in a much more cooperative way than it is the case in the present.

Furthermore, the support should be given to the ongoing development of a **Software-Defined Radio** by the European Defence Agency in coordination with the European Commission, providing for a full interoperability of the ground segment of telecommunications systems.

3.3 Navigation-Positioning-Timing

Under the joint EC/ESA initiative, Europe will manage a new Global Navigation Satellite System (GNSS) called **Galileo** by 2013: a constellation of 30 satellites providing to users with the proper receiver the possibility to know with extreme accuracy their position. The rapporteur welcomes the compromise reached by the EU in November 2007 and underlines **the necessity of Galileo being fully available for autonomous ESDP operations** (esp. its public-regulated service).

3.4 Satellite-based early warning against ballistic missiles

Projects leading to early warning systems against ballistic missiles launches (such as the French Spirale) are to be **given support**. Information acquired by them, once ready, must be exchanged with all EU Member States in the future.

3.5. Signal intelligence

Development and exchange of **signal intelligence** (electronic intelligence /such as French Essaim/ and communications intelligence) is **recommended at European level**, providing **support to ESDP operations**.

4. Space surveillance and protection of space infrastructure

At present, Europe is largely dependent on **space surveillance** (i.e. systematic tracking of space objects) with radars and optical telescopes carried out by the US and Russia. However, ESA and the European Commission started a dialogue on a definition of a possible **creation of a European space surveillance system leading to space situation awareness**. German TIRA and French GRAVES radars could take part in the system.

This activity is vital if the EU wishes to provide for a better **protection of its satellites**. The vulnerable strategic space assets as well as the **infrastructure** enabling access to space must be adequately protected. Sharing of data with international partners in case of having satellites rendered inoperable by enemy action is being proposed.

5. Autonomous access to space and international environment

In the view of the rapporteur, a **secure, independent and sustainable access to space by the EU, is one of the preconditions of an autonomous EU action**. Therefore, while bearing in mind the aspects of security of supply and protection of the European Defence Technological and Industrial Base, it is recommended to carry the European non-commercial satellites onto orbit by European launchers from EU territory. A strategic long-term investment into new European launchers should be initiated as soon as possible.

6. Governance

An integrated **European space-based architecture must be created** in the future with a strong inter-pillar cooperation framework, involving the European Commission, Council, EDA, EUSC, and ESA. A reinforced ESDP framework must be established in order to **provide the smaller EU countries** with reduced possibilities to finance their own space assets with **access to operational data**.

7. Financing

Your rapporteur calls on the EU to **provide for a reliable and adequate funding for the envisaged space activities** and set up an operational budget for services provided by space assets in support of ESDP and European security interests.

The lack of coordination among the EU countries results in scarcity of resources, therefore **common programmes should be launched by the EU Member States, establishing longer-term costs savings**. It is striking that the **cost of the absence of a common European approach** to procurement, maintenance and functioning of space assets is estimated at **hundreds of million EUR**.

8. International legal regime for uses of space

The report raises concern over the prospects **possible weaponisation of space** and reiterates the importance of the principle of **use of space for peaceful purposes** expressed in the 1967 Outer Space Treaty.

Furthermore, the international legal regime to regulate and protect non-aggressive space uses should be strengthened, esp. in the framework of the UN Committee on the Peaceful Uses of Outer Space (COPUOS) drafting space debris mitigation guidelines. These activities should be consistent with those of the Inter-Agency Debris Coordination Committee as well as the UN Conference on Disarmament (CD) currently developing a multilateral agreement on the Prevention of an Arms Race in Outer Space (PAROS). The EU Presidency should represent the EU proactively in the above-mentioned **UN bodies**.

All **international actors have to restrain from using offensive equipment in space**, such as the Chinese anti-satellite test in January 2007 producing an alarming amount of space debris. The UN and EU must be engaged in actively diminution of and protection from space debris harmful to satellites.

Despite the current practice and contrary to their **obligations, not all space users do register their satellites, military included**. The registration should be upheld serving as a space security confidence-building measure. Additionally, Council's pursuit of a comprehensive EU Code of Conduct on Space Objects can provide for a more secure orbit.

9. Transatlantic and other international cooperation on space policy

While the strengthened cooperation between the **EU and Russia** in the framework of the Tripartite Space Dialogue set up in 2006 between the European Commission, the European Space Agency and Roscosmos (the Russian Space Agency) is very welcome, the **cooperation with US and NATO is lagging behind**.

Your **rapporteur calls therefore on the EU and US to engage in a strategic dialogue on the use of space assets**.

EU and NATO are urged to launch a similar dialogue on space policy and missile defence, especially on complementarity and interoperability of systems for satellite communications, space surveillance, and early warning of ballistic missiles, as well as the protection of European forces by a theatre missile defence system.

EUROPEAN PARLIAMENT

2004



2009

Committee on Foreign Affairs

2008/2030(INI)

8.5.2008

AMENDMENTS

1 – 48

Draft report
Karl von Wogau
(PE402.699v03-00)

on the contribution of space assets to ESDP
(2008/2030(INI))

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Amendment 1
Tobias Pflüger

Motion for a resolution
Paragraph 1

Motion for a resolution

1. Notes the importance of the space dimension to the security of the European Union and the need for a common approach necessary for exerting European sovereignty in space;

Amendment

1. Emphasises that the use of space must serve exclusively non-military purposes; rejects any direct or indirect military use;

Or. de

Amendment 2
Nirj Deva

Motion for a resolution
Paragraph 1

Motion for a resolution

1. Notes the importance of the space dimension to the security of the European Union and the need for a common approach necessary for exerting European sovereignty in space;

Amendment

1. Notes the importance of the space dimension to the security of the European Union and the need for a common approach necessary for exerting European *Union Member States'* sovereignty in space;

Or. en

Amendment 3
Ana Maria Gomes

Motion for a resolution
Paragraph 1

Motion for a resolution

1. Notes the importance of the space dimension to the security of the European Union and the need for a common

Amendment

1. Notes the importance of the space dimension to the security of the European Union and the need for a common

approach necessary for **exerting** European **sovereignty** in space;

approach necessary for **defending** European **interests** in space;

Or. en

Amendment 4
Angelika Beer

Motion for a resolution
Paragraph 2

Motion for a resolution

2. Underlines the need for space assets in order that the political and diplomatic activities of the European Union may be based on independent, reliable and complete information in support of its crisis management operations and global security, especially the monitoring of proliferation of weapons of mass destruction and verification of international treaties, the protection of critical infrastructure and of the European Union's borders, and civil protection in the event of natural and man-made disasters and crises;

Amendment

2. Underlines the need for space assets in order that the political and diplomatic activities of the European Union may be based on independent, reliable and complete information in support of its **policies for conflict prevention**, crisis management operations and global security, especially the monitoring of proliferation of weapons of mass destruction **and their means of transportation** and verification of international treaties, **the transnational smuggling of light weapons and small arms**, the protection of critical infrastructure and of the European Union's borders, and civil protection in the event of natural and man-made disasters and crises;

Or. en

Amendment 5
Ana Maria Gomes

Motion for a resolution
Paragraph 3

Motion for a resolution

3. Welcomes the adoption of the European Space Policy by the 'Space Council' as proposed by a joint communication

Amendment

3. Welcomes the adoption of the European Space Policy by the 'Space Council' as proposed by a joint communication

presented by the Commission and the European Space Agency, especially the chapter on security and defence; recommends, therefore, that a White Paper implementing the European Security Strategy should refer to it;

presented by the Commission and the European Space Agency, especially the chapter on security and defence, ***while regretting the absence of any reference to the threat of weaponisation of space within the ‘key issues to be considered in the development of a strategy for international relations’ (as mentioned in Annex 3 to Council Resolution 2007/C 136/01 of 21 May 2007¹)***; recommends, therefore, that a White Paper implementing the European Security Strategy should refer to it;

¹ OJ C 136, 20.6.2007, p. 1.

Or. en

Amendment 6

Jelko Kacin

Motion for a resolution

Paragraph 3

Motion for a resolution

3. Welcomes the adoption of the European Space Policy by the ‘Space Council’ as proposed by a joint communication presented by the Commission and the European Space Agency, especially the chapter on security and defence; recommends, therefore, that ***a White Paper implementing the European Security Strategy should refer to it;***

Amendment

3. Welcomes the adoption of the European Space Policy by the ‘Space Council’ as proposed by a joint communication presented by the Commission and the European Space Agency, especially the chapter on security and defence; recommends, therefore, that ***the revised European Security Strategy should take this policy appropriately into account, and is of the view that space matters should be reflected in the possible White Paper on Security and Defence Policy;***

Or. en

Amendment 7
Angelika Beer

Motion for a resolution
Paragraph 4

Motion for a resolution

4. ***Applauds*** the inclusion of a legal basis for the European Space Policy in the Treaty of Lisbon; also welcomes the possibilities of permanent structured cooperation in security and defence matters and enhanced cooperation in the civilian area;

Amendment

4. ***Notes*** the inclusion of a legal basis for the European Space Policy in the Treaty of Lisbon; also welcomes the possibilities of permanent structured cooperation in security and defence matters and enhanced cooperation in the civilian area;

Or. en

Amendment 8
Angelika Beer

Motion for a resolution
Paragraph 5

Motion for a resolution

5. Encourages the Member States of the European Union, the European Space Agency and the various stakeholders to make greater and better use of the existing national and multinational space systems and to foster their mutual complementarity; notes in this respect that common capabilities are needed for ESDP in ***three*** areas: telecommunications, observation and navigation; recommends the sharing and exchange of these data in line with the EU concept for Network Centric Operations Architecture;

Amendment

5. Encourages the Member States of the European Union, the European Space Agency and the various stakeholders to make greater and better use of the existing national and multinational space systems and to foster their mutual complementarity; notes in this respect that common capabilities are needed for ESDP in ***at least the following*** areas: telecommunications, ***information management***, observation and navigation; recommends the sharing and exchange of these data in line with the EU concept for Network Centric Operations Architecture;

Or. en

Amendment 9
Alexandra Dobolyi

Motion for a resolution
Paragraph 5 a (new)

Motion for a resolution

Amendment

5a. Applauds the efforts of the International Academy of Astronautics and the International Association for the Advancement of Space Safety to promote remediation, understanding and measures in respect of space debris;

Or. en

Amendment 10
Nirj Deva

Motion for a resolution
Paragraph 6

Motion for a resolution

Amendment

6. Calls on the Member States to pool and exchange the geospatial intelligence necessary for autonomous EU threat assessment;

deleted

Or. en

Amendment 11
Nirj Deva

Motion for a resolution
Paragraph 9

Motion for a resolution

Amendment

9. Emphasises the importance of GMES for foreign as well as security and defence policies of the European Union; urges the creation of an operational budget line to ensure the sustainability of GMES services

9. Emphasises the importance of GMES for foreign as well as security and defence policies of the European Union; urges the creation of an operational budget line, *funded from savings made in other areas,*

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in response to users' needs;

to ensure the sustainability of GMES services in response to users' needs;

Or. en

Amendment 12
Tobias Pflüger

Motion for a resolution
Paragraph 10

Motion for a resolution

10. Underlines ***the necessity of*** Galileo for autonomous ESDP operations, for the Common Foreign and Security Policy (CFSP) and for Europe's own security; notes that, in particular, its public-regulated service will be vital in the field of navigation, positioning and timing, not least in order to avoid unnecessary risks; welcomes the agreement on the public financing of the project from the budget of the European Union;

Amendment

10. Underlines ***that*** Galileo is an exclusively non-military project;

Or. de

Amendment 13
Angelika Beer

Motion for a resolution
Paragraph 10

Motion for a resolution

10. Underlines the ***necessity of*** Galileo for autonomous ESDP operations, for the Common Foreign and Security Policy (CFSP) and for Europe's own security; notes that, in particular, its public-regulated service will be vital in the field of navigation, positioning and timing, not least in order to avoid unnecessary risks; welcomes the agreement on the public

Amendment

10. Underlines the ***need for*** Galileo to remain of a civilian nature, but recognises its use for civilian and military ESDP operations, for the Common Foreign and Security Policy (CFSP) and for Europe's own security; notes that, in particular, its public-regulated service will be vital in the field of navigation, positioning and timing, not least in order to avoid unnecessary

financing of the project from the budget of the European Union;

risks; welcomes the agreement on the public financing of the project from the budget of the European Union;

Or. en

Amendment 14
Ana Maria Gomes

Motion for a resolution
Paragraph 10

Motion for a resolution

10. Underlines the necessity of Galileo for autonomous ESDP operations, for the Common Foreign and Security Policy (CFSP) **and** for Europe's own security; notes that, in particular, its public-regulated service will be vital in the field of navigation, positioning and timing, not least in order to avoid unnecessary risks; welcomes the agreement on the public financing of the project from the budget of the European Union;

Amendment

10. Underlines the necessity of Galileo for autonomous ESDP operations, for the Common Foreign and Security Policy (CFSP), for Europe's own security **and for the Union's strategic autonomy**; notes that, in particular, its public-regulated service will be vital in the field of navigation, positioning and timing, not least in order to avoid unnecessary risks; welcomes the agreement on the public financing of the project from the budget of the European Union;

Or. en

Amendment 15
Nirj Deva

Motion for a resolution
Paragraph 14

Motion for a resolution

14. Supports the creation of a **European** space surveillance system leading to space situational awareness (including, for example, GRAVES, TIRA) to monitor the space infrastructure, space debris and, possibly, other threats;

Amendment

14. Supports the creation of a **global** space surveillance system leading to space situational awareness (including, for example, GRAVES, TIRA) to monitor the space infrastructure, space debris and, possibly, other threats;

Amendment 16
Nirj Deva

Motion for a resolution
Paragraph 15

Motion for a resolution

15. Deplores the fact that EU Member States do not have access to instant data on ballistic missile launches around the world; expresses support, therefore, for projects leading towards satellite-based early warning against ballistic missile launches (such as the French ‘Spirale’); ***furthermore, calls for information acquired through these future systems to be available to all Member States of the European Union in order to protect their population and to support possible countermeasures;***

Amendment

15. Deplores the fact that EU Member States do not have access to instant data on ballistic missile launches around the world; expresses support, therefore, for projects leading towards satellite-based early warning against ballistic missile launches (such as the French ‘Spirale’);

Amendment 17
Nirj Deva

Motion for a resolution
Paragraph 16

Motion for a resolution

16. Supports the ***development and*** exchange of signal intelligence (electronic intelligence such as Essaim and communications intelligence) at European level;

Amendment

16. Supports the exchange of signal intelligence (electronic intelligence such as Essaim and communications intelligence) at European level;

Amendment 18
Nirj Deva

Motion for a resolution
Paragraph 17

Motion for a resolution

17. Supports secure, independent and sustainable access to space for the European Union as one of the preconditions of *its* autonomous action;

Amendment

17. Supports secure, independent and sustainable access to space for the ***Member States of the*** European Union as one of the preconditions of ***their*** autonomous action;

Or. en

Amendment 19
Jelko Kacin

Motion for a resolution
Paragraph 18

Motion for a resolution

18. Recommends that the European non-commercial satellites be carried into orbit by European launchers from the territory of the European Union, bearing in mind the aspects of security of supply and protection of the European Defence Technological and Industrial Base;

Amendment

18. Recommends that the European non-commercial satellites be carried into orbit by European launchers, ***preferably*** from the territory of the European Union, bearing in mind the aspects of security of supply and protection of the European Defence Technological and Industrial Base;

Or. en

Amendment 20
Nirj Deva

Motion for a resolution
Paragraph 19

Motion for a resolution

19. Recommends that strategic long-term investment in new European launchers be initiated as soon as possible, in order to

Amendment

19. Recommends that strategic long-term investment in new European launchers be initiated as soon as possible, in order to

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keep up with the rising global competition;

keep up with the rising global competition;
*demand a greater degree of discipline for
this project, in budgetary and time-frame
terms, than that exhibited by the
Eurofighter project;*

Or. en

Amendment 21
Alexandra Dobolyi

Motion for a resolution
Paragraph 19 a (new)

Motion for a resolution

Amendment

**19a. Recommends that on-orbit servicing
be established as a means of support to
enhance the endurance, persistence,
availability and operational efficiency of
operational space assets and, at the same
time, to reduce asset deployment and
maintenance costs;**

Or. en

Amendment 22
Jelko Kacin

Motion for a resolution
Paragraph 20

Motion for a resolution

Amendment

20. **Recommends a** strong inter-pillar cooperation **framework** for space and security (involving the Commission, the Council, the European Defence Agency and the European Union Satellite Centre, in order to safeguard the security policy and data security linked with the ESDP;

20. **Encourages** strong inter-pillar cooperation for space and security, involving **all the relevant actors (i.e. the Commission, the Council, the European Defence Agency and the European Union Satellite Centre)**, in order to safeguard the security policy and data security linked with the ESDP;

Or. en

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Amendment 23
Nirj Deva

Motion for a resolution
Paragraph 21

Motion for a resolution

21. ***Strongly recommends*** that the smaller EU countries ***with*** reduced possibilities to finance their own space assets ***be given access to operational data under a reinforced ESDP framework***;

Amendment

21. ***Notes*** that the smaller EU countries ***have*** reduced possibilities to finance their own space assets, ***and therefore strongly recommends that they conclude partnership agreements between themselves with a view to developing and refining technological research according to their own interests***;

Or. en

Amendment 24
Jelko Kacin

Motion for a resolution
Paragraph 21

Motion for a resolution

21. Strongly recommends ***that the smaller EU countries with reduced possibilities to finance their own space assets be given access to operational data under a reinforced ESDP framework***;

Amendment

21. Strongly recommends the ***promotion of equal access for all EU Member States*** to operational data ***gathered using space assets*** under a reinforced ESDP framework;

Or. en

Amendment 25
Nirj Deva

Motion for a resolution
Paragraph 22

Motion for a resolution

Amendment

22. Calls on the European Union to set up an operational budget for space assets that serve to support the ESDP and European security interests;

deleted

Or. en

Amendment 26
Angelika Beer

Motion for a resolution
Paragraph 22

Motion for a resolution

Amendment

22. Calls on the European Union to set up an operational budget for space assets that serve to support the ESDP and European security interests;

deleted

Or. en

Amendment 27
Nirj Deva

Motion for a resolution
Paragraph 23

Motion for a resolution

Amendment

23. Is alarmed by the fact that the lack of coordination among Member States results in a scarcity of resources due to unnecessary duplication of activities; therefore supports the idea of the launching of joint programmes by the Member States, which will provide costs savings in the longer term;

23. Is alarmed by the fact that the lack of coordination among Member States results in a scarcity of resources due to unnecessary duplication of activities; therefore supports the idea of the launching of joint programmes by the Member States ***which can be entered into voluntarily according to the individual Member State's needs, and*** which will provide costs savings in the longer term;

Amendment 28
Nirj Deva

Motion for a resolution
Paragraph 25

Motion for a resolution

Amendment

25. Notes that the estimates of available expertise suggest that the level of investment needed to address the European security and defence needs in terms of satellite telecommunications should increase from the current budget of EUR 500 million per year to EUR 900 million per year in the period between 2008 and 2022, and that the appropriate expenditure of the European Union on Earth observation and intelligence gathering, including signal intelligence, should increase from the present EUR 650 million per year until 2012 to EUR 750 million in the period 2012-2017 and should further increase to EUR 850 million per year in the period 2017-2027;

deleted

Amendment 29
Jelko Kacin

Motion for a resolution
Paragraph 25

Motion for a resolution

Amendment

25. Notes that the estimates of available expertise suggest that the level of investment needed to address the European security and defence needs in terms of satellite telecommunications **should increase from the current budget of EUR 500 million per year to EUR 900 million**

25. Notes that the estimates of available expertise suggest that the level of investment needed to address the European security and defence needs in terms of satellite telecommunications, and the appropriate expenditure of the European Union on Earth observation and

per year in the period between 2008 and 2022, and that the appropriate expenditure of the European Union on Earth observation and intelligence gathering, including signal intelligence, should increase from the present EUR 650 million per year until 2012 to EUR 750 million in the period 2012-2017 and should further increase to EUR 850 million per year in the period 2017-2027;

intelligence gathering, including signal intelligence, should *be substantially increased in order to provide for the needs and ambitions of a comprehensive space policy*;

Or. en

Amendment 30
Nirj Deva

Motion for a resolution
Paragraph 26

Motion for a resolution

26. Takes the view that the European Union, *the European Space Agency, the European Defence Agency and their* Member States should provide for reliable and adequate funding for the space activities envisaged and the research connected *therewith*; attaches great importance to *the financing from the budget of the EU, such as on the Galileo project*;

Amendment

26. Takes the view that the European Union Member States should provide for reliable and adequate funding for the space activities envisaged and the research connected *with the work of the European Space Agency and the European Defence Agency, and therefore* attaches great importance to the Galileo project;

Or. en

Amendment 31
Angelika Beer

Motion for a resolution
Paragraph 27

Motion for a resolution

27. Underscores the vulnerability of strategic space assets as well as the

Amendment

27. Underscores the vulnerability of strategic space assets as well as the

infrastructure allowing access to space, e.g. launchers and space ports; therefore **stresses** the need for **them** to be adequately protected by ground-based theatre missile defence, planes and space surveillance systems; furthermore supports the sharing of data with international partners in the event that satellites are rendered inoperable by enemy action;

infrastructure allowing access to space, e.g. launchers and space ports; therefore **recognises** the need for **their ground bases** to be adequately protected – **and therefore at a high cost** – by ground-based theatre missile defence, planes and space surveillance systems; furthermore supports the sharing of data with international partners in the event that satellites are rendered inoperable by enemy action;

Or. en

Amendment 32
Nirj Deva

Motion for a resolution
Paragraph 27 a (new)

Motion for a resolution

Amendment

27a. Calls for the strongest possible levels of partnership and cooperation in the sharing of data between the EU and the USA, our historic and most important ally on the world stage, and requests that this resolution be interpreted only in such a way as to augment this relationship; furthermore reiterates the need to fully involve NATO at all appropriate stages in security cooperation;

Or. en

Amendment 33
Alexandra Dobolyi

Motion for a resolution
Paragraph 28

Motion for a resolution

Amendment

28. Calls for the vulnerability of future European satellite systems to be reduced

28. Calls for the vulnerability of future European satellite systems to be reduced

through anti-jamming, shielding and multi-orbital constellation architectures;

through anti-jamming, shielding, ***on-orbit servicing, high-orbit*** and multi-orbital constellation architectures;

Or. en

Amendment 34
Ana Maria Gomes

Motion for a resolution
Paragraph 29

Motion for a resolution

29. Emphasises that the protective measures must be fully compliant with international standards regarding peaceful uses of outer space and commonly agreed transparency and confidence-building measures (TCBMs);

Amendment

29. Emphasises that the protective measures must be fully compliant with international standards regarding peaceful uses of outer space and commonly agreed transparency and confidence-building measures (TCBMs); ***asks EU Member States to explore the possibility of developing legally or politically binding ‘rules of the road’ for space operators, together with a space traffic management regime;***

Or. en

Amendment 35
Angelika Beer

Motion for a resolution
Paragraph 29 a (new)

Motion for a resolution

29a. Stresses that, as a result of this vulnerability, advanced communication should never be made fully dependent on space-based technologies;

Or. en

Amendment 36
Angelika Beer

Motion for a resolution
Paragraph 29 b (new)

Motion for a resolution

Amendment

29b. Urges that under no circumstances should European space policy contribute to the overall militarisation and weaponisation of space and that, in full compliance with the Outer Space Treaty, it should exclude the stationing of any offensive or defensive weapon systems in space;

Or. en

Amendment 37
Ana Maria Gomes

Motion for a resolution
Paragraph 31

Motion for a resolution

Amendment

31. Calls for the international legal regime to be strengthened so as to regulate and protect non-aggressive space uses and for the strengthening of TCBMs, within the framework of the drafting by the UN Committee on the Peaceful Uses of Outer Space (COPUOS) of space debris mitigation guidelines consistent with those of the Inter-Agency Debris Coordination Committee as well as the development by the UN Conference on Disarmament (CD) of a multilateral agreement on the Prevention of an Arms Race in Outer Space (PAROS); furthermore, asks the EU Presidency to represent the EU proactively in COPUOS;

31. Calls for the international legal regime to be strengthened so as to regulate and protect non-aggressive space uses and for the strengthening of TCBMs, within the framework of the drafting by the UN Committee on the Peaceful Uses of Outer Space (COPUOS) of space debris mitigation guidelines consistent with those of the Inter-Agency Debris Coordination Committee as well as the development by the UN Conference on Disarmament (CD) of a multilateral agreement on the prevention of an Arms Race in Outer Space (PAROS); furthermore, asks the EU Presidency to represent the EU proactively in COPUOS; ***calls on the EU institutions to promote a conference to review the Outer Space Treaty, with the aim of strengthening it and expanding its scope***

to prohibit all weapons in space;

Or. en

Amendment 38

Angelika Beer

Motion for a resolution

Paragraph 32

Motion for a resolution

32. Calls on all international actors to restrain from using offensive equipment in space, such as the Chinese anti-satellite system tested in January 2007; ***recommends***, therefore, the adoption of voluntary, legally binding international instruments focusing on banning the use of weapons against space assets and the stationing of weapons in space;

Amendment

32. Calls on all international actors, ***both members and non-members of the NATO***, to restrain from using offensive equipment in space, such as the Chinese anti-satellite system tested in January 2007; ***urges***, therefore, the adoption of voluntary, legally binding international instruments focusing on banning the use of weapons against space assets and the stationing of weapons in space;

Or. en

Amendment 39

Ana Maria Gomes

Motion for a resolution

Paragraph 32

Motion for a resolution

32. Calls on all international actors to ***restrain*** from using offensive equipment in space, such as the Chinese anti-satellite system tested in January 2007; recommends, therefore, the adoption of ***voluntary***, legally binding international instruments focusing on banning the use of weapons against space assets and the stationing of weapons in space;

Amendment

32. Calls on all international actors to ***refrain*** from using offensive equipment in space; ***expresses its particular concern about the use of destructive force against satellites***, such as the Chinese anti-satellite system tested in January 2007 ***and the consequences of the massive increase in debris for space security***; recommends, therefore, the adoption of legally binding international instruments focusing on banning the use of weapons against space

assets and the stationing of weapons in space;

Or. en

Amendment 40
Angelika Beer

Motion for a resolution
Paragraph 33

Motion for a resolution

33. Calls on all space users to register their satellites, including military satellites, by way of a space security confidence-building measure promoting transparency; supports the Council's pursuit of a comprehensive EU Code of Conduct on Space Objects;

Amendment

33. Calls on all space users to register their satellites, including military satellites, by way of a space security confidence-building measure promoting transparency; supports the Council's pursuit of a comprehensive EU Code of Conduct on Space Objects; ***demands that this Code be transformed into a legally binding instrument;***

Or. en

Amendment 41
Jelko Kacin

Motion for a resolution
Paragraph 34 a (new)

Motion for a resolution

Amendment

34a. Calls on the European Space Agency to increase scientific knowledge, to engage in international cooperation that would increase the Agency's ability to detect asteroids that pose a threat to the Earth, and to explore ways to elaborate possible impact-prevention measures;

Or. en

Amendment 42
Angelika Beer

Motion for a resolution
Paragraph 35

Motion for a resolution

35. Urges the European Union and the North Atlantic Treaty Organization to launch a strategic dialogue on space *policy and missile defence; especially on the complementarity and interoperability of systems for satellite communications, space surveillance, and early warning of ballistic missiles, as well as protection of European forces by a theatre missile defence system;*

Amendment

35. Urges the European Union and the North Atlantic Treaty Organization to launch a strategic dialogue on *the peaceful use of* space;

Or. en

Amendment 43
Ana Maria Gomes

Motion for a resolution
Paragraph 35

Motion for a resolution

35. Urges the European Union and the North Atlantic Treaty Organization to launch a strategic dialogue on space policy and missile defence; especially on the complementarity and interoperability of systems for satellite communications, space surveillance, and early warning of ballistic missiles, as well as protection of European forces by a theatre missile defence system;

Amendment

35. Urges the European Union and the North Atlantic Treaty Organization to launch a strategic dialogue on space policy and missile defence, *while bearing in mind the legal imperative of avoiding any action that might be incompatible with the principle of the peaceful use of space;* especially on the complementarity and interoperability of systems for satellite communications, space surveillance, and early warning of ballistic missiles, as well as protection of European forces by a theatre missile defence system;

Or. en

Amendment 44
Angelika Beer

Motion for a resolution
Paragraph 36

Motion for a resolution

36. Calls on the European Union and the United States of America to engage in a strategic dialogue on the use of space assets;

Amendment

36. Calls on the European Union and the United States of America to engage in a strategic dialogue on the use of space assets ***and to take the global lead within and outside the UN to make sure that outer space is preserved for peaceful policies only;***

Or. en

Amendment 45
Jelko Kacin

Motion for a resolution
Recital E

Motion for a resolution

E. whereas freedom from space-based threats and secure sustainable access to, and use of, space must be the guiding principles of the European Space Policy,

Amendment

A. whereas freedom from space-based threats and secure sustainable access to, and use of, space must be the guiding principles of the European Space Policy,

Or. en

Amendment 46
Alexandra Dobolyi

Motion for a resolution
Recital I a (new)

Motion for a resolution

Amendment

Ia. whereas one of the most cost-effective elements of a space architecture and of achieving a sustainable fleet of space assets is on-orbit servicing, using in-situ

means;

Or. en

Amendment 47

Jelko Kacin

Motion for a resolution

Citation 5

Motion for a resolution

– having regard to the Treaty on the Functioning of the European Union (TFEU) and the Treaty on European Union (TEU), as amended by the Treaty of Lisbon, and its relevant clauses on European Space Policy (Article 189 of the TFEU), permanent structured cooperation on security and defence matters (Articles 42(6) and 46 of the TEU and a related protocol) and enhanced cooperation in the civilian area (Part Six, Title III); as well as the solidarity clause (Article 222 of the TEU) ***and mutual assistance provisions in the event of armed aggression against a Member State or States (Article 42(7) of the TEU)***,

Amendment

– having regard to the Treaty on the Functioning of the European Union (TFEU) and the Treaty on European Union (TEU), as amended by the Treaty of Lisbon, and its relevant clauses on European Space Policy (Article 189 of the TFEU), permanent structured cooperation on security and defence matters (Articles 42(6) and 46 of the TEU and a related protocol) and enhanced cooperation in the civilian area (Part Six, Title III); as well as the solidarity clause (Article 222 of the TEU),

Or. en

Amendment 48

Angelika Beer

Motion for a resolution

Citation 9 a (new)

Motion for a resolution

Amendment

– having regard to the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies ('the Outer Space

Treaty'),

Or. en

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EUROPEAN PARLIAMENT

2004



2009

Committee on Industry, Research and Energy

2008/2030(INI)

30.5.2008

OPINION

of the Committee on Industry, Research and Energy

for the Committee on Foreign Affairs

on space and security
(2008/2030(INI))

Draftswoman: Romana Jordan Cizelj

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SUGGESTIONS

The Committee on Industry, Research and Energy calls on the Committee on Foreign Affairs, as the committee responsible, to incorporate the following suggestions in its motion for a resolution:

- having regard to the Treaty of Lisbon amending the Treaty on European Union and the Treaty establishing the European Community signed in Lisbon on 13 December 2007, which inserted a new Article 172a into the section on Research and Technological Development, thus providing a legal basis for the Union to draw up a European Space Policy,

General considerations

1. Expresses its satisfaction at the insertion of a Article 172a on European Space Policy into the Treaty on the Functioning of the European Union and welcomes the opportunity given to it and to the Council to lay down, under the ordinary legislative procedure, the measures needed to shape a European Space Programme;
2. Calls upon the Commission to submit to it and to the Council an appropriate proposal for such measures, together with a Communication relating to the establishment of appropriate relations with the European Space Agency;

Navigation - positioning

3. Notes the first reading agreement between the Parliament and the Council on the proposal for a Regulation on the further implementation of the European satellite radionavigation programmes (EGNOS and Galileo) which establishes that the Community is the owner of the system and its deployment phase is fully financed by the Community budget;
4. Draws attention to its position adopted on 23 April 2008¹, in particular, to the fact that the EGNOS and Galileo programmes should be considered as one of the achievements of the future European Space Programme, and to the governance of the programmes, together with the Galileo Interinstitutional Panel, which may serve as a model in the development of a European Space Policy.

¹ Texts Adopted, P6_TA(2008)0167.

RESULT OF FINAL VOTE IN COMMITTEE

Date adopted	28.5.2008
Result of final vote	+: 50 -: 0 0: 0
Members present for the final vote	Šarūnas Birutis, Jan Březina, Philippe Busquin, Jerzy Buzek, Jorgo Chatzimarkakis, Giles Chichester, Dragoș Florin David, Pilar del Castillo Vera, Lena Ek, Adam Gierek, Norbert Glante, Umberto Guidoni, András Gyürk, Fiona Hall, David Hammerstein, Erna Hennicot-Schoepges, Ján Hudacký, Romana Jordan Cizelj, Anne Laperrouze, Eugenijus Maldeikis, Eluned Morgan, Angelika Niebler, Reino Paasilinna, Atanas Paparizov, Aldo Patriciello, Francisca Pleguezuelos Aguilar, Anni Podimata, Miloslav Ransdorf, Vladimír Remek, Herbert Reul, Teresa Riera Madurell, Paul Rübig, Andres Tarand, Patrizia Toia, Catherine Trautmann, Claude Turmes, Alejo Vidal-Quadras
Substitute(s) present for the final vote	Gabriele Albertini, Alexander Alvaro, Ivo Belet, Manuel António dos Santos, Robert Goebbels, Satu Hassi, Edit Herczog, Pierre Pribetich, Bernhard Rapkay, Silvia-Adriana Țicău, Lambert van Nistelrooij
Substitute(s) under Rule 178(2) present for the final vote	Emmanouil Angelakas, Nicolae Vlad Popa

European Parliament resolution of 10 July 2008 on Space and security ([2008/2030\(INI\)](#))

The European Parliament,

- having regard to the European Security Strategy entitled "A secure Europe in a better world", adopted by the European Council on 12 December 2003,
- having regard to the EU Strategy against proliferation of Weapons of Mass Destruction, likewise adopted by the European Council on 12 December 2003,
- having regard to Council resolution 2007/C 136/01 of 21 May 2007 on the European Space Policy([1](#)) ,
- having regard to the Treaty on the Functioning of the European Union (TFEU) and the Treaty on European Union (TEU), as amended by the Treaty of Lisbon, and their relevant provisions on European space policy (Article 189 of the TFEU), permanent structured cooperation on security and defence matters (Articles 42(6) and 46 of the TEU and Protocol 10) and enhanced cooperation in the civilian area (Part Six, Title III of the TFEU), as well as the solidarity clause (Article 222 of the TFEU) and mutual assistance provisions in the event of armed aggression against a Member State or States (Article 42(7) of the TEU),
- having regard to its resolution of 29 January 2004 on the action plan for implementing the European space policy([2](#)) ,
- having regard to its resolution of 14 April 2005 on the European Security Strategy([3](#)) ,
- having regard to the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies ("the Outer Space Treaty"),
- having regard to the EU-Russia cooperation on space policy, which in 2006 created the Tripartite Space Dialogue between the European Commission, the European Space Agency (ESA) and Roscosmos (the Russian Federal Space Agency),
- having regard to Rule 45 of its Rules of Procedure,
- having regard to the report of the Committee on Foreign Affairs and the opinion of the Committee on Industry, Research and Energy ([A6-0250/2008](#)),

A. whereas freedom from space-based threats and secure sustainable access to, and use of, space must be the guiding principles of the European Space Policy,

B. whereas the various political and security challenges which the European Union is increasingly facing make an autonomous European Space Policy a strategic necessity,

C. whereas the lack of a common approach to space policy between EU Member States results in overly costly programmes,

D. whereas the crisis management operations within the framework of the European Security and Defence Policy (ESDP) suffer from a lack of interoperability between space assets operated by EU Member States,

E. whereas the European Union is lacking a comprehensive European space-based architecture for security and defence purposes,

F. whereas the development of a new generation of launchers takes approximately 15 years and the present generation of launchers will need replacing in the next 20 years,

G. whereas development of space assets by the USA, Russia, Japan and other emerging space-faring states, most notably China, India, South Korea, Taiwan, Brazil, Israel, Iran, Malaysia, Pakistan, South Africa and Turkey, is rapidly advancing,

H. whereas the French Presidency of the European Union during the second semester of 2008 sets out an advancement of the European Space Policy as one of its priorities,

I. whereas one of the most cost-effective elements of a space architecture and of achieving a sustainable fleet of space assets is on-orbit servicing, using in-situ means,

General considerations

1. Notes the importance of the space dimension to the security of the European Union and the need for a common approach necessary for defending European interests in space;

2. Underlines the need for space assets in order that the political and diplomatic activities of the European Union may be based on independent, reliable and complete information in support of its policies for conflict prevention, crisis management operations and global security, especially the monitoring of proliferation of weapons of mass destruction and their means of transportation and verification of international treaties, the transnational smuggling of light weapons and small arms, the protection of critical infrastructure and of the European Union's borders, and civil protection in the event of natural and man-made disasters and crises;

3. Welcomes the endorsement of the European Space Policy by the "Space Council" as proposed by a joint communication presented by the Commission and the European Space Agency ([COM\(2007\)0212](#)), especially the chapter on security and defence, while regretting the absence of any reference to the threat of weaponisation of space within the "key issues to be considered in the development of a strategy for international relations" (as mentioned in Annex 3 to the above-mentioned Council Resolution of 21 May 2007); recommends, therefore, that the revised European Security Strategy should take this policy appropriately into account, and is of the view that space matters should be reflected in the possible White Paper on Security and Defence Policy;

4. Notes the inclusion of a legal basis for the European Space Policy in the Treaty of Lisbon; welcomes the opportunity given to it and to the Council to lay down, under the ordinary legislative procedure, the measures needed to shape a European Space Programme; calls on the Commission to submit to it and to the Council an appropriate proposal for such measures, together with a Communication relating to the establishment of appropriate relations with the European Space Agency; also welcomes the possibilities of permanent structured cooperation in security and defence matters and enhanced cooperation in the civilian area;
5. Encourages the Member States of the European Union, the European Space Agency and the various stakeholders to make greater and better use of the existing national and multinational space systems and to foster their complementarity; notes in this respect that common capabilities are needed for ESDP in at least the following areas: telecommunications, information management, observation and navigation; recommends the sharing and exchange of these data in line with the EU concept for Network Centric Operations Architecture;
6. Applauds the efforts of the International Academy of Astronautics and the International Association for the Advancement of Space Safety to promote remediation, understanding and measures in respect of space debris;

Autonomous threat assessment

7. Calls on the EU Member States to pool and exchange the geospatial intelligence necessary for autonomous EU threat assessment;

Earth observation and reconnaissance

8. Urges that the European Union Satellite Centre (EUSC) be fully developed to make full use of its potential; moreover, recommends the urgent conclusion of agreements between the European Union Satellite Centre and the EU Member States to provide imagery available to ESDP operation and force commanders while ensuring complementarity with Global Monitoring for Environment and Security (GMES) observation capacities and derived security-related information; in this regard, welcomes the Tactical Imagery Exploitation Station project, run jointly by the European Defence Agency (EDA) and the European Union Satellite Centre;
9. Recommends that the EU develop a common concept for geospatial intelligence, creating conditions for involvement of the EUSC in the planning for each ESDP operation requiring space-based observation and space-based intelligence; recommends that the EUSC establish a secure communication link in support of ESDP operations not only with the Operations Headquarters (OHQ) based in the EU but also with the Force Headquarters (FHQ) in the deployment region; furthermore, suggests that the EU explore the possibility of a financial contribution to the EUSC from the EU budget in order to provide sufficient funds to meet the increasing needs of ESDP operations;
10. Urges the EU Member States having access to the various types of radar, optical and weather observation satellites and reconnaissance systems (Helios, SAR-Lupe, TerraSAR-X, Rapid Eye, Cosmo-Skymed, Pleiades) to make them compatible; welcomes the bilateral and

multilateral agreements between the leading EU countries (e.g. SPOT, ORFEO, the Helios cooperative framework, the Schwerin agreement and the future MUSIS); recommends that the MUSIS system be brought within a European framework and financed from the EU budget;

11. Emphasises the importance of GMES for foreign as well as security and defence policies of the European Union; urges the creation of an operational budget line to ensure the sustainability of GMES services in response to users' needs;

Navigation – positioning – timing

12. Underlines the necessity of Galileo for autonomous ESDP operations, for the Common Foreign and Security Policy, for Europe's own security and for the Union's strategic autonomy; notes that, in particular, its public-regulated service will be vital in the field of navigation, positioning and timing, not least in order to avoid unnecessary risks;

13. Notes the first-reading agreement between Parliament and the Council on the proposal for a regulation on the further implementation of the European satellite radionavigation programmes (EGNOS and Galileo), which establishes that the Community is the owner of the system and that its deployment phase is fully financed by the Community budget;

14. Draws attention to its position adopted on 23 April 2008 on the European satellite radionavigation programmes (EGNOS and Galileo)([4](#)) , in particular, to the fact that the EGNOS and Galileo programmes should be considered as one of the major pillars of the future European Space Programme, and to the governance of these programmes, together with the Galileo Interinstitutional Panel, which may serve as a model in the development of a European Space Policy;

Telecommunications

15. Underlines the need for secure satellite-supported communication for ESDP operations (EU Military Staff, EU Headquarters, deployable headquarters) and EU Member States' deployments under UN, NATO and other similar organisations;

16. Requests that the current and future satellite telecommunication systems at the disposal of the EU Member States (e.g. Skynet, Syracuse, Sicral, SATCOM Bw, Spainsat) be interoperable in order to provide for cost reduction;

17. Supports the cooperative development of a Software-Defined Radio (SDR) by the Commission and the European Defence Agency; notes that SDR will contribute to better interoperability of the ground segment of telecommunications systems;

18. Recommends that savings be achieved by shared use of the ground infrastructure supporting different national telecommunications systems;

19. Supports the possibility of funding future European satellite telecommunications systems supporting ESDP operations from the EU budget;

Space surveillance

20. Supports the creation of a European space surveillance system leading to space situational awareness (including, for example, GRAVES and TIRA) to monitor the space infrastructure, space debris and, possibly, other threats;
21. Supports the possibility of funding the future European space situational awareness system from the EU budget;

Satellite-based early warning against ballistic missiles

22. Deplores the fact that EU Member States do not have access to instant data on ballistic missile launches around the world; expresses support, therefore, for projects leading towards satellite-based early warning against ballistic missile launches (such as the French "Spirale"); furthermore, calls for information acquired through these future systems to be available to all EU Member States in order to protect their population and to support possible countermeasures, as well as to serve in the verification of compliance with the Nuclear Non-Proliferation Treaty, and for the purposes of ESDP operations and safeguarding Europe's security interests;

Signal intelligence

23. Supports the exchange of signal intelligence (electronic intelligence such as the French "Essaim" and communications intelligence) at European level;

Autonomous access to space and international environment

24. Supports secure, independent and sustainable access to space for the European Union as one of the preconditions of its autonomous action;
25. Recommends that the European non-commercial satellites be carried into orbit by European launchers, preferably from the territory of the European Union, bearing in mind the aspects of security of supply and protection of the European Defence Technological and Industrial Base;
26. Points out that it is necessary to increase the development effort in order for an enhanced Ariane 5 to be available before 2015;
27. Recommends that strategic long-term investment in new European launchers be initiated as soon as possible, in order to keep up with the rising global competition; demands a greater degree of discipline for this project, in budgetary and time-frame terms;
28. Recommends that on-orbit servicing be established as a means of support to enhance the endurance, persistence, availability and operational efficiency of operational space assets and, at the same time, to reduce asset deployment and maintenance costs;

Governance

29. Encourages strong inter-pillar cooperation for space and security, involving all the relevant actors (i.e. the Commission, the Council, the European Defence Agency and the European Union Satellite Centre), in order to safeguard the security policy and data security linked with the ESDP;

30. Strongly recommends the promotion of equal access for all EU Member States to operational data gathered using space assets under a reinforced ESDP framework;

31. Recommends that administrative and financial capacities for the management of space-related activities be developed by the European Defence Agency;

Financing

32. Points out that the EU budget commits expenditure amounting to approximately EUR 5 250 million in the years 2007-2013 on common European space activities, resulting in an average expenditure of EUR 750 million per year over that period;

33. Calls on the European Union to set up an operational budget for space assets that serve to support the ESDP and European security interests;

34. Is alarmed by the fact that the lack of coordination among Member States results in a scarcity of resources due to unnecessary duplication of activities; therefore supports the idea of the launching of joint programmes by the Member States, which will provide costs savings in the longer term;

35. Furthermore, notes that the cost of the absence of a common European approach to the procurement, maintenance and functioning of space assets is estimated to amount to hundreds of millions of euros;

36. Points out that, as experience has shown, large-scale common projects cannot be properly managed when 27 different national budget authorities applying the principle of "fair return" are involved; therefore strongly recommends that these projects and programmes be financed from the EU budget;

37. Notes that the estimates of available expertise suggest that the level of investment needed to address the European security and defence needs in terms of satellite telecommunications, and the appropriate expenditure of the European Union on Earth observation and intelligence gathering, including signal intelligence, should be substantially increased in order to provide for the needs and ambitions of a comprehensive space policy;

38. Takes the view that the European Union, the European Space Agency, the European Defence Agency and their Member States should provide for reliable and adequate funding for the space activities envisaged and the research connected therewith; attaches great importance to the financing from the budget of the EU, such as on the Galileo project;

Protection of space infrastructure

39. Underscores the vulnerability of strategic space assets as well as the infrastructure allowing access to space, e.g. launchers and space ports; therefore stresses the need for them to be adequately protected by ground-based theatre missile defence, planes and space surveillance systems; furthermore supports the sharing of data with international partners in the event that satellites are rendered inoperable by enemy action;

40. Calls for the vulnerability of future European satellite systems to be reduced through anti-jamming, shielding, on-orbit servicing, high-orbit and multi-orbital constellation architectures;

41. Emphasises that the protective measures must be fully compliant with international standards regarding peaceful uses of outer space and commonly agreed transparency and confidence-building measures (TCBMs); asks EU Member States to explore the possibility of developing legally or politically binding "rules of the road" for space operators, together with a space traffic management regime;

42. Stresses that, as a result of this vulnerability, advanced communication should never be made fully dependent on space-based technologies;

International legal regime for uses of space

43. Reiterates the importance of the principle of the use of space for peaceful purposes expressed in the above-mentioned 1967 Outer Space Treaty; is therefore concerned by the possible future weaponisation of space;

44. Urges that under no circumstances should European space policy contribute to the overall militarisation and weaponisation of space;

45. Calls for the international legal regime to be strengthened so as to regulate and protect non-aggressive space uses and for the strengthening of TCBMs, within the framework of the drafting by the UN Committee on the Peaceful Uses of Outer Space (COPUOS) of space debris mitigation guidelines consistent with those of the Inter-Agency Debris Coordination Committee as well as the development by the UN Conference on Disarmament of a multilateral agreement on the prevention of an Arms Race in Outer Space; furthermore, asks the EU Presidency to represent the EU proactively in COPUOS; calls on the EU institutions to promote a conference to review the Outer Space Treaty, with the aim of strengthening it and expanding its scope to prohibit all weapons in space;

46. Calls on all international actors to refrain from using offensive equipment in space; expresses its particular concern about the use of destructive force against satellites, such as the Chinese anti-satellite system tested in January 2007, and the consequences of the massive increase in debris for space security; recommends, therefore, the adoption of legally binding international instruments focusing on banning the use of weapons against space assets and the stationing of weapons in space;

47. Calls on all space users to register their satellites, including military satellites, by way of a space security confidence-building measure promoting transparency; supports the Council's

pursuit of a comprehensive EU Code of Conduct on Space Objects; demands that this Code be transformed into a legally binding instrument;

48. Urges the United Nations and the European Union to engage in the active diminution of, and protection from, space debris harmful to satellites;

Transatlantic cooperation on space policy and missile defence

49. Urges the European Union and the North Atlantic Treaty Organization to launch a strategic dialogue on space policy and missile defence, while bearing in mind the legal imperative of avoiding any action that might be incompatible with the principle of the peaceful use of space, especially on the complementarity and interoperability of systems for satellite communications, space surveillance, and early warning of ballistic missiles, as well as protection of European forces by a theatre missile defence system;

50. Calls on the European Union and the United States of America to engage in a strategic dialogue on the use of space assets and to take the global lead within and outside the UN to make sure that outer space is preserved for peaceful policies only;

Other international cooperation

51. Welcomes the strengthened cooperation between the European Union and the Russian Federation within the framework of the above-mentioned Tripartite Space Dialogue set up in 2006 between the European Commission, the European Space Agency and Roscosmos, including space applications (satellite navigation, Earth observation and satellite communications) as well as access to space (launchers and future space transportation systems);

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52. Instructs its President to forward this resolution to the Council, the Commission, the European Space Agency, the parliaments of the Member States and the Secretaries-General of the United Nations, the North Atlantic Treaty Organisation and the Organisation for Security and Co-operation in Europe.

(1) OJ C 136, 20.6. 2007, p. 1.

(2) OJ C 96 E, 21.4.2004, p. 136.

(3) OJ C 33 E, 9.2.2006, p. 580.

(4) Texts adopted, [P6_TA\(2008\)0167](#).

European Parliament resolution of 20 November 2008 on the European space policy: how to bring space down to earth

The European Parliament ,

- having regard to the Council resolution of 26 September 2008 on taking forward the European Space Policy([1](#)) ,
- having regard to the UN Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Resolution 2222 (XXI) – Outer Space Treaty),
- having regard to its resolutions of 10 July 2008 on space and security([2](#)) , and of 29 January 2004 on the action plan for implementing the European space policy([3](#)) , and to the deliberations of the public hearing organised by its Committee on Industry, Research and Energy on 16 July 2007,
- having regard to Council resolution of 21 May 2007 on the European space policy([4](#)) ,
- having regard to the Commission working document of 11 September 2008 entitled European Space Policy Progress Report ([COM\(2008\)0561](#)),
- having regard to the Council Decision of 7 October 2003 on the signing of the Framework Agreement between the EC and the European Space Agency,
- having regard to the Treaty on the Functioning of the European Union (TFEU) and the Treaty on European Union (TEU), as amended by the Treaty of Lisbon, and the relevant provisions on the European space policy (Article 189 of the TFEU),
- having regard to Rule 108(5) of its Rules of Procedure,

A. whereas space is a strategic asset of fundamental importance for Europe's independence, security and prosperity and whereas political developments in this area must be spearheaded by the Council together with Parliament,

B. whereas the EU and a number of its Member States have been involved in financing and developing space technology and science for over 30 years, resulting in the establishment of a vision for a European space policy (ESP), and recognising the fruitful cooperation with the European Space Agency (ESA),

C. whereas there is a growing interest in a strong and leading role for the EU in an ESP in order to foster solutions in the field of the environment, transport, research, defence and security,

D. whereas a strong ESP, in particular, in terms of applications, services and related infrastructures, will contribute to the EU's societal, cultural, economic and scientific influence,

help develop its industrial and scientific base, contribute to its growth and employment and will ensure its political and technological autonomy in a coherent and realistic manner,

E. whereas all Europe's space activities fully respect the principle that the exploration and use of outer space are for the benefit and in the interests of all countries and recognise outer space as a province of all mankind to be used for exclusively peaceful purposes,

F. whereas the EU is committed to promoting international cooperation in the exploration and use of outer space; sharing the Council's view that Europe should undertake its actions regarding space exploration within a worldwide programme,

G. whereas it is important to the development of the ESP to reinforce public understanding and support for the development of space technologies, ensuring the complementarity of actions and maximising synergies with non-space developments,

H. whereas there is a strategic need for Europe to guarantee the continuity of autonomous, reliable, sustainable and cost-efficient access to space, based on both the availability of a set of adequate and competitive world-class launchers and an operational European space port,

I. whereas it is necessary to find adequate EU instruments and funding schemes for the ESP to supplement the allocations from the Seventh Framework Programme for Research, Technological Development and Demonstration Activities (2007-2013), so as to allow the different economic actors to plan their actions in the medium and long term,

J. whereas an adequate structure of governance in the field of space policy and activities and an appropriate regulatory framework to ease the swift emergence of innovative and competitive downstream services, in particular with the objective of guaranteeing sustained access to spectrum for all space-based applications, are fundamental to ensure that the ESP delivers the expected results and matches the ambitions of the EU, the ESA and their respective Member States,

K. whereas a precise calendar needs to be defined to fulfil the goals of Galileo, EGNOS and the programme for Global Monitoring for Environment and Security (GMES - renamed Copernicus) and a roadmap should be established for the various bodies playing a role in the implementation of these programmes,

L. whereas space now represents a unique tool for instantaneous collection and worldwide broadcasting of large quantities of data in today's society, as well as a crucial tool for the understanding and monitoring of global climate change, a field in which Europe is at the forefront; calling on the other international actors to a more responsible attitude towards future generations,

M. whereas important breakthroughs can be achieved regarding security aspects in space, mainly in the field of telecommunications, surveillance and Earth observation,

N. whereas the resolution of the fourth Space Council of 22 May 2007 (joint meeting between the Council of the European Union and the ESA Council) calls for the optimisation of the decision-making process on space-related issues in the Council of the European Union as well as in other EU institutions,

O. whereas the next financial framework should take into account adequate EU instruments and funding schemes to allow long-term Community investment for space-related research and for the operation of sustainable space-based applications for the benefit of Europe and its citizens,

P. whereas the EU should strengthen its cooperation with developing countries,

1. Welcomes the Council conclusions of 26 September 2008 as a useful political commitment towards the development of an ESP which contributes strongly to a European identity and reiterates its intention of being constructive and participating fully in its implementation, as if the Treaty of Lisbon were in force;

2. Agrees with the Council that the current priorities are the timely implementation of the Galileo and EGNOS and GMES/Copernicus programmes;

3. Welcomes in particular the creation of the Galileo Inter-institutional Panel which may serve as a model in the development of the ESP;

4. Calls on the Commission and the Council to set a precise calendar for the creation of an efficient governance structure regarding the GMES/Copernicus programme and to clearly establish a roadmap for this programme with the aim of improving its efficiency and specifying its budget allocation;

5. Insists on the decisive role of the GMES/Copernicus programme as a user-driven initiative implemented thanks to the essential contribution of the in-situ Earth- and space-based observation infrastructures; stresses that data and service continuity is indispensable; takes the view, more particularly, that the Commission should first undertake to commission an impact assessment of the potential benefits, the costs to be incurred and the long-term evolution of the GMES/Copernicus programme, and then submit to Parliament and the Council an action plan covering, inter alia, the following aspects:

- the legal framework of the GMES/ Copernicus programme,
- GMES/Copernicus governance, including the role of EU and non-EU bodies,
- funding of the GMES/ Copernicus programme,
- an implementation plan,
- the role of similar but complementary initiatives, both intergovernmental and multilateral,
- the international aspects of the GMES/ Copernicus programme, and hence the necessary cooperation;

6. Regrets that, despite the clear recommendations of the user community, the continuity of the low inclination altimetry data is not ensured after the end of life of the Jason 2 satellite already in

orbit, and asks the Commission to tackle the problems relating to the financing of Jason 3, which risk endangering the short-term sustainability of Copernicus services, and to report to Parliament on the decisions taken in this respect;

7. Encourages the establishment of a structured dialogue between European institutional actors and intergovernmental actors, ensuring for all Member States an open and equitable access to the benefits of the ESP;

8. Calls on the Council and the Commission to encourage synergies between civilian and security developments in the field of space; points out that the European security and defence capabilities depend among other things on the availability of satellite-based systems and that access to these is crucial for the European Union;

9. Asks the Council and the Commission to make progress on the subject of international relations, namely on competition in international commercial and government markets, with the goal of ensuring that Europe speaks with one voice and follows an agreed strategy;

10. Agrees with the Council that international cooperation on space must serve the interests of Europe and that, with this purpose, should contribute to global initiatives; stresses the importance of ensuring Europe's political, technological and operational autonomy;

11. Reminds the Council and the Commission of their stated intention of submitting to Parliament, in the context of the ESP implementation plan, specific recommendations or proposals, given the nature of the four priority areas, on:

- space and climate change,
- the ESP's contribution to the Lisbon Strategy,
- space and security, based on its resolution of 10 July 2008,
- space exploration, including human presence and manned space flight;

12. Stresses the importance of developing a space-related industrial policy, a crucial element in this policy being the regulatory framework and the standardisation programme which contributes to the emergence of new European downstream markets, and recalls that the Galileo Regulation sets a benchmark for the involvement of small and medium-sized enterprises in European space-related industrial policy;

13. Recognises the unique contribution of space programmes which, allowing global and long-term coverage, make available important data for research into climate change, and provide the evidence base for key decisions to be taken in environment policy;

14. Recognises that space can contribute to reaching the Lisbon goals so as to fulfil the economic, educational, social and environmental ambitions of the EU and the expectations of its citizens;

15. Recognises the need for the EU to take practical steps to pursue the reduction of Europe's dependence concerning selected critical space technologies, components and operations;
16. Considers that Europe should develop a common vision and long-term strategic planning for space exploration to play a role in international programmes (such as the Global Exploration Strategy) for human and robotic space exploration, including the possibility of a human expedition to Mars;
17. Urges that consideration be given to a possible new specific budget line for the ESP in the EU budget in order to reflect the strong commitment of the EU towards the ESP and to increase the clarity and transparency of this policy, should the provisions of the Lisbon Treaty relating to space policy enter into force;
18. Calls on the Commission and the Member States to promote investments in space-related science and technology;
19. Calls on the Commission to take the appropriate initiatives for developing the use of space for the collection and distribution of information and insists on the need to encourage technological developments in the field of surveillance and observation of space;
20. Calls on the Commission to take the necessary measures to avoid pollution of outer space;
21. Calls on the Commission to produce a study on the impact of space tourism and its necessary relevant safety, security and regulatory framework;
22. Calls on the Council and the Commission to initiate a large-scale effort of reflection on space exploration, defining a vision of what should be Europe's position in, and resources for, future worldwide exploration endeavours; in this respect, wishes to be closely associated with the forthcoming high-level conference on exploration proposed by the Commission;
23. Stresses the value of space exploration for inspiring young Europeans to choose a career in science and technology and to strengthen research capabilities in Europe;
24. Instructs its President to forward this resolution to the Council, the Commission, the European Space Agency, the governments and parliaments of the Member States and the Secretary-General of the United Nations.

(1) OJ C 268, 23.10.2008, p. 1.

(2) Texts adopted, [P6_TA\(2008\)0365](#).

(3) OJ C 96 E, 21.4.2004, p. 136.

(4) OJ C 136, 20.6.2007, p. 1.

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INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

WORLD TELECOMMUNICATION STANDARDIZATION
ASSEMBLY

Johannesburg, 21-30 October 2008

Resolution 73 – Information and communications technologies and climate change

PREPUBLISHED RESOLUTION

This prepublished Resolution is not yet completely finalized and slight typographical and formatting corrections may be made for the final publication.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

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RESOLUTION 73

Information and communications technologies and climate change

(Johannesburg, 2008)

The World Telecommunication Standardization Assembly (Johannesburg, 2008),

considering

- a) that the issue of climate change is rapidly emerging as a global concern and requires global collaboration;
- b) that the United Nations Intergovernmental Panel on Climate Change (IPCC) estimated that global greenhouse gas (GHG) emissions had risen by more than 70 per cent since 1970, having an effect on global warming, changing weather patterns, rising sea-levels, desertification, shrinking ice cover and other long-term effects;
- c) that ITU, at the United Nations Conference on Climate Change in Bali, Indonesia, on 3-14 December 2007, highlighted the role of information and communication technologies (ICTs) as both a contributor to climate change, and an important element in tackling the challenge;
- d) the work being undertaken following agreement to the Bali roadmap, and the importance of reaching international agreement on an effective post-2012 outcome;
- e) the role that ICTs and ITU can play in contributing to the implementation of such an agreement;
- f) the importance of promoting sustainable development and the ways in which ICTs can enable clean development;
- g) the initiatives taken in some regions,

considering also

- a) the ITU Telecommunication Standardization Sector (ITU-T) Technology Watch Briefing Report No. 3 (2007), which highlighted the issue of climate change and the role of ICTs;
- b) in addition to the work in ITU-T, the ITU Radiocommunication Sector (ITU-R) and ITU Telecommunication Development Sector (ITU-D) initiatives in considering climate change and the role of ICTs;
- c) that ITU Recommendations, which focus on energy-saving systems and applications, can play a critical role in the development of ICTs;
- d) the leadership of ITU-R, in collaboration with the ITU membership, in identifying the necessary radio-frequency spectrum for climate monitoring and disaster prediction, detection and relief, including the establishment of cooperative arrangements with the World Meteorological Organization (WMO) in the field of remote-sensing applications;
- e) the report entitled, "Strategy for a climate-neutral United Nations", prepared by the Environment Management Group, and the endorsement by the Chief Executives Board (CEB) in October 2007 of the strategy committing the United Nations system to attain climate neutrality within three years;
- f) the standards-development activities on ICTs and climate change by, for example, relevant ITU-T study groups in work related to ubiquitous sensor networks (USN), which allow the detection, storage, processing and integration of situational and environmental information gathered from sensor devices connected to telecommunication networks;

- g) the outcomes of the Symposia on "ICTs and Climate Change", held in Kyoto, Japan, on 15-16 April 2008, and in London, United Kingdom, on 17-18 June 2008;
- h) the establishment of a Focus Group on ICTs and Climate Change by the Telecommunication Standardization Advisory Group (TSAG) at its July 2008 meeting,

noting

that, in the report of the conclusions from the Global Standards Symposium (GSS), it was recognized that the ICT industry and its members can set an example by committing to specific programmes, with objectives, that reduce overall GHG emissions (e.g., the power consumption of ICT devices) and to ensuring that the expansion of the global communications network is done in an environmentally-friendly manner,

recognizing

- a) that ICTs can make a substantial contribution to mitigating and adapting to the effects of climate change;
- b) that ICTs play a vital role in monitoring and addressing climate change by supporting basic scientific research, which has helped to bring the issue of climate change into the public domain and to raise awareness of future challenges;
- c) that a future high-bandwidth, lower-carbon information society offers a platform for economic, social and cultural development that is sustainable;
- d) that the adverse effects of climate change may be uneven in their impact and may fall disproportionately on the most vulnerable countries, mainly the developing countries¹, given their limited capacity to adapt;
- e) that ICTs contribute approximately 2 - 2.5 per cent of GHG emissions, which may grow as ICTs become more widely available;
- f) that ICTs can, however, be a major mitigating factor in efforts to moderate climate change and to limit and ultimately reduce GHG emissions through, for example, the development and introduction of energy-efficient devices, applications and networks;
- g) that the use of ICTs as a key component of energy-efficient work methods could include the reduction of emissions through, for example, paperless meetings, virtual conferencing, teleworking, etc, which in turn would be beneficial in terms of reducing the need to travel,

resolves

- 1 to continue and further develop the ITU-T work programme initially launched in December 2007 on ICTs and climate change, as a high priority, in order to contribute to the wider global efforts to moderate climate change, as part of the United Nations processes;
- 2 to take into account the progress already made in the international symposia on ICTs and climate change, held in Kyoto, Japan, 15-16 April 2008 and in London, United Kingdom, 17-18 June 2008, by distributing their outcomes as widely as possible;
- 3 to create, within ITU-T, a repository and knowledge base on the relationships between ICTs and climate change;
- 4 to promote the adoption of Recommendations for enhancing the use of ICTs to serve as a potent and cross-cutting tool to measure and reduce GHG emissions across economic and social activities;

¹ These include the least developed countries, small island developing states and countries with economies in transition.

5 to increase awareness and promote information sharing on the role of ICTs in combating climate change, in particular by promoting the use of more energy-efficient¹ devices and networks and more efficient working methods, as well as ICTs that can be used to replace or displace higher energy consuming technologies/uses;

6 to work towards the reductions in emissions of GHGs arising from the use of ICTs that are necessary to meet the goals of the United Nations Framework Convention on Climate Change (UNFCCC),

instructs the Telecommunication Standardization Advisory Group

1 to review the results of the Focus Group on ICTs and Climate Change and take appropriate actions in accordance with Resolution 22 of this assembly, including, for example, the identification of possible structural mechanisms and a lead study group, and to progress the work on this topic by encouraging the involvement of all ITU-T study groups;

2 to ensure that study groups carry out a review of both the appropriate existing ITU-T Recommendations and all future Recommendations to assess their implications and the application of best practices in the light of climate change;

3 to consider possible changes to working procedures in order to meet the objective of this resolution, including and extending the use of electronic working methods to reduce the climate change impact, such as paperless meetings, virtual conferencing, teleworking, etc.,

invites all ITU-T study groups

1 to develop appropriate Recommendations on climate-change issues within the mandate and competency of ITU-T, including telecommunication networks used for monitoring climate change, for example signalling and quality of service issues, taking into account any economic impact on all countries and in particular on developing countries;

2 to identify best practices and opportunities for new applications using ICTs to reduce the impact of climate change and to identify appropriate actions;

3 to commence such studies prior to the approval of the necessary Questions, taking into consideration the output of the Focus Group, in accordance with Resolution 1 of this assembly;

4 to liaise with the relevant ITU-R and ITU-D study groups and promote liaison with other standards development organizations in order to avoid duplication of work and to optimize the use of resources,

instructs the Director of the Telecommunication Standardization Bureau

1 to report on progress on the application of this resolution annually to the ITU Council and to the 2012 world telecommunication Standardization Assembly;

2 to establish a calendar of events relevant to ICTs and climate change based on proposals by TSAG and in close collaboration with the other two Sectors;

3 to organize, in close collaboration with the Directors of the Telecommunication Development (BDT) and Radiocommunication (BR) Bureaux, workshops and seminars for developing countries, to raise awareness and identify their needs in this domain, as they are the most vulnerable countries affected by climate change;

4 to report to TSAG on the progress regarding *invites the Secretary-General* below,

¹ With respect to efficiency, promotion of efficient use of materials used in ICT devices and network elements should also be a consideration.

invites the Secretary-General

1 to bring the content of this resolution to the attention of the Council and invite it to study the issue of climate neutrality for all ITU activities and take appropriate actions, taking into consideration the United Nations commitment to lead by example, to achieve climate-neutral status within three years;

2 to continue to cooperate and collaborate with other entities within the United Nations in formulating future international efforts for the effective addressing of climate change,

invites Member States, Sector Members and Associates

1 to continue to contribute actively to the ITU-T work programme on ICTs and climate change;

2 to continue or initiate public and private programmes that include ICTs and climate change, giving due consideration to relevant ITU-T Recommendations and relevant work;

3 to support and contribute to the wider United Nations process on climate change, such as the United Nations Climate Change conferences in Poznan, Poland (1-12 December 2008) and Copenhagen, Denmark (30 November-11 December 2009).

Signature de la Convention entre l'Union internationale des télécommunications (UIT) et l'Etat de Genève

Conférence de presse
23 septembre 2008, 15h30
Union internationale des télécommunications
Salle de conférence du Secrétariat général - Tour UIT - 14^e étage
(angle avenue Giuseppe Motta - chemin Louis-Dunant)

PROGRAMME

15h30 Allocution

*Docteur Hamadoun I. Touré, Secrétaire général
de l'Union internationale des télécommunications (UIT)*

Allocution

*Monsieur Mark Muller, conseiller d'Etat en charge
du département des constructions et des technologies de l'information (DCTI)*

15h50 Questions / réponses

CONTENU DU DOSSIER DE PRESSE

- Communiqué de presse
- Exemple (non signé) de la Convention («*Memorandum of Understanding*»)
- Exemple de l'annexe à la Convention («*Annex to the Memorandum of Understanding*»)

Genève, le 23 septembre 2008

Aux représentant-e-s des médias

(2 pages)

*Communiqué de presse conjoint
de l'Union internationale des télécommunications (UIT)
et du Département des constructions et des technologies de l'information (DCTI)*

**Signature d'une Convention entre
l'Union internationale des télécommunications (UIT)
et l'Etat de Genève**

Le conseiller d'Etat genevois Mark Muller, en charge du département des constructions et des technologies de l'information (DCTI), et Dr. Hamadoun I. Touré, Secrétaire général de l'Union internationale des télécommunications (UIT), ont signé ce cet après-midi une convention. Cette dernière vise à développer la collaboration entre l'Etat de Genève et l'agence spécialisée des Nations Unies en matière de technologies de l'information. Elle consistera principalement à échanger des informations sur l'évolution de ces technologies et sur leurs impacts potentiels sur la société.

Concrètement, l'Etat de Genève – plus spécifiquement l'Observatoire technologique (voir ci-dessous) – et l'UIT s'échangeront des informations sur l'évolution des nouvelles technologies et sur leurs impacts potentiels, tant sur la société de l'information que sur le développement social et économique. Ils coopéreront notamment sur plusieurs thématiques, telles que l'émergence et le futur des nouvelles technologies, leur rôle en matière de développement durable et de croissance économique, leurs bénéfices potentiels pour les usagers, ou encore l'émergence des technologies et des applications spécifiques à l'Internet.

Cette démarche, initiée par le DCTI, s'inscrit dans le contexte de la «Genève internationale» qui vise à renforcer les relations avec les diverses organisations internationales siégeant sur le canton. Elle permet par ailleurs à l'Etat de Genève de développer la qualité de ses projets liés aux technologies de l'information, tels que le déploiement de l'administration en ligne, ainsi que sa participation aux grandes manifestations *ITU TELECOM* ou à l'organisation du Sommet mondial sur la société de l'information (SMSI) qui s'est déroulé sur son territoire en 2003.

L'Union internationale des télécommunications (UIT) est une institution spécialisée des Nations Unies pour les technologies de l'information et de la communication. Elle représente un pôle de convergence mondial où se retrouvent pouvoirs publics et secteur privé. Elle mène ses principales activités dans les secteurs des radiocommunications, de la normalisation et du développement des télécommunications. L'UIT organise les manifestations *ITU TELECOM* et a été responsable de l'organisation du SMSI. Elle a son siège à Genève et compte 191 Etats membres et plus de 700 Membres de Secteur et Associés.

L'Observatoire technologique est rattaché au Centre des technologies de l'information (CTI) du DCTI. Cet organe veille à la convergence des solutions informatiques dans le respect des intérêts de l'Etat de Genève. Il apporte son soutien à l'exercice des métiers informatiques dans les domaines liés aux grands systèmes d'information de l'Etat; il organise enfin des rencontres avec divers partenaires, tels qu'organisations étatiques et para étatiques, milieux universitaires et de recherche, organisations internationales, entreprises privées, etc.

Le dossier de presse complet est disponible sur le site web officiel de l'Etat de Genève:

http://www.ge.ch/dcti/presse/2008-09-23_conf.pdf

Pour davantage d'informations:

- *M. Laurent Grosclaude, chargé de communication, DCTI, ☎ +41 (0)22 327 31 19;*
- *M. Alexander Ntoko, chef de la division de la stratégie institutionnelle, UIT, ☎ +41 (0)22 730 55 28.*



Memorandum of Understanding

between

the

INTERNATIONAL TELECOMMUNICATION UNION

an international organization and specialized agency

of the United Nations having its seat at

Place des Nations, CH-1211 Geneva 20, Switzerland

(hereinafter the “ITU”)

and the

OBSERVATOIRE TECHNOLOGIQUE

a structure that is part of the Republic and Canton of Geneva

having its office at

Rue du Grand-Pré 64-66, CH-1211 Genève 2, Switzerland

(hereinafter referred to as “OT”)

for Cooperation in the area of new and emerging Information and Communication Technologies

CONSIDERING

1. That the ITU was created with the objective of facilitating peaceful relations, international cooperation among peoples and economic and social development by means of efficient telecommunication services with the purpose – among others, of fostering international cooperation in the delivery of technical assistance to the developing countries to promote the development of their telecommunication networks and services, while taking into account the priority of telecommunications in securing human life;
2. That the purposes of the ITU include among others to promote the extension of the benefits of the new telecommunication technologies to the world's inhabitants.
3. That the achievement of the purposes of the ITU include, among others:
 - i. Maintaining and extending international cooperation for the improvement and rational use of information and communication infrastructure of all kinds, taking the appropriate leading role in the United Nations system initiatives in ICTs, as called for by the relevant WSIS outcomes.
 - ii. Disseminating information and know-how to provide membership and the wider community with capabilities to leverage the benefits of technological change in their ICT sector, and enhancing the capacity of ITU Member States, in particular, for innovations in ICTs.

AND CONSIDERING

4. That the mission of the Observatoire Technologique within the IT department of the Canton of Geneva is:
 - i. To develop technological, societal and strategic foresight for the Canton of Geneva with applications to its technology and information systems.
 - ii. To foster collaborative research partnerships with private enterprises, public administrations, para-public services, international organizations and academic centers among others.
 - iii. To provide strategic and technological expertise on the impact of ICT on society and its development.
5. That the Observatoire Technologique encourages the convergence of strategic and operational visions in order to stimulate professional development and information dissemination, while balancing vocational orientation and solution sharing.

Now, therefore, OT and ITU (hereinafter referred to collectively as the “Participants”) intend to cooperate as follows:

ARTICLE 1 - Objective

The objective of this MoU is to establish collaborative linkages between the Participants, in the area of foresight in technology and its impact on society, in accordance with the Participants’ prevailing rules and regulations and on the basis of mutual benefit. This MoU is a preliminary, non-binding statement of mutual intentions of the Participants. Any binding commitment or legal obligation with respect to the implementation of this MoU will require the execution of a separate and formal agreement between the Participants.

ARTICLE 2 - Joint Efforts

The Participants will continue to explore cooperation in the areas of:

- (a) Future and emerging information and communication technologies
- (b) The impact and potential of emerging technologies for the information society and for social and economic development;
- (c) The role of ICT in sustainable development and growth, user centred innovation, web technologies and applications.

ARTICLE 3 - Implementation of the MoU

In order to ensure an efficient implementation of the activities under this MoU, the following actions will be undertaken by the Participants:

- (a) Participants will designate points of contacts to coordinate activities related to this MoU;
- (b) after designation of the above-mentioned points of contacts, the Participants will meet when and as required, at their own expense, for further consultation and commencement of the cooperative activities.
- (c) reporting on the cooperative activities will be done in compliance with the respective rules, regulations or other authority of the Participants.

ARTICLE 4 – Assignment or Transfer to Third Parties

The responsibilities of the Participants under this MoU are not assignable or transferable to third parties.

ARTICLE 5 – Confidentiality

Any discussion or document related to this MoU and deemed confidential by the Participants will be governed by a stand-alone non-disclosure agreement to be signed by the Participants, as necessary.

ARTICLE 6 – Financial Arrangements

The Participants concur that they will each use their own funds or funding sources to perform their respective responsibilities under this MoU. This MoU does not, however, represent any commitment with regard to funding on the part of either Participant.

ARTICLE 7 – Settlement of Disputes

The Participants confirm that they will exercise good faith efforts to resolve any dispute between them arising from or in connection with this MoU through mutual negotiation and agreement and that no such dispute will be referred to a national or international tribunal or other third party for settlement.

ARTICLE 8 – Entry into Force, Modification and Termination

This MoU will enter into force on the date of its signature by the Participants and may only be modified with the mutual written consent of all Participants. This MoU may be terminated upon written notice to the other Participants and will terminate 60 days after receipt of such notice. No termination will affect contractual obligations already entered into by the Participants under this MoU.

ARTICLE 9 – Channel of Communication and Notice

For the purpose of facilitating the implementation of the working arrangements to be established by the Participants in the framework of this MoU, the channel of communication for the Participants will be:

International Telecommunication Union
Attention: Alexander NTOKO, Head, Corporate Strategy Division
International Telecommunication Union
Place des Nations
CH-1211 Geneva 20
Switzerland
Telephone: +41 22 730 5525
Fax: +41 22 730 6453

Observatoire technologique
M. Jean-Marie LECLERC
Directeur général du Centre des technologies de l'information
Rue du Grand-Pré 64-66
Case postale 2285
CH - 1211 Genève 2
Switzerland
Telephone: +41 22 388 13 50
Fax: +41 22 388 13 57

ARTICLE 10 – Privileges, Immunities and Facilities

By participating in this MoU, the ITU does not waive its privileges, immunities and facilities, which it enjoys by virtue of applicable international agreements and national laws.

IN WITNESS WHEREOF, the Participants hereto, have signed this MoU in two (2) originals in the English language.

For the République et Canton de Genève

For the International Telecommunication
Union

Mr. Mark Muller
Conseiller d'Etat

Dr. Hamadoun I. Touré
Secretary-General

Date: _____

Date: _____

Place: _____

Place: _____

1. OBJECTIVES

This cooperation aims to:

- Promote the respective strategies and missions of ITU and OT;
- Exchange viewpoints, research, information and intelligence on existing and future Information and Communication Technologies (ICTs), as well as other new and emerging technologies in general;
- Catalyze the development of fresh and innovative thinking and perspectives on trends in the evolution of ICTs and their impact on the development of the information society, especially in developing countries.
- Build further synergies in the gathering of information, news and knowledge of ICTs, such as the exchange of data, analysis, research and networking contacts current and upcoming experts in ICT and new technology in general and the development of content-rich resources on topics of common interest (see below);
- Promote concepts of global connectivity through innovative, new and *avant-garde* technologies to promote universal, ubiquitous and non-discriminatory access to information to promote development and bridge the digital divide.
- Examine more closely concepts of strategic importance to both ITU and OT (for example, convergence, next-generation networks, governance of information systems, cyber-education, among others) and their implications ITU Member states and developing countries in particular.
- Widen the respective publication bases of the ITU and OT through the development of thematic studies and short policy briefs on new and emerging technologies;
- Collaborate in high-level expert meetings on topics of common interest and shared mutual benefit for ITU and OT.

Specific ITU objectives (as identified in the Memorandum of Understanding):

- Disseminate information and know-how;
- Raise awareness amongst membership on emerging and future technologies in the telecommunication and ICT sector;
- Propose additions and revisions to the ITU work program and strategy based on these emerging trends and ICT evolution.

Specific OT objectives:

- Disseminate and valorize research, information and intelligence gathered by OT.
- Benefit from the expertise of ITU in the fields of standards and technology;
- Foster the relationships of the State of Geneva with the international organizations.

2. MAIN AREAS OF COOPERATION

The cooperation mainly covers **the impact and potential of emerging technologies (especially ICT) for the information society and social and economic development.** The cooperation may include the following (non-exhaustive) topics:

1. Future and emerging ICTs and other new technologies:

- Interfaces between and convergence in ICTs, biotechnology and nanotechnology;
- New and future computing technologies (grid computing, quantum computing, light computing and magneto-computing, among others).
- Nanotechnology (miniaturization, nanomaterials and fiber-optics, combined applications involving sensor technology, data storage and medical applications)
- Converged ICTs (e.g., Voice over Internet Protocol (VoIP), IP TV, and mobile Internet access technologies).

2. Sustainable development and economic growth:

- The role of ICTs in promoting sustainable environmental and energy strategies;
- ICTs and climate change – the role that ICTs play in contributing to global warming; monitoring and surveillance of climate change; and developing long-term solutions to mitigate and adapt to the effects of climate change and e-waste.
- Risk management – the role of ICTs in helping identify and mitigate new and significant sources of risk and shocks to the global economy (e.g. oil price shocks, instability in the financial system, rises in food and commodity prices, loss of arable land, weather instability, among others). This includes the use of ICTs as surveillance and monitoring technologies, as well as their use in trade and export for disintermediation and price information purposes
- Soft governance – the role of ICTs in promoting transparency and accountability in administration in both the public and private sectors, including new forms of e-government and e-governance.

3. User benefits of new technologies:

- Including new and improved interfaces, usability, accessibility and functionality. Aspects of key importance here include the rise of user-generated content and community-generated content and forms of online collaboration. It also includes broader considerations of privacy and identity rights management, ethics and the combat of fraudulent misuses of ICTs.

4. Emerging web technologies and applications:

- New and emerging trends in the future of the Internet, including Web 2.0 and the semantic web, social networking, peer-to-peer technologies, APIs and web applications, cybersecurity, governance and strategy issues

3. METHODS OF COOPERATION AND INFORMATION EXCHANGE

- The organization of an initial press conference and press release at the launch of the ITU/OT collaboration;
- Information exchange through meetings, electronic collaboration tools, newsletters, databases and other current methods;
- Presentations, workshops and networking sessions at respective events (ITU TELECOM 2009, Journée de Rencontre de l'OT, etc.);
- Joint reports, newsletters and websites;
- Cross-pollination with other OT partners.

4. DELIVERABLES

Primary deliverables include:

- Quarterly joint ITU/OT newsletter (4 to 10 pages) on topics mentioned above;
- Development of content for the background report on policy issues for WTPF (April '09).

Secondary deliverables, mainly built on the primary deliverables above, include:

- Specific web-based joint publications;
- Special area on respective websites (news, blog, etc.);
- ITU News magazine article on OT and common subjects of interest.

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Committee on the Peaceful

Uses of Outer Space

Fifty-first session

Vienna, 11-20 June 2008

Report of the Legal Subcommittee on its forty-seventh session, held in Vienna from 31 March to 11 April 2008

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I. Introduction

A. Opening of the session and election of the Chairman

1. The Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space held its forty-seventh session at the United Nations Office at Vienna from 31 March to 11 April 2008 under the chairmanship of Vladimír Kopal (Czech Republic), who was elected at the 765th meeting, on 31 March, for a two year term of office.

B. Adoption of the agenda

2. At its 765th meeting, the Legal Subcommittee adopted the following agenda:
 1. Opening of the session.
 2. Election of the Chairman.
 3. Adoption of the agenda.
 4. Statement by the Chairman.
 5. General exchange of views.
 6. Status and application of the five United Nations treaties on outer space.
 7. Information on the activities of international intergovernmental and non-governmental organizations relating to space law.
 8. Matters relating to:
 - (a) The definition and delimitation of outer space;
 - (b) The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.
 9. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space.
 10. Examination and review of the developments concerning the draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment.
 11. Capacity-building in space law.
 12. General exchange of information on national legislation relevant to the peaceful exploration and use of outer space.
 13. Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-eighth session.

C. Attendance

3. Representatives of the following States members of the Legal Subcommittee attended the session: Algeria, Argentina, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Burkina Faso, Canada, Chile, China, Colombia, Cuba, Czech Republic, Ecuador, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Kazakhstan, Lebanon, Libyan Arab Jamahiriya, Malaysia, Mexico, Morocco, Netherlands, Nigeria, Pakistan, Peru, Philippines, Poland, Portugal, Republic of Korea, Romania, Russian Federation, Slovakia, South Africa, Spain, Switzerland, Thailand, Turkey, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America, Venezuela (Bolivarian Republic of) and Viet Nam.

4. At the 765th meeting, on 31 March, the Chairman informed the Subcommittee that requests had been received from the Dominican Republic, Guatemala, the former Yugoslav Republic of Macedonia and Tunisia to attend the session as observers. The Subcommittee agreed that, since the granting of observer status was the prerogative of the Committee on the Peaceful Uses of Outer Space, it could take no formal decision on the matter, but representatives of those States might attend the formal meetings of the Subcommittee and could direct requests for the floor to the Chairman, should they wish to make statements.

5. The following organizations were represented at the session by observers: European Space Agency (ESA), European Space Policy Institute, International Academy of Astronautics (IAA), International Mobile Satellite Organization (IMSO), International Organization of Space Communications (Intersputnik), International Astronautical Federation, International Law Association (ILA) and Space Generation Advisory Council. The European Telecommunications Satellite Organization (EUTELSAT-IGO) attended the session and requested permanent observer status with the Committee (A/AC.105/C.2/2008/CRP.8).

6. A list of the representatives of States members of the Subcommittee and observers for States not members of the Subcommittee, intergovernmental organizations and other entities attending the session and members of the secretariat of the Subcommittee is contained in document A/AC.105/C.2/2008/INF/40 and Corr.1.

D. Organization of work

7. At the 765th meeting, on 31 March, the Chairman made a statement briefly describing the work to be undertaken by the Subcommittee at its forty-seventh session. The Chairman's statement is contained in an unedited verbatim transcript (COPUOS/Legal/T.765).

8. In accordance with decisions taken at its 765th meeting, the Legal Subcommittee organized its work as follows:

(a) The Subcommittee reconvened its Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, open to all members of the Subcommittee, and agreed that Vassilios Cassapoglou (Greece) should serve as its Chairman;

(b) The Subcommittee reconvened its Working Group on Matters Relating to the Definition and Delimitation of Outer Space, open to all members of the Subcommittee, and agreed that José Monserrat Filho (Brazil) should serve as its Chairman;

(c) The Subcommittee began its work each day with a plenary meeting to hear statements from delegations. It subsequently adjourned and, when appropriate, convened meetings of working groups.

9. At its 765th meeting, the Chairman proposed and the Subcommittee agreed that its work should continue to be organized flexibly with a view to making the best use of the available conference services.

10. The Subcommittee noted with satisfaction that a symposium entitled “Legal Implications of Space Applications for Global Climate Change”, organized by the International Institute of Space Law (IISL) and the European Centre for Space Law (ECSL) of ESA, had been held during the current session of the Subcommittee, on 31 March and 1 April. The symposium was coordinated by Corinne Jorgenson and Kai-Uwe Schrogl of IISL and Sergio Marchisio of ECSL. The symposium consisted of two sessions: session 1, entitled “Legal implications of space applications for global climate change: principles and rules”, was chaired by Peter Jankowitsch of the Austrian Aeronautics and Space Agency and session 2, entitled “Legal implications of space applications for global climate change: institutions and instruments”, was chaired by Sergio Marchisio of ECSL. The following presentations were made: “Legal features of the climate change convention: from Kyoto to Bali” by Gerhard Loibl, “Legal implications of space technologies applications for global climate change” by Jorge Lafourcade on behalf of Raimundo González Aninat, “Legal aspects of cooperation for space monitoring of climate change and sustainable development” by José Monserrat Filho, “Promoting access to, and exchange of, data and information related to climate change: the legal perspective” by Joanne Irene Gabrynowicz, “Coordination instruments and satellite observation of the climate system: the contribution of CEOS” by Evangelina Oriol Pibernat, “Monitoring the environment for climate change: the case of GMES” by Gisela Süß, “Monitoring the Kyoto Protocol: greenhouse gases observation and the global forest carbon monitoring system” by Masami Onoda and “Legal aspects of climate monitoring by means of treaty law” by Frans von der Dunk. Concluding remarks were made by Vladimír Kopal (Czech Republic). The papers and presentations delivered during the symposium were made available on the website of the Office for Outer Space Affairs of the Secretariat (<http://www.unoosa.org/oosa/COPUOS/Legal/2008/symposium.html>).

11. The Subcommittee welcomed the fact that IISL would prepare the proceedings of the symposium for distribution to member States of the Committee on the Peaceful Uses of Outer Space.

12. The Legal Subcommittee recommended that its forty-eighth session should be held from 23 March to 3 April 2009.

E. Adoption of the report of the Legal Subcommittee

13. The Legal Subcommittee held a total of 18 meetings. The views expressed at those meetings are contained in unedited verbatim transcripts (COPUOS/Legal/T.765-782).

14. At its 782nd meeting, on 11 April 2008, the Subcommittee adopted the present report and concluded the work of its forty-seventh session.

II. General exchange of views

15. Statements were made by representatives of the following States members of the Legal Subcommittee during the general exchange of views: Austria, Belgium, Brazil, Canada, Chile, China, Colombia, Czech Republic, Ecuador, France, Germany, Greece, India, Indonesia, Iran (Islamic Republic of), Italy, Japan, Malaysia, Morocco, Netherlands, Nigeria, Pakistan, Poland, Republic of Korea, Russian Federation, Spain, South Africa, Thailand, Ukraine, United States and Viet Nam. A statement was also made by the observer for EUTELSAT-IGO. The views expressed by those speakers are contained in unedited verbatim transcripts (COPUOS/Legal/T.765-769).

16. The Legal Subcommittee welcomed the election of Vladimír Kopal (Czech Republic) as its new Chairman and expressed its gratitude to the outgoing Chairman, Raimundo González Aninat (Chile), for his leadership and contributions in furthering the achievements of the Subcommittee during his two-year term.

17. At the 765th meeting, on 31 March, the new Director of the Office for Outer Space Affairs, Mazlan Othman, made a statement reviewing the role and work of the Office relating to space law. The Subcommittee noted with appreciation the activities of the Office aimed at promoting understanding of, and adherence to, the international legal regime.

18. The Subcommittee welcomed with satisfaction the adoption by the General Assembly of resolution 62/101 of 17 December 2007, entitled "Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects", and the endorsement by the Assembly, in its resolution 62/217 of 22 December, of the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space.¹

19. The view was expressed that, as the Guidelines concerned the mitigation of future space debris, arrangements for the mitigation of existing space debris should take into consideration the principle of common but differentiated responsibilities, so that those States whose activities had created the existing space debris and States that had space capabilities should contribute significantly to debris mitigation efforts.

20. The view was expressed that, in order to build a more secure and accessible space environment, the Committee on the Peaceful Uses of Outer Space should consider developing guidelines for space traffic management.

¹ *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20 (A/62/20)*, paras. 117 and 118 and annex.

21. The Subcommittee was informed that, on 20 February 2008, the United States had successfully intercepted USA 193, an inoperable satellite of the National Reconnaissance Office of the United States, and that almost all of the resultant space debris from the engagement had fallen to Earth and had not survived re-entry. The Subcommittee was also informed about the notifications made prior to and after the engagement and that there were no plans to adapt any technology from that extraordinary effort for use on any current or planned weapon system.
22. The view was expressed that the success of the Subcommittee in its work could be attributed to its ability to focus on practical problems and to seek to address any such problems via a consensus-based and result-oriented process.
23. The view was expressed that in considering legal aspects of the uses of outer space, the Subcommittee should endeavour to contribute to enhancing the development goals identified in the United Nations Millennium Declaration (General Assembly resolution 55/2).
24. Some delegations expressed the view that, in responding to the challenges and opportunities posed by the international community's increased reliance on outer space, links between the Committee on the Peaceful Uses of Outer Space and other United Nations entities having an interest in outer space, including the Conference on Disarmament and the International Telecommunication Union (ITU), should be strengthened.
25. Some delegations expressed the view that there was a particular deficiency in the current legal regime governing outer space relating to the possible introduction of weapons into outer space, which required both the conclusion of new treaties aimed at eliminating that deficiency and the strengthening of the current regime to maintain the use of outer space for peaceful purposes.
26. The view was expressed that the transfer of space technology would increase the level of participation of developing countries in space activities and serve as an incentive for such countries to adhere to the United Nations treaties on outer space.
27. The Subcommittee noted that a meeting had been held in Quito on 13 and 14 December 2007 and that it had been attended by representatives of the Governments of Colombia, Ecuador and Guatemala, as well as of the Office for Outer Space Affairs and the International Group of Experts of the Space Conferences of the Americas. The meeting had resulted in a set of recommendations for the execution of the Action Plan of the Fifth Space Conference of the Americas, including prospects for the further development of regional coordination and cooperation in space activities and space law.
28. The Subcommittee also noted the important role played by other initiatives in building regional and international partnerships among States, such as the 2008 International Air and Space Fair, held in Santiago from 31 March to 6 April, during which a conference had been organized on space technology and climate change in relation to achieving the Millennium Development Goals (A/56/326, annex); the fourteenth session of the Asia-Pacific Regional Space Agency Forum, held in Bangalore, India, in November 2007; and the fifteenth session of the Forum, to be held in Hanoi in December 2008.
29. The Subcommittee noted that the Pro Tempore Secretariat of the Fifth Space Conference of the Americas had held consultations with members of the

International Group of Experts of the Space Conference of the Americas during the 2008 International Air and Space Fair and that it had decided to convene a second meeting of the International Group of Experts in conjunction with a seminar on space law for development and human security, to be held in Ecuador on 24 and 25 July 2008.

30. The Subcommittee observed a minute of silence in tribute to Sir Arthur C. Clarke, a pioneer in the field of space, who had passed away on 19 March 2008.

III. Status and application of the five United Nations treaties on outer space

31. The Legal Subcommittee recalled that the General Assembly, in its resolution 62/217, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Subcommittee should consider the agenda item on the status and application of the five United Nations treaties on outer space as a regular item and had noted that the Subcommittee at its forty-seventh session would reconvene its Working Group on the item and would review the need to extend the mandate of the Working Group beyond that session.

32. The Subcommittee noted with appreciation that the Secretariat had distributed a revised version of the *United Nations Treaties and Principles on Outer Space and Related General Assembly Resolutions* (ST/SPACE/11/Rev.2), including the text of Assembly resolution 1721 A (XVI) of 20 December 1961; paragraph 4 of Assembly resolution 55/122 of 8 December 2000, in which the Assembly had noted with satisfaction the agreement reached by the Subcommittee, at its thirty-ninth session, on the question of the character and utilization of the geostationary orbit and a paper entitled "Some aspects concerning the use of the geostationary orbit" (A/AC.105/738, annex III); and the text of Assembly resolution 62/101.

33. The Subcommittee noted with satisfaction that the Secretariat had distributed an updated document containing information, as at 1 January 2008, on States parties and additional signatories to the United Nations treaties and other international agreements relating to activities in outer space (ST/SPACE/11/Rev.2/Add.1).

34. The Subcommittee noted that, as at 1 January 2008, the status of the five United Nations treaties on outer space was as follows:

(a) The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies² had 98 States parties and had been signed by 27 additional States;

(b) The Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space³ had 90 States parties and had been signed by 24 additional States;

² United Nations, *Treaty Series*, vol. 610, No. 8843.

³ *Ibid.*, vol. 672, No. 9574.

(c) The Convention on International Liability for Damage Caused by Space Objects⁴ had 86 States parties and had been signed by 24 additional States;

(d) The Convention on Registration of Objects Launched into Outer Space⁵ had 51 States parties and had been signed by 4 additional States;

(e) The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies⁶ had 13 States parties and had been signed by 4 additional States.

35. The Subcommittee welcomed the accession by Turkey to the Liability Convention, the ratification by Turkey of the Rescue Agreement and the accession by Algeria to the Registration Convention, as well as reports from Member States regarding their progress towards becoming parties to the five United Nations treaties on outer space.

36. The Subcommittee noted with appreciation that in 2007 a number of States had concluded bilateral and multilateral agreements promoting broad international cooperation with regard to the conduct of space activities.

37. The Subcommittee noted that a number of States were developing national mechanisms for the registration of space objects. In that regard, the Subcommittee noted with satisfaction the positive impact that General Assembly resolution 62/101 was already having on enhancing registration practices.

38. Some delegations expressed the view that the United Nations treaties on outer space constituted a coherent and useful framework for increasingly widespread and complex outer space activities of both governmental and private entities. Those delegations welcomed further adherence to the treaties and hoped that States that had not yet ratified or acceded to those treaties would consider becoming parties to them.

39. Other delegations expressed the view that, although the provisions and principles of the United Nations treaties on outer space constituted the regime to be observed by States and more States should be encouraged to adhere to them, the current legal framework for outer space activities required modification and further development in order to keep pace with advances in space technology, changes in the nature of space activities and the increase in the volume of such activities. Those delegations expressed the view that the lacunae resulting from the current legal framework could be addressed by the development of a universal, comprehensive convention on space law without disrupting the fundamental principles contained in the treaties currently in force.

40. Some delegations expressed the view that it was important to continue efforts towards universal acceptance of the international legal regime governing activities in outer space, taking into account the need to identify new areas that might require regulation and that could be addressed by developing complementary instruments.

41. The view was expressed that the development of a comprehensive convention on space law would be based on the principle of the sovereign equality of Member

⁴ Ibid., vol. 961, No. 13810.

⁵ Ibid., vol. 1023, No. 15020.

⁶ Ibid., vol. 1363, No. 23002.

States set out in article 2, paragraph 1, of the Charter of the United Nations and reiterated in General Assembly resolution 1348 (XIII) of 13 December 1958, entitled “Question of the peaceful use of outer space”.

42. Some delegations expressed satisfaction with the fact that issues related to the low rate of participation of States in the Moon Agreement had started to be considered, as there was a need for adequate and timely regulation of activities relating to the Moon in view of the extensive exploration of the Moon planned by several space-faring countries. Those delegations were open to a revision of the Moon Agreement, if necessary, and drew the attention of the Subcommittee to the precedent-setting value of the law of the sea and other international legal regimes dealing with areas beyond national jurisdiction.

43. At its 765th meeting, on 31 March, the Subcommittee reconvened its Working Group on the Status and Application of the Five United Nations Treaties on Outer Space under the chairmanship of Vassilios Cassapoglou (Greece). The Working Group held seven meetings. At its 779th meeting, on 9 April, the Subcommittee endorsed the report of the Working Group, contained in annex I to the present report.

44. The Subcommittee endorsed the recommendation that the mandate of the Working Group be extended for one additional year. It was agreed that the Subcommittee, at its forty-eighth session, in 2009, would review the need to extend the mandate of the Working Group beyond that period.

45. The full text of the statements made by delegations during the discussion on agenda item 6 is contained in unedited verbatim transcripts (COPUOS/Legal/T.767-772 and 779).

IV. Information on the activities of international intergovernmental and non-governmental organizations relating to space law

46. The Legal Subcommittee recalled that the General Assembly, in its resolution 62/217, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Subcommittee should consider, as a regular item of its agenda, an item entitled “Information on the activities of international intergovernmental and non-governmental organizations relating to space law”. The Subcommittee noted with satisfaction that various international organizations had been invited by the Secretariat to report to it on their activities relating to space law. The Subcommittee agreed that, for its forty-eighth session, the Secretariat should extend a similar invitation.

47. The Subcommittee had before it a note by the Secretariat (A/AC.105/C.2/L.270 and Add.1) containing information on activities relating to space law received from the following international organizations: ECSL, IISL, ILA and Intersputnik.

48. The Subcommittee was of the view that the activities of international intergovernmental and non-governmental organizations relating to space law were important and had contributed significantly to the development of space law. International intergovernmental organizations had an important role to play in

strengthening the legal framework applicable to space activities and should consider taking steps to encourage their members to adhere to the outer space treaties. Several of the treaties contained mechanisms permitting international intergovernmental organizations conducting space activities to declare their acceptance of the rights and obligations under those treaties.

49. The Subcommittee expressed its appreciation to IISL and ECSL for organizing the symposium entitled “Legal Implications of Space Applications for Global Climate Change”. Some delegations noted the wide range of potential legal implications of the use of space applications to address climate change. The Subcommittee agreed that IISL and ECSL should be invited to hold another symposium on space law at its forty-eighth session.

50. The Subcommittee took note of the report by IAA on its space-related activities, which included information on studies undertaken and conferences held worldwide on a broad range of issues that could be of further relevance to the Subcommittee. The Subcommittee noted that IAA had held the First IAA African Regional Conference entitled “Space for Africa: Path to Knowledge and Development”, in Abuja from 3 to 5 December 2007. The Conference had promoted the engagement of IAA members and their interaction with States not participating regularly in such international meetings. The Subcommittee noted with satisfaction that IAA had decided to organize such a conference in Africa on an annual basis.

51. The Subcommittee took note of the information submitted by IMSO on its activities relating to space law (A/AC.105/C.2/2008/CRP.13) and noted that most member States of IMSO had ratified both the Outer Space Treaty and the Registration Convention and that the issue of declaring acceptance of the rights and obligations under those treaties could be raised at the next IMSO assembly, in September 2008. The Subcommittee noted with appreciation the contributions that the previous Director of IMSO, Jerzy Vonau, had made to the work of the Subcommittee during the preceding eight years.

52. The Subcommittee took note of the information received from Intersputnik on its activities relating to space law, contained in a note by the Secretariat (A/AC.105/C.2/L.270). According to that information, the phase-by-phase privatization of Intersputnik was continuing, through the establishment of a group of companies that took care of the bulk of the core business of the organization. In November 2007, the Intersputnik Operations Committee had approved amendments to the operating agreement of the organization, which was to be submitted to the Board of Intersputnik for approval at its next session in April 2008. That process would complete efforts to revise and update the regulatory structure and regulatory documents of Intersputnik.

53. The Subcommittee noted the statement made by the observer for ESA on the activities of that agency relating to space law in 2007, which included lectures by ESA staff members on legal implications of space activities and the publication of studies on various aspects of space law, such as human spaceflight and space exploration programmes, satellite navigation, launching policies, international space agreements, institutional aspects of space activities, commercial space activities, the legal aspects of space debris and national legislation governing space activities.

54. The Subcommittee took note of the information received from ILA on its most recent contributions relating to space law, contained in a note by the Secretariat

(A/AC.105/C.2/L.270). It was noted that, at the 73rd ILA Conference, to be held in Rio de Janeiro, Brazil, in August 2008, the ILA Space Law Committee would report on remote sensing, national space legislation, registration issues, the legal aspects of space debris and the settlement of disputes related to space activities. Special attention would be drawn to the use of satellite data in national and international litigation and its value as evidence in court proceedings. The ILA Study Group on the Responsibility of International Organizations, which was working closely with the International Law Commission, would also be meeting in the framework of the 73rd ILA Conference. The Legal Subcommittee would be kept informed of the progress of the work of the Study Group.

55. The Subcommittee took note of information received from ECSL and IISL, contained in a note by the Secretariat (A/AC.105/C.2/L.270 and Add.1), on their most recent contributions to space law, including through the organization of relevant regional and global conferences and workshops.

56. The full text of the statements made by delegations during the discussion on agenda item 7 is contained in unedited verbatim transcripts (COPUOS/Legal/T.767-772).

V. Matters relating to the definition and delimitation of outer space and the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union

57. The Legal Subcommittee recalled that the General Assembly, in its resolution 62/217, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Subcommittee at its forty-seventh session, taking into account the concerns of all countries, in particular those of developing countries, should consider, as a regular agenda item, "Matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union".

58. The Subcommittee had before it the following:

(a) Note by the Secretariat entitled "Questionnaire on possible legal issues with regard to aerospace objects: replies from member States" (A/AC.105/635 and Add.1-16, Add.7/Corr.1 and Add.11/Corr.1);

(b) Note by the Secretariat entitled "National legislation and practice relating to definition and delimitation of outer space" (A/AC.105/865 and Add.1-3);

(c) Note by the Secretariat entitled "Questions on the definition and delimitation of outer space: replies from Member States" (A/AC.105/889 and Add.1);

(d) Conference room paper entitled “Questionnaire on possible legal issues with regard to aerospace objects: reply from Azerbaijan” (A/AC.105/C.2/2008/CRP.4);

(e) Conference room paper entitled “Questions on the definition and delimitation of outer space: reply from Azerbaijan” (A/AC.105/C.2/2008/CRP.5);

(f) Conference room paper entitled “Questions on the definition and delimitation of outer space: reply from Brazil” (A/AC.105/C.2/2008/CRP.10).

59. Some delegations were of the view that scientific and technological progress, the commercialization of outer space, emerging legal questions and the increasing use of outer space in general had made it necessary for the Subcommittee to consider the question of the definition and delimitation of outer space.

60. Some delegations were of the view that the lack of a definition or delimitation of outer space created legal uncertainty concerning the applicability of space law and air law and that matters concerning State sovereignty and the boundary between air space and outer space needed to be clarified in order to reduce the possibility of disputes among States.

61. The view was expressed that progress in the definition and delimitation of outer space could be achieved through cooperation with the International Civil Aviation Organization.

62. The view was expressed that, because of the absence of a definition and delimitation of outer space in international law, States might be inclined to establish the definition and delimitation of outer space in their national legislations, which could possibly lead to the creation of different legal norms in that regard. That delegation was of the view that, in the absence of any positive results emanating from the Committee, there was a potential risk that the issue might be dealt with by other international bodies for their own purposes, thus prejudicing a legal solution.

63. The view was expressed that the definition and delimitation of outer space could be necessary for determining the scope of application of air law and space law. That delegation was of the view that certainty in the application of space law would encourage Member States to accede to the United Nations treaties on outer space.

64. The view was expressed that the establishment of a definition and delimitation of outer space would create certainty in the sovereignty of States over their air space and would also enable the effective application of the principles of the freedom of use of outer space and of non-appropriation of outer space. That delegation was of the view that the definition and delimitation of outer space was linked to the definition of space objects.

65. The view was expressed that there was no need to seek a legal definition or delimitation of outer space, as the current framework presented no practical difficulties to space activities.

66. The view was expressed that there was no need for a definition and delimitation of outer space from a legal perspective and that the delimitation of outer space had already been defined from the perspective of natural sciences.

67. The view was expressed that if member States failed to give clear-cut criteria for delimitation, a special regime or zone between airspace and outer space should be explored.

68. The view was expressed that the question of the definition and delimitation of outer space was linked to the issues of the management of space resources, the protection of the environment, the use of frequencies and the monitoring of the purposeful destruction of satellites.

69. The view was expressed that the geostationary orbit, as a limited natural resource clearly in danger of saturation, must be used rationally, efficiently, economically and equitably. That principle was deemed fundamental to safeguarding the interests of developing countries and countries with a certain geographical position, as set out in article 44, paragraph 196.2, of the Constitution of the International Telecommunication Union, as amended by the Plenipotentiary Conference held in Minneapolis, United States of America, in 1998.

70. The view was expressed that the evident saturation of the geostationary orbit required that the social, political and legal interests and concerns of States be adequately addressed in order to avoid discriminatory practices safeguarding solely the interests of technologically advanced countries and to ensure consistency with the United Nations Millennium Declaration and its objectives.

71. Some delegations expressed the view that the geostationary orbit was a limited natural resource with sui generis characteristics that risked saturation and that equitable access to it should therefore be guaranteed for all States, taking into account in particular the needs of developing countries and the geographical position of certain countries.

72. Some delegations were of the view that access to the geostationary orbit should be provided to States on equitable conditions, taking into account, in particular, the needs and interests of developing countries.

73. Some delegations were of the view that the geostationary orbit was an integral part of outer space and that, therefore, its use should be governed by the provisions of the United Nations treaties on outer space and the ITU regulations.

74. The view was expressed that the provisions of articles I and II of the Outer Space Treaty made it clear that a party to the Treaty could not appropriate outer space or any part thereof, such as an orbital location in the geostationary orbit, either by claim of sovereignty or by means of use, even repeated use, or by any other means.

75. The view was expressed that outer space should be viewed as the province of all humankind, that all States should be able to benefit from its use and, in that context, that the rational and equitable use of the geostationary orbit should be ensured for all States.

76. The Subcommittee noted the information provided by the United States on its actions to further the use of the geostationary orbit and other uniquely situated orbits, such as the free provision of the signal from the Global Positioning System, information from the polar meteorological satellites of the National Oceanic and Atmospheric Administration of the United States and data from the Geostationary Operational Environmental Satellites. The Subcommittee also noted the cooperation

of Canada, France, the Russian Federation and the United States in the International Satellite System for Search and Rescue (COSPAS-SARSAT).

77. Some delegations expressed their satisfaction with the recommendation made by the Subcommittee at its thirty-ninth session that, where coordination was required among countries with a view to the utilization of the geostationary orbit, the countries concerned should take into account the fact that access to that orbit must take place, *inter alia*, in an equitable manner and according to the ITU Radio Regulations (A/AC.105/738, annex III, para. 8 (a)).

78. The Subcommittee noted with satisfaction that the ITU World Radiocommunication Conference held in 2007 had decided, in accordance with the principle of due diligence, to revise the application of the basic principles of article 44 of the ITU Constitution in the light of the recommendations made by the Legal Subcommittee at its thirty-ninth session and, pursuant to article 12 of the ITU Constitution, to conduct studies on ways to quantify and analyse the application of those principles.

79. The view was expressed that the Subcommittee should continue its debate on the use of the geostationary orbit with a view to identifying further common ground and mindful of the unique nature of that limited natural resource. In that connection, the view was also expressed that ITU should participate more in the activities of the Committee on the Peaceful Uses of Outer Space and its subsidiary bodies.

80. The view was expressed that in view of the rapid evolution of satellite technologies the Subcommittee could also consider the use of other Earth orbits.

81. At its 765th meeting, the Legal Subcommittee reconvened its Working Group on the Definition and Delimitation of Outer Space under the chairmanship of José Monserrat Filho (Brazil). In accordance with the agreement reached by the Subcommittee at its thirty-ninth session and endorsed by the Committee on the Peaceful Uses of Outer Space at its forty-third session, the Working Group was convened to consider only matters relating to the definition and delimitation of outer space.

82. The Working Group on the Definition and Delimitation of Outer Space held three meetings. At its 781st meeting, on 10 April, the Subcommittee endorsed the report of the Working Group, contained in annex II to the present report.

83. The full text of the statements made by delegations during the discussion on agenda item 6 is contained in unedited verbatim transcripts (COPUOS/Legal/T.771-775 and 781).

VI. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space

84. The Legal Subcommittee recalled that the General Assembly, in its resolution 62/217, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Subcommittee, at its forty-seventh session, taking into account the concerns of all countries, in particular those of developing countries, should consider the review and possible revision of the Principles

Relevant to the Use of Nuclear Power Sources in Outer Space (Assembly resolution 47/68) as a single issue/item for discussion.

85. The Legal Subcommittee noted with satisfaction the progress made by the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space at its forty-fifth session in considering the use of nuclear power sources (NPS) in outer space and working to achieve consensus on an international, technically based framework of goals and recommendations for the safety of NPS applications in outer space.

86. The Legal Subcommittee noted the progress in, and positive benefits of, the cooperation of the Joint Expert Group of the Scientific and Technical Subcommittee and the International Atomic Energy Agency in the development of an international safety framework for the use of NPS in outer space. Such efforts could set a good example of inter-institutional cooperation to be encouraged in the future.

87. Some delegations expressed the view that a revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space was not warranted at that time.

88. Some delegations expressed the view that the Legal Subcommittee should consider revising the Principles.

89. The view was expressed that discussion of the review and possible revision of the Principles was closely dependent on the work of the Scientific and Technical Subcommittee on the use of NPS in outer space, as well as on information to be presented to the Committee by the Joint Expert Group.

90. The view was expressed that the Principles should be reviewed and revised with a view to accommodating new demands. That delegation was of the view that the use of NPS should be limited to deep-space missions, given the real risk of a collision between space debris and space objects with NPS.

91. The view was expressed that it was important to adhere rigorously to safety standards when using NPS in outer space.

92. The Legal Subcommittee agreed that it was necessary to continue examining the issue and that the item should remain on its agenda.

93. The full text of the statements made during the discussions on agenda item 9 is contained in unedited verbatim transcripts (COPUOS/Legal/T.770-774).

VII. Examination and review of the developments concerning the draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment

94. The Legal Subcommittee recalled that the General Assembly, in its resolution 62/217, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Subcommittee at its forty-seventh session should consider, as a single issue/item for discussion, the examination and review of the developments concerning the draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment.

95. At the 773rd meeting of the Subcommittee, on 4 April 2008, the Chairman of the committee of governmental experts for the preparation of the draft space assets protocol of the International Institute for the Unification of Private Law (Unidroit) read a statement from Unidroit to the Subcommittee on developments concerning that draft protocol.

96. The Subcommittee noted that the following two major developments had taken place since its forty-sixth session: (a) the second meeting on the views of industry and Government on how best to finalize the expansion of the Convention on International Interests in Mobile Equipment to cover space assets, held in New York on 19 and 20 June 2007, had reached the significant conclusion that the substantial intersessional work accomplished on the key outstanding issues constituted a sound basis for an early resumption of the intergovernmental consultation process; and (b) prior to the reconvening of the Unidroit committee of governmental experts, there had been an increase in the awareness that it would be essential to build consensus around the important conclusions reached at the New York meeting.

97. The Subcommittee also noted that the principal conclusion reached at the New York meeting concerned the sphere of application of the draft space assets protocol. In that connection, it was decided that the sphere of application should be limited essentially to the satellite itself.

98. The Subcommittee was informed of the intention of Unidroit to take the process forward, in a timely fashion, on the basis of the provisional conclusions reached at the New York meeting and to establish a new steering committee, comprising representatives of Governments and of the international commercial space, financial and insurance communities that had participated in the intersessional meetings.

99. The Subcommittee was informed that the new steering committee would be launched at a meeting to be held in Berlin from 7 to 9 May 2008. The principal aims of the meeting would be to consider drafting solutions to implement the provisional conclusions reached in New York and to consider the most appropriate means of building the necessary consensus around those conclusions.

100. The Subcommittee thanked Unidroit for the comprehensive report.

101. Some delegations expressed their support for the progress made on the draft space assets protocol and looked forward to the continuation and successful completion of the drafting process.

102. Some delegations expressed the view that the draft space assets protocol offered an opportunity to facilitate the expansion of the commercial space sector by setting up a framework through which States could support a system of asset-based financing. Those delegations were of the view that the draft protocol would allow a broader range of States, in all regions and at all levels of economic development, to benefit from that expansion by providing a better opportunity to acquire interests in space equipment and to acquire services generated from space equipment.

103. Some delegations expressed the view that the future space assets protocol was intended to address only the distinct and important issue of financing for commercial space activities and was not intended to affect the rights and obligations of parties to the United Nations treaties on outer space or the rights and obligations of States members of ITU under its Constitution, Convention and Radio Regulations

and that that principle would be explicit in the text of any space assets protocol. Those delegations also expressed the view that while the draft space assets protocol would ultimately be negotiated by States members of Unidroit through the Unidroit process, that process had already included many States members of the Subcommittee and considered requests from States not members of Unidroit who wished to attend.

104. The view was expressed that implementation of the future protocol must not affect the orbital slots and frequency spectrum bands allocated to States in accordance with the established rules of ITU because it was possible that, in the case of default, the financier taking control of the space asset might seek to make use of those orbital slots and the frequency spectrum band.

105. The view was expressed that the draft space assets protocol was a good example of efforts being made to find a solution to the deficiencies in the existing United Nations treaties on outer space without compromising the interests safeguarded in those treaties. That delegation expressed the view that private and commercial space activities should be regulated.

106. The view was expressed that a major unresolved issue concerned the competence of national courts to enforce judicial decisions on matters related to outer space.

107. The Subcommittee expressed its satisfaction with the participation of the Office for Outer Space Affairs as an observer in the negotiating sessions of Unidroit and agreed that the Office should continue participating in those sessions.

108. The Subcommittee agreed that the item should remain on the agenda of its forty-eighth session, in 2009.

109. The full text of statements made by delegations during the discussion on agenda item 10 is contained in unedited verbatim transcripts (COPUOS/Legal/T.773-776).

VIII. Capacity-building in space law

110. The Subcommittee recalled that the General Assembly, in its resolution 62/217, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Legal Subcommittee, at its forty-seventh session, should consider capacity-building in space law as a single issue/item for discussion.

111. The Subcommittee had before it the following:

(a) Report on the United Nations Expert Meeting on Promoting Education in Space Law, held in Vienna on 3 and 4 December 2007 (A/AC.105/908);

(b) Conference room paper entitled "Education opportunities in space law: a directory" (A/AC.105/C.2/2008/CRP.3).

112. The Subcommittee agreed that capacity-building, training and education in space law were of paramount importance to international, regional and national efforts to further develop space activities and to increase knowledge of the legal framework within which space activities were carried out.

113. The Subcommittee emphasized its important role in building capacity in space law. It was noted that the general exchange of information on national legislation relevant to the peaceful exploration and use of outer space, the subject of deliberations under agenda item 12, enabled representatives participating in the session to enhance their knowledge of the various legal frameworks at the national level for conducting activities in outer space.

114. The Subcommittee noted that in order to successfully build capacity in space law, it was necessary to address the following matters: education; research and development; and dissemination of information. Addressing those matters would enable Member States to put in place the foundation necessary for the universal and informed application of the existing international legal regime governing the activities of States in outer space and on the further development of the regime.

115. The Subcommittee noted with appreciation that a number of national, regional and international efforts were being undertaken to build capacity in space law, including efforts by the African Leadership Conference on Space Science and Technology for Sustainable Development, the Space Conference of the Americas, the Asia-Pacific Space Cooperation Organization and the regional centres on space science and technology education, affiliated to the United Nations.

116. The Subcommittee was informed about the international conference on capacity-building in space law to be held in Kyiv in June 2008, on the occasion of the tenth anniversary of the agreement signed by the Russian Federation and Ukraine on the foundation of the International Center for Space Law. The delegation of Ukraine invited all interested delegations to take part in the conference.

117. The Subcommittee also noted with appreciation the contribution made by governmental and non-governmental entities and institutions to existing initiatives to promote capacity-building in space law.

118. The Subcommittee noted that several international non-governmental organizations were playing an important role in building capacity and promoting knowledge in space law.

119. The Subcommittee noted with satisfaction that the next United Nations workshop on space law, to be organized by the Office for Outer Space Affairs for the benefit of countries in Asia and the Pacific and co-sponsored by the Government of Thailand and ESA, would be held in Thailand from 24 to 27 November 2008.

120. In that regard, the Subcommittee noted that the series of workshops on space law organized by the Office for Outer Space Affairs served as a useful forum in which experts and authorities could share views, knowledge and experiences related to the further development of both international and national space law.

121. The Subcommittee noted with appreciation that, in response to its request at its forty-sixth session, the Office for Outer Space Affairs had organized in Vienna in December 2007 an expert meeting on promoting education in space law (A/AC.105/908).

122. The Subcommittee took note of the recommendations and conclusions contained in the report of the Expert Meeting on Promoting Education in Space Law (A/AC.105/908, paras. 8-11) and expressed its appreciation to the educators and the representatives of the regional centres on space science and technology education,

who were continuing to develop a draft curriculum for a basic course on space law by electronic means and, when possible, by meeting at the sidelines of other international space-related meetings.

123. The Subcommittee recommended that, in developing the curriculum for a basic course on space law, consideration should be given to its usefulness to other educational institutions and training initiatives. The Subcommittee also noted that the draft curriculum would be widely circulated for comment prior to its finalization.

124. The view was expressed that additional resources would be needed if the regional centres on space science and technology education were to serve as a conduit for capacity-building in space law.

125. The Subcommittee noted with satisfaction that, in response to its request at its forty-sixth session, the Office for Outer Space Affairs had updated the directory of education opportunities in space law (A/AC.105/C.2/2008/CRP.3), including information on available fellowships and scholarships. The Subcommittee noted with appreciation that three new educational institutions had submitted information on their courses in space law. The Subcommittee welcomed the fact that the Office would continue to explore ways and means of improving the directory.

126. The Subcommittee noted with appreciation the continued role of the Office for Outer Space Affairs in providing legal advisory services on space law and legal issues relating to activities in outer space, as well as the efforts of the Office to strengthen cooperation with space law entities and organizations, with a view to contributing to international and regional efforts to promote understanding and the development of space law.

127. The Subcommittee also noted with appreciation that the Office for Outer Space Affairs had participated in other initiatives to build capacity in space law, including the Sixteenth ECSL Summer Course on Space Law and Policy, held in Noordwijk, the Netherlands, from 3 to 15 September 2007, and the workshop on space law organized by the Iranian Space Agency in Tehran on 17 and 18 November 2007.

128. The Subcommittee noted that capacity in space law, particularly in developing countries, could be strengthened further by:

(a) The introduction of air and space law modules in the general international law courses of national educational institutions;

(b) The creation of regional and international space law information networks and partnerships;

(c) The creation of a database of experts working in the field of space law;

(d) The dissemination, through the Internet, of reports, studies, papers, articles, reviews and other reference resources relating to space law that were in the public domain;

(e) The updating of the publication *International Agreements and Other Available Legal Documents Relevant to Space-Related Activities*, prepared by the Office for Outer Space Affairs;

(f) The development of a short online course on space law;

(g) The establishment of a fellowship programme providing financial support to enable young professionals to pursue further education in space law;

(h) The establishment of training opportunities with organizations and institutions working in space-related areas to enhance the capabilities and increase the experience of young professionals, particularly from developing countries, in the field of space law;

(i) The creation of programmes for exchanges between educational institutions to facilitate training in other countries while reducing the costs associated with international travel;

(j) The development of a strategy to help developing countries to build their capacity in space law, including through the provision of targeted assistance that would take advantage of the training capabilities of other institutions;

(k) The establishment of a regional centre on space science and technology education for countries with economies in transition in Eastern Europe;

(l) The dissemination of information on space law through special activities and events, such as the World Space Week.

129. The Subcommittee recommended that member States, permanent observers of the Committee on the Peaceful Uses of Outer Space and the Office for Outer Space Affairs should consider the initiatives listed above and inform the Subcommittee, at its forty-eighth session, on any actions taken or planned on a national, regional or international level.

130. The full text of the statements made by delegations during the discussion on agenda item 11 is contained in unedited verbatim transcripts (COPUOS/Legal/T.775-777).

IX. General exchange of information on national legislation relevant to the peaceful exploration and use of outer space

131. The Legal Subcommittee recalled that the General Assembly, in its resolution 62/217, had endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the Subcommittee, at its forty-seventh session, should consider the general exchange of information on national legislation relevant to the peaceful exploration and use of outer space in accordance with the workplan adopted by the Committee at its fiftieth session.⁷

132. The Subcommittee had before it the following:

(a) Note by the Secretariat entitled "Information on national legislation relevant to the peaceful exploration and use of outer space" (A/AC.105/912);

(b) Conference room paper containing information on the national legislation governing space activities of the United States (A/AC.105/C.2/2008/CRP.9);

⁷ *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20 (A/62/20)*, para. 219.

(c) Conference room paper containing information on the national legislation governing space activities of Brazil, Colombia, Germany and the Netherlands (A/AC.105/C.2/2008/CRP.14).

133. The Subcommittee was of the view that its discussion of the agenda item on general exchange of information on national legislation relevant to the peaceful exploration and use of outer space provided the Subcommittee with a broad picture of how States regulated their national space activities and that such information could be of value to any State involved in space activities in their efforts to establish a domestic regulatory framework.

134. The Subcommittee noted that an exchange of information on national legislation would allow it to examine the main developments taking place at the national level in order to identify common principles, norms and procedures.

135. The delegations of the following States presented information on their national regulatory frameworks governing space activities or on plans to create such frameworks or national infrastructure: Belgium, Brazil, Bulgaria, Canada, China, Colombia, France, Germany, Japan, Netherlands, Republic of Korea, Russian Federation, South Africa, Ukraine and United States. In addition, the delegations of the Netherlands and the United States gave special presentations on their national legislation.

136. The Subcommittee noted that several national regulatory frameworks presented at the current session dealt with the following issues: national jurisdiction for regulating the space activities of governmental and non-governmental entities; procedures for authorizing and licensing national space activities; liability; indemnification procedures; insurance; intellectual property rights; distribution of remote sensing data; registration of objects launched into outer space and establishment of national registries; safety requirements for the conduct of space activities, in particular for launching activities; and regulatory frameworks for national space agencies or other national entities mandated to carry out and supervise space activities. The Subcommittee also noted that some States had promulgated domestic regulations on space debris mitigation and the protection of the Earth environment in relation to space activities.

137. The Subcommittee noted that those regulatory frameworks represented different legal systems with either unified acts or a combination of national legal instruments dealing with different aspects of space activities.

138. The Subcommittee took note, with appreciation, of the information provided by those delegations. The Subcommittee agreed that the work of the working group to be established under that agenda item at its forty-eighth session would be further facilitated if more States would submit information on their respective national legislation and regulatory frameworks. That information would be compiled in a document to be prepared by the Secretariat.

139. The Subcommittee took note of the database on national space legislation and multilateral and bilateral agreements related to the peaceful exploration and use of outer space, maintained by the Office for Outer Space Affairs on its website (<http://www.unoosa.org>). The Subcommittee encouraged States to continue to submit to the Office, for inclusion in the database, the texts of laws and regulations, as well as policy and other legal documents, related to space activities.

140. The Subcommittee agreed that its agenda item on the general exchange of information on national legislation was closely linked to the agenda item on capacity-building in space law, since capacity-building efforts were important in promoting understanding of national requirements for space activities, in particular given the different constitutional and legal systems of Member States. The dissemination of such information could stimulate the development of national space laws and would significantly enhance international cooperation, in particular for the benefit of developing countries.

141. The Subcommittee noted the important role played by regional coordination mechanisms in promoting cooperation among States in the peaceful uses of outer space.

142. The view was expressed that information on the activities of international intergovernmental and non-governmental organizations relating to space law would greatly assist States in developing national space legislation.

143. The view was expressed that an exchange of information on national legislation would promote both the acceptance and implementation of the principles enshrined in the United Nations treaties on outer space.

144. The view was expressed that, although the development of national legislation was crucial to the administration of space activities, it could only have a complementary character to international space law. That delegation was of the view that further advances in international space law were necessary in order to adequately regulate space activities.

145. The view was expressed that the exchange of information on national legislation could contribute to the further development of international space law.

146. The Subcommittee agreed that Irmgard Marboe (Austria) should act as Chairperson of the working group to be established by the Subcommittee at its forty-eighth session, in 2009.

147. The full text of the statements made during the discussion on agenda item 12 is contained in unedited verbatim transcripts (COPUOS/Legal/T.776-779 and 781).

X. Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-eighth session

148. The Legal Subcommittee recalled that the General Assembly, in its resolution 62/217, had noted that the Subcommittee, at its forty-seventh session, would submit its proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Subcommittee at its forty-eighth session, in 2009.

149. The Chairman recalled the proposals for new items to be included in the agenda of the Legal Subcommittee that had been considered by the Subcommittee at its forty-sixth session and retained by their sponsors with a view to discussing them at subsequent sessions of the Subcommittee (see A/AC.105/891, para. 141).

150. The Subcommittee agreed to include “General exchange of information on national mechanisms relating to space debris mitigation measures”, which had been proposed by Italy and Ukraine and supported by several other delegations, as a new single issue/item on the agenda of the Subcommittee at its forty-eighth session, in 2009. The Subcommittee also agreed to retain all the single issues/items currently on the agenda of the Subcommittee for consideration at its forty-eighth session.

151. The Subcommittee agreed on the following items to be proposed to the Committee on the Peaceful Uses of Outer Space for inclusion in the agenda of the Subcommittee at its forty-eighth session:

Regular items

1. Opening of the session and adoption of the agenda.
2. Statement by the Chairman.
3. General exchange of views.
4. Status and application of the five United Nations treaties on outer space.
5. Information on the activities of international intergovernmental and non-governmental organizations relating to space law.
6. Matters relating to:
 - (a) The definition and delimitation of outer space;
 - (b) The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union.

Single issues/items for discussion

7. Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space.
8. Examination and review of the developments concerning the draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment.
9. Capacity-building in space law.
10. General exchange of information on national mechanisms relating to space debris mitigation measures.

Items considered under workplans

11. General exchange of information on national legislation relevant to the peaceful exploration and use of outer space.

2009: Examination, in a working group, of the responses received in order to develop an understanding of the manner in which Member States have regulated governmental and non-governmental space activities.

New items

12. Proposals to the Committee on the Peaceful Uses of Outer Space for new items to be considered by the Legal Subcommittee at its forty-ninth session.

152. The Subcommittee agreed that the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space and the Working Group on Matters Relating to the Definition and Delimitation of Outer Space should be reconvened at its forty-eighth session. The Subcommittee also agreed that a working group on agenda item 11 should be established at its forty-eighth session.

153. The Subcommittee agreed to review, at its forty-eighth session, the need to extend the mandate of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space beyond that session of the Subcommittee.

154. Some delegations expressed the view that, considering the efficient conduct of its work during sessions and in view of the ongoing discussion on the future role and activities of the Committee, the Subcommittee could consider shortening the duration of its future sessions.

155. The view was expressed that the Subcommittee should further strengthen its work by considering additional items instead of shortening its future sessions.

156. The view was expressed that “The means to enable equitable access to and rational and economic use of other Earth orbits, taking duly into account the needs of developing countries” should be included as a new sub-item under agenda item 6.

157. Some delegations expressed the view that the inclusion of such a sub-item would infringe on the role and mandates of ITU and were therefore opposed to its inclusion on the agenda.

158. Some delegations, recalling the discussion at the forty-sixth session of the Subcommittee (A/AC.105/891, para. 137) and taking into account the discussion in the symposium held during the present session, proposed that “Legal implications of space applications for global climate change” be included as a new single issue/item on the agenda of the Subcommittee. Those delegations expressed their satisfaction with the fact that the symposium had drawn attention to the complex legal issues relating to the use of space applications in monitoring and mitigating the effects of global climate change.

159. Other delegations were of the view that the Subcommittee was not the right forum in which to discuss legal issues related to climate change, as those issues were already being dealt with in other, more appropriate forums.

160. The Subcommittee noted that the sponsors of the following proposals for new items to be included on its agenda intended to retain their proposals for possible discussion at its subsequent sessions:

- (a) Review of the Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting, with a view to transforming the text into a treaty in the future (proposed by Greece);

- (b) Review of existing norms of international law applicable to space debris (proposed by the Czech Republic and Greece);

(c) Matters relating to the Principles Relating to Remote Sensing of the Earth from Outer Space (proposed by Chile and Colombia);

(d) Review of the Principles Relating to Remote Sensing of the Earth from Outer Space, with a view to transforming them into a treaty in the future (proposed by Greece);

(e) The appropriateness and desirability of drafting a universal comprehensive convention on international space law (proposed by China, Greece, the Russian Federation and Ukraine);

(f) Legal implications of space applications for global climate change (proposed by Chile).

161. The full text of the statements made during the discussion on agenda item 13 is contained in unedited verbatim transcripts (COPUOS/Legal/T.777-780).

Annex I

Report of the Chairman of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space

1. In accordance with paragraph 6 of General Assembly resolution 62/217 of 22 December 2007, the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, at its 765th meeting, on 31 March 2008, reconvened its Working Group on the Status and Application of the Five United Nations Treaties on Outer Space, under the chairmanship of Vassilios Cassapoglou (Greece).
2. The Working Group held seven meetings, from 1 to 9 April 2008. At the 1st meeting of the Working Group, on 1 April, the Chairman recalled that, at its fortieth session, in 2001, the Legal Subcommittee had agreed that the discussions of the Working Group would include the status of the United Nations treaties on outer space, review of their implementation and obstacles to their universal acceptance, as well as the promotion of space law, especially through the United Nations Programme on Space Applications (A/AC.105/763 and Corr.1, para. 118). The Chairman also recalled that, at its forty-first session, in 2002, the Subcommittee had agreed that the Working Group could consider any new, similar issues that might be raised in discussions in the Working Group, provided that those issues fell within the existing mandate of the Working Group (A/AC.105/787, paras. 138 and 140).
3. The Working Group had before it the following:
 - (a) Questionnaire on the possible options for future development of international space law (A/AC.105/C.2/L.259);
 - (b) Note by the Secretariat on activities being carried out or to be carried out on the Moon and other celestial bodies, international and national rules governing those activities and information received from States parties to the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies about the benefits of adherence to that Agreement (A/AC.105/C.2/L.271 and Corr.1);
 - (c) Note by the Secretariat on the joint statement on the benefits of adherence to the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies by States Parties to the Agreement (A/AC.105/C.2/L.272);
 - (d) Conference Room Paper submitted by Brazil on the status and application of the five United Nations treaties on outer space (A/AC.105/C.2/2008/CRP.12).
4. The Chairman recalled that at its forty-sixth session, in 2007, the Legal Subcommittee had, by endorsing the report of the Working Group, decided:
 - (a) That the Working Group should, at the forty-seventh session of the Subcommittee, continue to debate in an open and flexible manner the issues raised in the questionnaire on the possible options for future development of international space law (A/AC.105/C.2/L.259);
 - (b) That, during the forty-seventh session of the Subcommittee, the Working Group, in addressing the low rate of participation of States in the Agreement

Governing the Activities of States on the Moon and Other Celestial Bodies,^a could (A/AC.105/891, annex I, para. 11):

- (i) Address activities currently being carried out or to be carried out on the Moon and other celestial bodies in the near future;
- (ii) Identify the benefits of adherence to the Moon Agreement;
- (iii) Identify the international and national rules governing activities on the Moon and other celestial bodies;
- (iv) Assess whether existing international rules adequately address activities on the Moon and other celestial bodies;

(c) That the Secretariat should prepare a background paper on activities being carried out or to be carried out on the Moon and other celestial bodies, international and national rules governing those activities and information from States parties to the Moon Agreement about the benefits of adherence to that agreement, and that the background paper should be based primarily on information provided by member States on those matters (A/AC.105/891, annex I, para. 12).

5. The Chairman also recalled that, at the forty-sixth session of the Legal Subcommittee, it was agreed that the Subcommittee would review the need to extend the mandate of the Working Group beyond the forty-seventh session of the Subcommittee (A/AC.105/891, para. 45).

6. Some delegations expressed the view that responses to the questionnaire would provide useful information for the future development of international space law and a consolidation of the divergent positions of States on that issue.

7. Other delegations questioned the utility of the questionnaire, particularly as it consisted of multiple choice questions, and were of the view that it did not help to increase adherence to or improve implementation of the existing United Nations treaties on outer space.

8. The Working Group agreed that, at the forty-eighth session of the Legal Subcommittee, in 2009, it would not discuss the list of questions in the questionnaire but would instead discuss the current state of international space law and possible options for its future development, as necessary.

9. The Working Group noted that some member States were carrying out or planned to carry out space missions related to the exploration of the Moon and Mars involving the following: the lunar exploration project, the Kaguya satellite, the Ares I and Ares V launch vehicles, the International Space Exploration Coordination Group, the Lunar Reconnaissance Orbiter, the Chandrayaan-1 mission, Phoenix, the Mars Science Laboratory Spacecraft and Mars Exploration Rovers Spirit and Opportunity.

10. Some delegations informed the Working Group that their States were not undertaking or planning to undertake activities on the Moon.

11. The view was expressed that a number of member States undertaking or planning to undertake activities on the Moon had not provided information on those activities and that more information was needed for discussion on that subject.

^a United Nations, *Treaty Series*, vol. 1363, No. 23002.

12. The Working Group requested the Secretariat to prepare a more detailed background paper to inform it of activities on the Moon that member States were undertaking or planned to undertake. The paper would be based on information already submitted to the Working Group and information in the *Highlights in Space* publication.

13. The Working Group expressed its appreciation to Austria, Belgium, Chile, Mexico, the Netherlands, Pakistan and the Philippines for their joint statement on the benefits of adherence to the Moon Agreement, as States parties to the Agreement (A/AC.105/C.2/L.272, annex).

14. Some delegations expressed their support for the joint statement and noted its usefulness as a basis for further discussion.

15. Some delegations expressed the view that although the Moon Agreement contained provisions that reiterated or developed the principles set out in the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,^b certain provisions of the Moon Agreement were unique and of particular interest in implementing space projects, activities and missions by providing clarity and facilitating international scientific cooperation. In that regard, those delegations highlighted the following provisions of the Moon Agreement: article 9 (on procedures for the establishment of stations), article 10 (on safeguarding the life and health of persons), article 11, paragraph 3 (on the prohibition of acquisition of property), article 12 (on the use of and jurisdiction over vehicles, equipment, facilities, stations and installations) and article 15 (on compliance).

16. The view was expressed that the flexibility provided by the Moon Agreement for States parties to establish a sui generis regime to govern the exploitation of the natural resources of the Moon, once such exploitation becomes feasible, would assist in reducing the impact that the commercialization of those resources might have on the world economy and the imbalance it might generate.

17. Some delegations stated that their States were seeking the reasons why some member States were not parties to the Moon Agreement in order to find solutions to overcome obstacles to participation in the Agreement.

18. The view was expressed that article 18 of the Moon Agreement provided a procedure for States parties to seek a review of the Agreement. That delegation encouraged an open discussion on the Moon Agreement in order to highlight the reasons for its low rate of ratification and to consider its revision.

19. The view was expressed that non-adherence to the Moon Agreement had not hindered current or future activities aimed at the study, exploration and use of the Moon and that activities undertaken by States in relation to the Moon were consistent with the provisions of the other four United Nations treaties on outer space.

20. The view was expressed that the visions of States parties to the Moon Agreement and of States not parties to the Agreement needed to be explored more fully so that the gap between the two might be narrowed.

^b Ibid., vol. 610, No. 8843.

21. The Working Group noted that the Committee on the Peaceful Uses of Outer Space had considered the question of the review of the Moon Agreement at its thirty-seventh session, in 1994, and had recommended to the General Assembly, at its forty-ninth session, that the Assembly should take no further action at that time (Assembly resolution 49/34).
22. The Working Group noted that national legislation governing activities on the Moon existed in a number of States whose acts on space activities applied to any activities in outer space, including activities involving the Moon or other celestial bodies. The Working Group also noted that some States were developing such national legislation.
23. Some delegations expressed the view that many provisions of the Outer Space Treaty, including articles II-IV, VI and VII, applied to the Moon and other celestial bodies and that, therefore, the Outer Space Treaty adequately addressed activities on the Moon and other celestial bodies.
24. Other delegations expressed the view that it was premature to arrive at any conclusions on the adequacy of existing international rules governing the Moon and other celestial bodies, as a fuller picture was needed of the activities concerning the Moon and of the relevant national rules.
25. The Working Group noted with appreciation the announcement of the delegation of Austria, welcomed by other delegations, that an interdisciplinary seminar on issues related to the Moon Agreement would be organized before the Subcommittee held its forty-eighth session, in 2009.
26. The Working Group agreed that the Subcommittee, at its forty-eighth session, in 2009, should continue its discussion on the issue referred to in paragraph 4 (b) above.
27. At the 6th meeting, on 7 April 2008, it was recommended that the Legal Subcommittee, at its forty-eighth session, in 2009, should reconvene the Working Group and review the need to extend the mandate of the Working Group beyond that session.

Annex II

Report of the Chairman of the Working Group on the Definition and Delimitation of Outer Space

1. At its 765th meeting, on 31 March 2008, the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space reconvened its Working Group on the Definition and Delimitation of Outer Space under the Chairmanship of José Monserrat Filho (Brazil).
2. The Chairman drew the attention of the Working Group to the fact that, in accordance with General Assembly resolution 62/217 of 22 December 2007, the Working Group had been convened to consider only matters relating to the definition and delimitation of outer space.
3. The Working Group had before it the following:
 - (a) Note by the Secretariat entitled "Questionnaire on possible legal issues with regard to aerospace objects: replies from member States" (A/AC.105/635 and Add.1-16, Add.7/Corr.1 and Add.11/Corr.1);
 - (b) Note by the Secretariat entitled "National legislation and practice relating to definition and delimitation of outer space" (A/AC.105/865 and Add.1-3);
 - (c) Note by the Secretariat entitled "Questions on the definition and delimitation of outer space: replies from Member States" (A/AC.105/889 and Add.1);
 - (d) Conference room paper entitled "Questionnaire on possible legal issues with regard to aerospace objects: reply from Azerbaijan" (A/AC.105/C.2/2008/CRP.4);
 - (e) Conference room paper entitled "Questions on the definition and delimitation of outer space: reply from Azerbaijan" (A/AC.105/C.2/2008/CRP.5);
 - (f) Conference room paper entitled "Questions on the definition and delimitation of outer space: reply from Brazil" (A/AC.105/C.2/2008/CRP.10).
4. Some delegations were of the view that the delimitation of outer space would help States to avoid possible problems connected with the rapid development of space technologies and the increasing activities of States and private entities in the exploration and use of outer space.
5. Some delegations expressed the view that the lack of a definition or delimitation of outer space created legal uncertainty concerning the applicability of space law and air law and that matters concerning State sovereignty and the boundary between air space and outer space needed to be clarified in order to reduce the possibility of disputes among States.
6. Some delegations were of the view that States should continue to operate under the current framework, which had functioned well, and that, at the present time, an attempt to define or delimit outer space would be a theoretical exercise, which could lead to complicating existing activities and might not be able to anticipate continuing technological developments.

7. The view was expressed that, at the current stage of development of space activities, the absence of the definition and delimitation of outer space did not create any problem and that the establishment of the regulation of space traffic was more topical.

8. The view was expressed that the definition and delimitation of outer space would strengthen security and confidence in outer space activities.

9. On the basis of its discussions, the Working Group agreed:

(a) To suspend the invitation to member States of the Committee to submit their preferences with regard to the replies of Member States to the questionnaire on aerospace objects (A/AC.105/C.2/L.249 and Corr.1 and Add.1 and 2);

(b) To suspend the invitation to member States of the Committee to submit proposals concerning criteria for analysing the replies to the questionnaire on aerospace objects;

(c) To suspend the invitation to Member States to reply to the questionnaire on possible legal issues with regard to aerospace objects. The Working Group took note of the replies of 45 Member States contained in the note of the Secretariat on the questionnaire (A/AC.105/635 and Add.1-16, Add.7/Corr.1 and Add.11/Corr.1) and agreed that consideration of the issue of aerospace objects should be suspended until new events warranted its reconsideration of the issue;

(d) To continue to invite member States of the Committee to submit information on national legislation or any national practices that might exist or were being developed that related directly or indirectly to the definition and/or delimitation of outer space and air space, taking into account the current and foreseeable level of the development of space and aviation technologies;

(e) To continue to address to the Governments of Member States, through the Secretariat, the following questions:

(i) Does your Government consider it necessary to define outer space and/or to delimit air space and outer space, given the current level of space and aviation activities and technological development in space and aviation technologies? Please provide a justification for the answer; or

(ii) Does your Government consider another approach to solving this issue? Please provide a justification for the answer.

10. The Working Group noted the proposal of the Chairman to organize, in the framework of the Working Group at the forty-eighth session of the Subcommittee, in 2009, a scientific meeting at which the Working Group could hear presentations by interested member States on the existing positions of States regarding the definition and delimitation of outer space. The Working Group discussed that proposal and did not reach a consensus on the need to organize such a scientific meeting.

11. Some delegations expressed the view that the definition and delimitation of outer space remained a topical and important issue that should continue to be considered by the Working Group.

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Sixty-third session

Item 91 (w) of the preliminary list*

General and complete disarmament**Transparency and confidence-building measures in
outer space activities****Report of the Secretary-General****Contents**

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* A/63/50.



I. Introduction

1. In paragraph 2 of its resolution 62/43, on transparency and confidence-building measures in outer space activities, the General Assembly invited all Member States to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space.

2. On 25 February 2008, a note verbale was sent to all Member States drawing their attention to paragraph 2 of resolution 62/43 and seeking relevant information on the issues outlined above. The replies received from Chile, Cuba, Qatar and Ukraine are reproduced in section II below. Additional replies received will be issued as addenda to the present report.

II. Replies received from Governments

Chile

[Original: Spanish]
[14 May 2008]

Pursuant to General Assembly resolution 62/43 entitled “Transparency and confidence-building measures in outer space activities” adopted on 5 December 2007, the Government of Chile proposes the following actions and measures to increase transparency and confidence:

(a) States should conclude a single, comprehensive and updated treaty that encompasses all space legislation. The existing Outer Space Treaty dates back to 1967 and thus needs to be revised to update the legal components and reflect technological advances.

(b) Specific regulations pertaining to space debris should be elaborated; these should reflect the obligations of States with respect to such debris and should cover possible damage to persons, property and other activities as well as the safety of spacecraft during scheduled re-entry. In that connection, States should be encouraged to ensure prompt, effective implementation of the legal mechanisms governing the exploitation and utilization of outer space for peaceful purposes. Outer space activities continue to increase and the growing number of outer space objects in orbit presents new challenges.

(c) It is also important to continue improving the international legal regime regulating outer space. Although the voluntary guidelines for the mitigation of space debris called for in General Assembly resolution 62/217 (paragraph 27) are welcome, States need to establish an international legal order that is more complete, effective and preventive; set effective guidelines that can be applied in emergencies; ensure access to timely, accurate information concerning re-entry of debris; and facilitate due coordination among the most affected countries.

(d) A clear distinction should be made between military use, militarization and the arms race in outer space. Military use is governed by customary practice; this includes, for example, monitoring the compliance of disarmament treaties.

Militarization and the arms race in outer space, on the other hand, are prohibited by legal principles.

(e) The principles relating to remote sensing of the Earth by satellites, which were approved by the General Assembly in its resolution 41/64 (1986), should be updated. The existing principles have been superseded over time; they also place restrictions on the access of developing countries to space-based information, which could impede natural disaster management. States should firmly support the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), which has been endorsed by the Committee on the Peaceful Uses of Outer Space (COPUOS).

(f) The initiative Prevention of an Arms Race in Outer Space (PAROS) should be renewed without delay, within the framework of the Conference on Disarmament in Geneva.

(g) States should seek an advisory opinion from the International Court of Justice concerning the application and scope of the principle of the non-use of force in outer space.

(h) States are urged to implement General Assembly resolution 62/20 (2007) on the prevention of an arms race in outer space, which reiterates the need to consolidate and reinforce the legal regime applicable to outer space, since the current regime does not in and of itself guarantee the prevention of an arms race in outer space. The existing regime does not ban anti-satellite arms, which makes it difficult to establish a more comprehensive confidence-building mechanism. The development of weapons in outer space needs to be reviewed.

(i) At the regional level, the International Group of Experts and the respective pro tempore secretariats of the Space Conferences of the Americas should issue statements promoting increased transparency and confidence-building.

Cuba

[Original: Spanish]
[15 June 2008]

1. Beginning in the 1960s, the international community adopted a series of legal instruments on outer space including the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (1963), the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967) and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (1979). These instruments have played a constructive part in the promotion of the peaceful uses of outer space and the regulation of outer space activities. They have also been of significance in relation to the ban on the deployment of weapons of mass destruction and certain military activities in outer space.

2. The majority of countries recognize that the arms race represents a grave threat to international peace and security; the prevention of an arms race in outer space has therefore long been a universal goal. Unfortunately, current developments prove that the existing treaties and agreements have failed to eliminate the dangers of the

militarization of outer space and that they are insufficient to prevent the deployment of weapons in the cosmos.

3. The existing multilateral machinery dealing with disarmament and arms control has the important responsibility of prevailing on the will of the international community in this regard. Cuba supports the efforts under way in the General Assembly and the Conference on Disarmament, especially the negotiation in the Conference of an international legal instrument on banning the deployment of weapons in outer space, and to this end it supports the establishment of a special or ad hoc committee to initiate negotiations.

4. Cuba shares the view both of countries that consider that the need to negotiate a new legal instrument arises because the existing treaties do not effectively prevent the testing, deployment and use of weapons, with the exception of weapons of mass destruction in outer space, especially in orbit around the Earth, on celestial bodies other than the Moon and in outer space, and of countries that maintain that none of these legal instruments is relevant to the question of the use or threat of force against objects in outer space.

5. At the 2008 Conference on Disarmament, the Governments of the Russian Federation and the People's Republic of China officially presented a draft proposal for a treaty on banning outer space weapons. The draft proposal, which is gaining support from a number of countries, bans not only the development of outer space weapons but also the use of force against satellites and other space objects. In Cuba's view, the proposed treaty is a concrete measure that will help to maintain international peace and security in activities relating to outer space — activities which cannot be conducted without the support of the international community.

6. Regrettably, a significant number of the objects currently launched in outer space are not designed to solve any of the important challenges confronting mankind, let alone contribute to development. On the contrary, they were launched for military or espionage purposes and will ultimately increase the amount of space debris, the mitigation of which has become a major challenge.

7. In 2008, there was another incident where an uncontrollable space object had to be destroyed as it re-entered the Earth's atmosphere. The object, which was owned and destroyed by the Government of the United States, carried 453 kilograms of hydrazine.¹ Cuba shares the concern of other States that the incident was a pretext to test anti-satellite systems or other weapons against space objects.

8. The international community is also concerned about the use of nuclear energy sources in outer space. Although only a few highly developed countries are currently exploring this field, it will eventually have an impact on all countries. Cuba considers that the use of nuclear energy sources should be restricted to the extent possible, until there is a clearly defined security framework and more concrete agreements have been initiated. Even in cases of limited use, the State in question should provide other States with comprehensive, transparent information on its activities, including the measures taken to ensure safe use.

¹ Hydrazine, which is often used to fuel spacecraft, is highly toxic and harmful to both humans and the environment.

9. Cuba remains convinced that, at present, there is no reason to consider using nuclear energy sources in Earth orbit, where the risks are considerably higher. Other efficient and much safer energy sources are available.

10. At the Fourteenth Summit Conference of Heads of State or Government of Non-Aligned Countries, political leaders expressed their concern about the adverse consequences of the development and deployment of antiballistic-missile defence systems and the quest for advanced military technology capable of deployment in outer space, which had the potential to unleash an arms race and the subsequent development of advanced missile systems together with an increase in the number of nuclear weapons.

11. Cuba considers that General Assembly resolution 62/43 contributes significantly to the aforementioned efforts to prevent an arms race in outer space.

12. Although transparency and confidence-building are not a substitute for arms control and disarmament measures or a prerequisite for the application of such measures, they nevertheless can facilitate the achievement of disarmament commitments and measures for their verification. Confidence-building requires goodwill on the part of States, which must themselves decide if they will embark on confidence-building, what concrete measures they will adopt and how they will put them into practice.

13. The formulation of recommendations on possible confidence-building measures would in itself be conducive to a better understanding of States' intentions and the current and future situation in outer space. In this sense, the joint work on the preparation of transparency and confidence-building measures would itself promote mutual trust.

14. Transparency and confidence-building measures in outer space activities could include:

- The convening of an international conference to analyse strict compliance with existing agreements on the peaceful uses of outer space;
- Review of the current legal regime regulating outer space activities in the light of technological advances, which has been continually blocked by certain States on the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space;
- The adoption of multilateral agreements for the exchange of information on the use of outer space;
- The development of international cooperation mechanisms which guarantee to all countries equal access to the benefits of the utilization of outer space for peaceful purposes;
- Exchange of information on the major trends of the space policies of States, the principal programmes dealing with outer space research and utilization and the orbital parameters of space objects;
- Extending invitations to observers to attend the launching of space objects on a voluntary basis;
- Demonstration of space and rocket technologies;

- Issuing notifications about scheduled launchings of spacecraft, scheduled space manoeuvres that can result in dangerous proximity to spacecraft of other States, and the re-entry of guided spacecraft from orbit into the atmosphere;
- Consultations to clarify the information provided on outer space research and utilization programmes, on ambiguous situations and on other matters which are cause for concern; and to discuss the application of transparency and confidence-building measures agreed on in space activities.

15. Transparency and confidence-building measures can play an important part in the drafting, adoption and implementation of a new treaty banning the deployment of weapons in outer space and the use or threat of use of force against spatial objects. They would also help to create conditions conducive to the conclusion of a new agreement. The preparation of recommendations on possible transparency and confidence-building measures in outer space constitutes a relatively simple first step towards strengthening security.

Qatar

[Original: English]
[17 June 2008]

The State of Qatar supports the prevention of the armament of outer space and the prevention of an arms race in outer space. In this regard, the State of Qatar is of the view that it is beneficial to convene a meeting at the expert level to establish a credible and reliable verification mechanism. At the same time, countries that use outer space must submit, subject to verification, reports with details regarding what they control in outer space, given the existence of a convention, which entered into force in 1967, to make outer space, including orbits around the Earth, the Moon and other celestial bodies, free of weapons of mass destruction. The Convention banned tests of weapons of any kind, military manoeuvres and the construction of military bases and facilities in outer space.

Ukraine

[Original: Russian]
[3 June 2008]

1. Ukraine believes that States should strictly comply with the provisions of international agreements to which they are parties, namely:
 - The basic United Nations treaties on outer space (particularly taking account of the provisions of article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, of 27 January 1967; and article IV of the Convention on Registration of Objects Launched into Outer Space, of 14 January 1975);
 - The Comprehensive Nuclear-Test-Ban Treaty, of 24 September 1996;
 - The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, of 5 August 1963.

2. Ukraine welcomes and supports the work of the multilateral non-proliferation regimes (the Missile Technology Control Regime, Nuclear Suppliers Group, the Zangger Committee, the Australia Group, and the Wassenaar Arrangement) and considers that the member States of these regimes must adhere to the provisions of their governing instruments in order to ensure transparency and increase confidence.

3. Ukraine proposes that the information from the annual declarations providing an outline of the policies of the States subscribing to the Hague Code of Conduct with respect to ballistic missile programmes and space launch vehicle programmes be used in order to draw up an annual generalized report to the Secretary-General.

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Agenda item 88

Prevention of an arms race in outer space

Report of the First Committee

Rapporteur: Mr. Coly Seck (Senegal)

I. Introduction

1. The item entitled “Prevention of an arms race in outer space” was included in the provisional agenda of the sixty-third session of the General Assembly in accordance with Assembly resolution 62/20 of 5 December 2007.
2. At its 2nd plenary meeting, on 19 September 2008, the General Assembly, on the recommendation of the General Committee, decided to include the item in its agenda and to allocate it to the First Committee.
3. At its 2nd meeting, on 6 October 2008, the First Committee decided to hold a general debate on all disarmament and international security items allocated to it, namely, items 81 to 96, which was held at the 2nd to 8th meetings, from 6 to 10 and on 13 and 14 October (see A/C.1/63/PV.2-8). The Committee also held 11 meetings, from 14 to 17, from 20 to 24 and on 27 October, for an exchange of views with the High Representative for Disarmament Affairs and other high-level officials, as well as panel discussions with independent experts and follow-up to resolutions and decisions adopted at previous sessions (see A/C.1/63/PV.8-18). Thematic discussions on the items were held, and draft resolutions were introduced and considered, at the 8th to 18th meetings, from 14 to 17, from 20 to 24 and on 27 October (see A/C.1/63/PV.8-18). Action on all draft resolutions was taken at the 19th to 22nd meetings, from 28 to 31 October (see A/C.1/63/PV.19-22).
4. No documents were submitted for consideration under this item.

II. Consideration of draft resolution A/C.1/63/L.4

5. At the 12th meeting, on 20 October, the representative of Egypt, on behalf of Algeria, Armenia, Bangladesh, Belarus, Benin, Bhutan, China, Cuba, the Democratic People’s Republic of Korea, the Dominican Republic, Ecuador, Egypt,

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El Salvador, Ghana, Guatemala, Haiti, Honduras, India, Indonesia, Iran (Islamic Republic of), Jamaica, Jordan, Kazakhstan, Kuwait, the Libyan Arab Jamahiriya, Malaysia, Mongolia, Myanmar, Nepal, Nigeria, Pakistan, Qatar, the Russian Federation, Sri Lanka, the Syrian Arab Republic, Uganda, Uruguay, Uzbekistan, Venezuela (Bolivarian Republic of) and Zimbabwe, introduced a draft resolution entitled "Prevention of an arms race in outer space" (A/C.1/63/L.4). Subsequently, Fiji, Saudi Arabia and Togo joined in sponsoring the draft resolution.

6. At its 20th meeting, on 29 October, the Committee adopted draft resolution A/C.1/63/L.4 by a recorded vote of 166 to 1, with 1 abstention (see para. 7). The voting was as follows:¹

In favour:

Afghanistan, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Chile, China, Colombia, Congo, Costa Rica, Côte d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Democratic People's Republic of Korea, Denmark, Djibouti, Dominican Republic, Ecuador, Egypt, El Salvador, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guyana, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran (Islamic Republic of), Iraq, Ireland, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyzstan, Lao People's Democratic Republic, Latvia, Lebanon, Liberia, Libyan Arab Jamahiriya, Liechtenstein, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia (Federated States of), Monaco, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Romania, Russian Federation, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, San Marino, Saudi Arabia, Senegal, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Switzerland, Syrian Arab Republic, Tajikistan, Thailand, the former Yugoslav Republic of Macedonia, Timor-Leste, Togo, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, Uruguay, Uzbekistan, Venezuela (Bolivarian Republic of), Viet Nam, Yemen, Zambia, Zimbabwe.

Against:

United States of America.

Abstaining:

Israel.

¹ The delegations of Albania and Dominica subsequently indicated that, had they been present, they would have voted in favour.

III. Recommendation of the First Committee

7. The First Committee recommends to the General Assembly the adoption of the following draft resolution:

Prevention of an arms race in outer space

The General Assembly,

Recognizing the common interest of all mankind in the exploration and use of outer space for peaceful purposes,

Reaffirming the will of all States that the exploration and use of outer space, including the Moon and other celestial bodies, shall be for peaceful purposes and shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development,

Reaffirming also the provisions of articles III and IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies,¹

Recalling the obligation of all States to observe the provisions of the Charter of the United Nations regarding the use or threat of use of force in their international relations, including in their space activities,

Reaffirming paragraph 80 of the Final Document of the Tenth Special Session of the General Assembly,² in which it is stated that in order to prevent an arms race in outer space, further measures should be taken and appropriate international negotiations held in accordance with the spirit of the Treaty,

Recalling its previous resolutions on this issue, and taking note of the proposals submitted to the General Assembly at its tenth special session and at its regular sessions, and of the recommendations made to the competent organs of the United Nations and to the Conference on Disarmament,

Recognizing that prevention of an arms race in outer space would avert a grave danger for international peace and security,

Emphasizing the paramount importance of strict compliance with existing arms limitation and disarmament agreements relevant to outer space, including bilateral agreements, and with the existing legal regime concerning the use of outer space,

Considering that wide participation in the legal regime applicable to outer space could contribute to enhancing its effectiveness,

Noting that the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space, taking into account its previous efforts since its establishment in 1985 and seeking to enhance its functioning in qualitative terms, continued the examination and identification of various issues, existing agreements and existing proposals, as well as future initiatives relevant to the prevention of an arms race in

¹ United Nations, *Treaty Series*, vol. 610, No. 8843.

² Resolution S-10/2.

outer space,³ and that this contributed to a better understanding of a number of problems and to a clearer perception of the various positions,

Noting also that there were no objections in principle in the Conference on Disarmament to the re-establishment of the Ad Hoc Committee, subject to re-examination of the mandate contained in the decision of the Conference on Disarmament of 13 February 1992,⁴

Emphasizing the mutually complementary nature of bilateral and multilateral efforts in the field of preventing an arms race in outer space, and hoping that concrete results will emerge from those efforts as soon as possible,

Convinced that further measures should be examined in the search for effective and verifiable bilateral and multilateral agreements in order to prevent an arms race in outer space, including the weaponization of outer space,

Stressing that the growing use of outer space increases the need for greater transparency and better information on the part of the international community,

Recalling, in this context, its previous resolutions, in particular resolutions 45/55 B of 4 December 1990, 47/51 of 9 December 1992 and 48/74 A of 16 December 1993, in which, inter alia, it reaffirmed the importance of confidence-building measures as a means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space,

Conscious of the benefits of confidence- and security-building measures in the military field,

Recognizing that negotiations for the conclusion of an international agreement or agreements to prevent an arms race in outer space remain a priority task of the Ad Hoc Committee and that the concrete proposals on confidence-building measures could form an integral part of such agreements,

Noting with satisfaction the constructive, structured and focused debate on the prevention of an arms race in outer space at the Conference on Disarmament in 2008,

1. *Reaffirms* the importance and urgency of preventing an arms race in outer space and the readiness of all States to contribute to that common objective, in conformity with the provisions of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies;¹

2. *Reaffirms its recognition*, as stated in the report of the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space, that the legal regime applicable to outer space does not in and of itself guarantee the prevention of an arms race in outer space, that the regime plays a significant role in the prevention of an arms race in that environment, that there is a need to consolidate and reinforce that regime and enhance its effectiveness and that it is important to comply strictly with existing agreements, both bilateral and multilateral;

³ *Official Records of the General Assembly, Forty-ninth Session, Supplement No. 27 (A/49/27)*, sect. III.D (para. 5 of the quoted text).

⁴ CD/1125.

3. *Emphasizes* the necessity of further measures with appropriate and effective provisions for verification to prevent an arms race in outer space;

4. *Calls upon* all States, in particular those with major space capabilities, to contribute actively to the objective of the peaceful use of outer space and of the prevention of an arms race in outer space and to refrain from actions contrary to that objective and to the relevant existing treaties in the interest of maintaining international peace and security and promoting international cooperation;

5. *Reiterates* that the Conference on Disarmament, as the sole multilateral disarmament negotiating forum, has the primary role in the negotiation of a multilateral agreement or agreements, as appropriate, on the prevention of an arms race in outer space in all its aspects;

6. *Invites* the Conference on Disarmament to complete the examination and updating of the mandate contained in its decision of 13 February 1992⁴ and to establish an ad hoc committee as early as possible during its 2009 session;

7. *Recognizes*, in this respect, the growing convergence of views on the elaboration of measures designed to strengthen transparency, confidence and security in the peaceful uses of outer space;

8. *Urges* States conducting activities in outer space, as well as States interested in conducting such activities, to keep the Conference on Disarmament informed of the progress of bilateral and multilateral negotiations on the matter, if any, so as to facilitate its work;

9. *Decides* to include in the provisional agenda of its sixty-fourth session the item entitled "Prevention of an arms race in outer space".

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Draft resolution XXIX

Transparency and confidence-building measures in outer space activities

The General Assembly,

Recalling its resolutions 60/66 of 8 December 2005, 61/75 of 6 December 2006 and 62/43 of 5 December 2007,

Reaffirming that the prevention of an arms race in outer space would avert a grave danger to international peace and security,

Conscious that further measures should be examined in the search for agreements to prevent an arms race in outer space, including the weaponization of outer space,

Recalling, in this context, its previous resolutions, including resolutions 45/55 B of 4 December 1990 and 48/74 B of 16 December 1993, which, inter alia, emphasize the need for increased transparency and confirm the importance of confidence-building measures as a means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space,

Recalling also the report of the Secretary-General of 15 October 1993 to the General Assembly at its forty-eighth session, the annex to which contains the study by governmental experts on the application of confidence-building measures in outer space,¹

Noting the constructive debate which the Conference on Disarmament held on this subject in 2008, including the views and ideas expressed by the European Union and other States,

Noting also the introduction by the Russian Federation and China at the Conference on Disarmament of the draft treaty on the prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects,

Noting further the contribution of Member States which have submitted to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures pursuant to paragraph 1 of resolution 61/75 and paragraph 2 of resolution 62/43,

1. *Takes note* of the reports of the Secretary-General containing concrete proposals from Member States on international outer space transparency and confidence-building measures;²

2. *Invites* all Member States to continue to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space;

3. *Requests* the Secretary-General to submit to the General Assembly at its sixty-fourth session a report with an annex containing concrete proposals from

¹ A/48/305 and Corr.1.

² A/62/114 and Add.1 and A/63/136 and Add.1.

Member States on international outer space transparency and confidence-building measures;

4. *Decides* to include in the provisional agenda of its sixty-fourth session the item entitled “Transparency and confidence-building measures in outer space activities”.



General Assembly

Distr.: General
18 December 2008

Sixty-third session
Agenda item 28

Resolution adopted by the General Assembly

[on the report of the Special Political and Decolonization Committee
(Fourth Committee) (A/63/399)]

63/90. International cooperation in the peaceful uses of outer space

The General Assembly,

Recalling its resolutions 51/122 of 13 December 1996, 54/68 of 6 December 1999, 59/2 of 20 October 2004, 61/110 and 61/111 of 14 December 2006, 62/101 of 17 December 2007 and 62/217 of 22 December 2007,

Deeply convinced of the common interest of mankind in promoting and expanding the exploration and use of outer space, as the province of all mankind, for peaceful purposes and in continuing efforts to extend to all States the benefits derived therefrom, and also of the importance of international cooperation in this field, for which the United Nations should continue to provide a focal point,

Reaffirming the importance of international cooperation in developing the rule of law, including the relevant norms of space law and their important role in international cooperation for the exploration and use of outer space for peaceful purposes, and of the widest possible adherence to international treaties that promote the peaceful uses of outer space in order to meet emerging new challenges, especially for developing countries,

Seriously concerned about the possibility of an arms race in outer space, and bearing in mind the importance of article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies¹ (Outer Space Treaty),

Recognizing that all States, in particular those with major space capabilities, should contribute actively to the goal of preventing an arms race in outer space as an essential condition for the promotion and strengthening of international cooperation in the exploration and use of outer space for peaceful purposes,

Considering that space debris is an issue of concern to all nations,

Noting the progress achieved in the further development of peaceful space exploration and applications as well as in various national and cooperative space

¹ United Nations, *Treaty Series*, vol. 610, No. 8843.

projects, which contributes to international cooperation, and the importance of further developing the legal framework to strengthen international cooperation in this field,

Convinced of the importance of the recommendations in the resolution entitled “The Space Millennium: Vienna Declaration on Space and Human Development”, adopted by the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), held at Vienna from 19 to 30 July 1999,² and the need to promote the use of space technology towards implementing the United Nations Millennium Declaration,³

Seriously concerned about the devastating impact of disasters,⁴

Desirous of enhancing international coordination and cooperation at the global level in disaster management and emergency response through greater access to and use of space-based services for all countries and facilitating capacity-building and institutional strengthening for disaster management, in particular in developing countries,

Deeply convinced that the use of space science and technology and their applications in such areas as telemedicine, tele-education, disaster management, environmental protection and other Earth observation applications contribute to achieving the objectives of the global conferences of the United Nations that address various aspects of economic, social and cultural development, particularly poverty eradication,

Taking note, in that regard, of the fact that the 2005 World Summit recognized the important role that science and technology play in promoting sustainable development,⁵

Having considered the report of the Committee on the Peaceful Uses of Outer Space on the work of its fifty-first session,⁶

1. *Endorses* the report of the Committee on the Peaceful Uses of Outer Space on the work of its fifty-first session;⁶

2. *Urges* States that have not yet become parties to the international treaties governing the uses of outer space⁷ to give consideration to ratifying or acceding to those treaties in accordance with their domestic law, as well as incorporating them in their national legislation;

² See *Report of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, Vienna, 19–30 July 1999* (United Nations publication, Sales No. E.00.I.3), chap. I, resolution 1.

³ See resolution 55/2.

⁴ The term “disasters” refers to natural or technological disasters.

⁵ See resolution 60/1, para. 60.

⁶ *Official Records of the General Assembly, Sixty-third Session, Supplement No. 20* (A/63/20).

⁷ Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (United Nations, *Treaty Series*, vol. 610, No. 8843); Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (United Nations, *Treaty Series*, vol. 672, No. 9574); Convention on International Liability for Damage Caused by Space Objects (United Nations, *Treaty Series*, vol. 961, No. 13810); Convention on Registration of Objects Launched into Outer Space (United Nations, *Treaty Series*, vol. 1023, No. 15020); and Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (United Nations, *Treaty Series*, vol. 1363, No. 23002).

3. *Notes* that, at its forty-seventh session, the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space continued its work,⁸ as mandated by the General Assembly in its resolution 62/217;

4. *Endorses* the recommendation of the Committee⁹ that the Legal Subcommittee, at its forty-eighth session, taking into account the concerns of all countries, in particular those of developing countries:

(a) Consider the following as regular agenda items:

(i) General exchange of views;

(ii) Status and application of the five United Nations treaties on outer space;

(iii) Information on the activities of international intergovernmental and non-governmental organizations relating to space law;

(iv) Matters relating to:

a. The definition and delimitation of outer space;

b. The character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union;

(b) Consider the following single issues/items for discussion:

(i) Review and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space;¹⁰

(ii) Examination and review of the developments concerning the draft protocol on matters specific to space assets to the Convention on International Interests in Mobile Equipment;

(iii) Capacity-building in space law;

(iv) General exchange of information on national mechanisms relating to space debris mitigation measures;

(c) Consider the general exchange of information on national legislation relevant to the peaceful exploration and use of outer space in accordance with the workplan adopted by the Committee;

5. *Notes* that the Legal Subcommittee, at its forty-eighth session, will submit its proposals to the Committee for new items to be considered by the Subcommittee at its forty-ninth session, in 2010;

6. *Also notes* that, in the context of paragraph 4 (a) (ii) above, the Legal Subcommittee, at its forty-eighth session, will reconvene its Working Group on the Status and Application of the Five United Nations Treaties on Outer Space;

7. *Further notes* that, in the context of paragraph 4 (a) (iv) a. above, the Legal Subcommittee will reconvene its Working Group on Matters Relating to the Definition and Delimitation of Outer Space;

⁸ See *Official Records of the General Assembly, Sixty-third Session, Supplement No. 20 (A/63/20)*, chap. II.D.

⁹ *Ibid.*, paras. 219–225.

¹⁰ See resolution 47/68.

8. *Notes* that, in the context of paragraph 4 (c) above, the Legal Subcommittee will establish a working group to consider this item in accordance with the multi-year workplan agreed by the Subcommittee at its forty-sixth session and endorsed by the Committee at its fiftieth session;¹¹

9. *Also notes* that the Scientific and Technical Subcommittee, at its forty-fifth session, continued its work¹² as mandated by the General Assembly in its resolution 62/217;

10. *Endorses* the recommendation of the Committee¹³ that the Scientific and Technical Subcommittee, at its forty-sixth session, taking into account the concerns of all countries, in particular those of developing countries:

(a) Consider the following items:

(i) General exchange of views and introduction to reports submitted on national activities;

(ii) United Nations Programme on Space Applications;

(iii) Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III);

(iv) Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth's environment;

(v) Space debris;

(vi) Space-system-based disaster management support;

(vii) Recent developments in global navigation satellite systems;

(b) Consider the following items in accordance with the workplans adopted by the Committee:¹⁴

(i) Use of nuclear power sources in outer space;

(ii) Near-Earth objects;

(c) Consider the following single issues/items for discussion:

(i) Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries;

(ii) International Heliophysical Year 2007;

11. *Notes* that the Scientific and Technical Subcommittee, at its forty-sixth session, will submit its proposal to the Committee for a draft provisional agenda for the forty-seventh session of the Subcommittee, in 2010;

¹¹ See *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20 (A/62/20)*, para. 219; and A/AC.105/891, para. 136.

¹² *Official Records of the General Assembly, Sixty-third Session, Supplement No. 20 (A/63/20)*, chap. II.C.

¹³ *Ibid.*, paras. 163–166.

¹⁴ See A/AC.105/890, annex II, para. 7, for item (i) and A/AC.105/911, annex III, para. 11, for item (ii).

12. *Endorses* the agreement of the Committee, at its fifty-first session, that the topic for the 2009 symposium, to be organized by the International Astronautical Federation, would be “The role of Earth observation satellites in promoting understanding of and addressing climate change concerns” and that the symposium should be held during the first week of the forty-sixth session of the Subcommittee;¹⁵

13. *Agrees* that, in the context of paragraphs 10 (a) (ii), (iii), (vi) and 11 above, the Scientific and Technical Subcommittee, at its forty-sixth session, should reconvene the Working Group of the Whole;

14. *Also agrees* that, in the context of paragraph 10 (b) (i) above, the Scientific and Technical Subcommittee, at its forty-sixth session, should reconvene its Working Group on the Use of Nuclear Power Sources in Outer Space and that the Working Group should continue its work on the topics described in the multi-year workplan as agreed by the Subcommittee at its forty-fourth session and the Committee at its fiftieth session;¹⁶

15. *Further agrees* that, in the context of paragraph 10 (b) (ii) above, the Scientific and Technical Subcommittee, at its forty-sixth session, should reconvene its Working Group on Near-Earth Objects, in accordance with the workplan under this item;¹⁷

16. *Endorses* the United Nations Programme on Space Applications for 2009, as proposed to the Committee by the Expert on Space Applications and endorsed by the Committee;¹⁸

17. *Recognizes* that, in accordance with paragraph 30 of its resolution 50/27 of 6 December 1995, the African regional centres for space science and technology education, in the French language and in the English language, located in Morocco and Nigeria, respectively, as well as the Centre for Space Science and Technology Education in Asia and the Pacific and the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean, entered into an affiliation agreement with the Office for Outer Space Affairs of the Secretariat and have continued their education programmes in 2008;

18. *Agrees* that the regional centres referred to in paragraph 17 above should continue to report to the Committee on their activities on an annual basis;

19. *Notes with satisfaction* the contribution being made by the Scientific and Technical Subcommittee and the efforts of Member States and the Office for Outer Space Affairs to promote and support the activities being organized within the framework of the International Heliophysical Year 2007;

20. *Recognizes* that the second African Leadership Conference on Space Science and Technology for Sustainable Development was held in Pretoria from 2 to 5 October 2007, with a focus on capacity-building, knowledge-sharing and the joint participation of African countries in mutually beneficial projects in the area of space

¹⁵ See *Official Records of the General Assembly, Sixty-third Session, Supplement No. 20 (A/63/20)*, para. 164; and A/AC.105/911, annex I, para. 28.

¹⁶ See A/AC.105/890, annex II, para. 7; and *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20 (A/62/20)*, para. 133.

¹⁷ See *Official Records of the General Assembly, Sixty-third Session, Supplement No. 20 (A/63/20)*, para. 153; and A/AC.105/911, annex III, para. 11.

¹⁸ See *Official Records of the General Assembly, Sixty-third Session, Supplement No. 20 (A/63/20)*, paras. 71 and 77; and A/AC.105/900, paras. 2–8, and annex III.

science and technology for sustainable development, and that the third African Leadership Conference will be held in Algeria in 2009;

21. *Also recognizes* the preparations being undertaken for the Sixth Space Conference of the Americas, and that in this regard the pro tempore secretariat of the Fifth Space Conference of the Americas, established by the Government of Ecuador, organized a meeting in Quito, on 13 and 14 December 2007, with representatives of the Governments of Colombia, Ecuador and Guatemala, the International Group of Experts of the Space Conferences of the Americas and the Office for Outer Space Affairs, which resulted a set of recommendations for the preparation of the Sixth Conference, and that a second meeting with representatives of the pro tempore secretariat, the International Group of Experts and the Office for Outer Space Affairs was held in the Galapagos Islands, Ecuador, on 28 and 29 August 2008, following a regional seminar on space law, held in Quito on 26 and 27 August 2008;

22. *Further recognizes* the important role played by these conferences and other initiatives in building regional and international partnerships among States, such as the International Air and Space Fair, held in Santiago from 31 March to 6 April 2008, during which a conference was organized on space technology and climate change in relation to achieving the Millennium Development Goals, and the ongoing preparations for the fifteenth session of the Asia-Pacific Regional Space Agency Forum, to be held in Hanoi and Ha Long Bay, Viet Nam, from 10 to 12 December 2008;

23. *Welcomes* the collaboration between the Government of Thailand, the Office for Outer Space Affairs, the European Space Agency and the Asian Society of International Law, in organizing the United Nations workshop on space law, to be held in Bangkok in 2009, on the theme “Activities of States in outer space in the light of new developments: meeting international responsibilities and establishing national legal and policy frameworks”, which will serve as a forum for representatives, experts and other stakeholders from various countries to share expertise and experiences in space law;

24. *Emphasizes* that regional and interregional cooperation in the field of space activities is essential to strengthen the peaceful uses of outer space, assist States in the development of their space capabilities and contribute to the achievement of the goals of the United Nations Millennium Declaration;³

25. *Notes with appreciation* that some States are already implementing space debris mitigation measures on a voluntary basis, through national mechanisms and consistent with the Space Debris Mitigation Guidelines of the Inter-Agency Space Debris Coordination Committee and with the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space,¹⁹ endorsed by the General Assembly in its resolution 62/217;

26. *Invites* other Member States to implement, through relevant national mechanisms, the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space;¹⁹

27. *Considers* that it is essential that Member States pay more attention to the problem of collisions of space objects, including those with nuclear power sources, with space debris, and other aspects of space debris, calls for the

¹⁹ *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20 (A/62/20)*, paras. 117 and 118, and annex.

continuation of national research on this question, for the development of improved technology for the monitoring of space debris and for the compilation and dissemination of data on space debris, also considers that, to the extent possible, information thereon should be provided to the Scientific and Technical Subcommittee, and agrees that international cooperation is needed to expand appropriate and affordable strategies to minimize the impact of space debris on future space missions;

28. *Urges* all States, in particular those with major space capabilities, to contribute actively to the goal of preventing an arms race in outer space as an essential condition for the promotion of international cooperation in the exploration and use of outer space for peaceful purposes;

29. *Emphasizes* the need to increase the benefits of space technology and its applications and to contribute to an orderly growth of space activities favourable to sustained economic growth and sustainable development in all countries, including mitigation of the consequences of disasters, in particular in the developing countries;

30. *Notes* that space science and technology and their applications could make important contributions to economic, social and cultural development and welfare, as indicated in the resolution entitled "The Space Millennium: Vienna Declaration on Space and Human Development",² its resolution 59/2 of 20 October 2004 and the Plan of Action of the Committee on the Peaceful Uses of Outer Space on the implementation of the recommendations of UNISPACE III;²⁰

31. *Notes with appreciation* that a number of the recommendations, as set out in the Plan of Action on the implementation of the recommendations of UNISPACE III,²⁰ have been implemented and that satisfactory progress is being made in implementing the outstanding recommendations;

32. *Reiterates* that the benefits of space technology and its applications should continue to be brought to the attention, in particular, of the major United Nations conferences and summits for economic, social and cultural development and related fields and that the use of space technology should be promoted towards achieving the objectives of those conferences and summits and for implementing the United Nations Millennium Declaration;

33. *Notes with satisfaction* that the panel on space applications and food security, comprising the Chairman of the Committee on the Peaceful Uses of Outer Space and representatives of the Division for Sustainable Development of the Department of Economic and Social Affairs of the Secretariat, the International Institute for Applied Systems Analysis and the Food and Agriculture Organization of the United Nations, held a discussion at United Nations Headquarters on 13 October 2008;

34. *Welcomes* the increased efforts to strengthen further the Inter-Agency Meeting on Outer Space Activities as the central United Nations mechanism for building partnerships and coordinating space-related activities within the framework of the ongoing reforms in the United Nations system to work in unison and deliver as one, and encourages entities of the United Nations system to participate fully in the work of the Inter-Agency Meeting;

²⁰ See A/59/174, sect. VI.B.

35. *Urges* entities of the United Nations system, particularly those participating in the Inter-Agency Meeting on Outer Space Activities, to continue to examine, in cooperation with the Committee, how space science and technology and their applications could contribute to implementing the United Nations Millennium Declaration on the development agenda, particularly in the areas relating to, inter alia, food security and increasing opportunities for education;

36. *Invites* the Inter-Agency Meeting on Outer Space Activities to continue to contribute to the work of the Committee and to report to the Committee on the work conducted at its annual sessions;

37. *Notes with satisfaction* that the open informal meetings, held in conjunction with the annual sessions of the Inter-Agency Meeting on Outer Space Activities and in which representatives of member States and observers in the Committee participate, provide a constructive mechanism for an active dialogue between the entities of the United Nations system and member States and observers in the Committee;

38. *Encourages* the United Nations University and other scientific institutions to explore the possibilities of providing training and policy research at the crossroads of international law, climate change and outer space;

39. *Notes with satisfaction* the progress made within the framework of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) in the implementation of the platform programme for the period 2007–2009,²¹ including inaugurating and making fully operational the UN-SPIDER office in Bonn, Germany;

40. *Notes* that, in accordance with paragraph 11 of its resolution 61/110, the UN-SPIDER programme should work closely with regional and national centres of expertise in the use of space technology in disaster management to form a network of regional support offices for implementing the activities of the programme in their respective regions in a coordinated manner, and agrees with the guidelines proposed by the Committee for selecting and setting up the proposed UN-SPIDER regional support offices;²²

41. *Requests* the Committee to continue to consider, as a matter of priority, ways and means of maintaining outer space for peaceful purposes and to report thereon to the General Assembly at its sixty-fourth session, and agrees that during its consideration of the matter the Committee could continue to consider ways to promote regional and interregional cooperation based on experiences stemming from the Space Conferences of the Americas, the African Leadership Conferences on Space Science and Technology for Sustainable Development and the role space technology could play in the implementation of recommendations of the World Summit on Sustainable Development;

42. *Notes with satisfaction* that the Committee established a closer link between its work to implement the recommendations of UNISPACE III and the work of the Commission on Sustainable Development by contributing to the thematic areas that are addressed by the Commission,²³ and agrees that the Director

²¹ *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20 (A/62/20), para. 144.*

²² *Ibid.*, *Sixty-third Session, Supplement No. 20 (A/63/20), para. 129.*

²³ See A/AC.105/872 and A/AC.105/892.

of the Division for Sustainable Development of the Department of Economic and Social Affairs should continue to be invited to participate in the sessions of the Committee to inform it how it could best contribute to the work of the Commission and that the Director of the Office for Outer Space Affairs should continue to participate in the sessions of the Commission to raise awareness and promote the benefits of space science and technology for sustainable development;

43. *Notes with appreciation* that the International Committee on Global Navigation Satellite Systems was established on a voluntary basis as a forum to promote cooperation, as appropriate, on matters of mutual interest to its members related to civil satellite-based positioning, navigation, timing and value-added services, as well as cooperation on the compatibility and interoperability of global navigation satellite systems, and to promote their use to support sustainable development, particularly in developing countries; that it held its first meeting in Vienna on 1 and 2 November 2006 and its second meeting in Bangalore, India, from 4 to 7 September 2007; that it will hold its third meeting in Pasadena, United States of America, from 8 to 12 December 2008; and that its fourth meeting will be held in the Russian Federation in 2009;

44. *Notes* the fact that the Office for Outer Space Affairs could integrate into its programme of work a number of actions identified for implementation by the Office contained in the Plan of Action of the Committee on the Peaceful Uses of Outer Space for the implementation of the recommendations of UNISPACE III²⁴ and that some of those actions could be integrated into its programme of work only if additional staff and financial resources were to be provided;²⁵

45. *Urges* all Member States to contribute to the Trust Fund for the United Nations Programme on Space Applications to enhance the capacity of the Office for Outer Space Affairs to provide technical and legal advisory services and initiate pilot projects in accordance with the Plan of Action of the Committee, while maintaining the priority thematic areas agreed by the Committee;

46. *Agrees* that the Committee should continue to consider a report on the activities of the International Satellite System for Search and Rescue as a part of its consideration of the United Nations Programme on Space Applications under the agenda item entitled "Report of the Scientific and Technical Subcommittee", and invites Member States to report on their activities regarding the system;

47. *Requests* the Committee to continue to consider, at its fifty-second session, its agenda item entitled "Spin-off benefits of space technology: review of current status";

48. *Also requests* the Committee, in view of the importance of space and education, to continue to consider, at its fifty-second session, under its agenda item entitled "Space and society", the special theme for the focus of discussions "Space and education", in accordance with the workplan adopted by the Committee;²⁶

49. *Agrees* that the Committee should continue to consider, at its fifty-second session, its agenda item entitled "Space and water";

²⁴ See A/AC.105/L.262.

²⁵ Ibid., annex, para. 6.

²⁶ *Official Records of the General Assembly, Fifty-eighth Session, Supplement No. 20 (A/58/20)*, para. 239; and *ibid.*, *Sixty-third Session, Supplement No. 20 (A/63/20)*, paras. 235 and 255.

50. *Also agrees* that the Committee should continue to consider, at its fifty-second session, its agenda item entitled “International cooperation in promoting the use of space-derived geospatial data for sustainable development”, in accordance with the multi-year workplan adopted by the Committee;²⁷

51. *Further agrees* that two new items entitled “Space and climate change” and “Use of space technology in the United Nations system” should be included in the agenda of the Committee at its fifty-second session;

52. *Agrees* that the Committee should continue to consider, at its fifty-second session, under its agenda item entitled “Other matters”, the issue of its future role and activities;

53. *Notes* that in accordance with the agreement reached by the Committee at its forty-sixth session on the measures relating to the future composition of the bureaux of the Committee and its subsidiary bodies,²⁸ on the basis of the measures relating to the working methods of the Committee and its subsidiary bodies,²⁹ the Group of Asian States, the Group of Latin American and Caribbean States and the Group of Western European and Other States have nominated their candidates for the offices of Chair of the Legal Subcommittee, Second Vice-Chairman/Rapporteur of the Committee and Chair of the Scientific and Technical Subcommittee, respectively, for the period 2010–2011;³⁰

54. *Urges* the Group of African States and the Group of Eastern European States to nominate their candidates for the office of First Vice Chair of the Committee and Chair of the Committee, respectively, for the period 2010–2011;

55. *Endorses* the decision of the Committee to grant permanent observer status to the European Organisation for Astronomical Research in the Southern Hemisphere, the European Telecommunications Satellite Organization, the International Institute of Space Law, the Prince Sultan Bin Abdulaziz International Prize for Water and the Secure World Foundation;³¹

56. *Notes* that each of the regional groups has the responsibility for actively promoting the participation in the work of the Committee and its subsidiary bodies of the member States of the Committee that are also members of the respective regional groups, and agrees that the regional groups should consider this Committee-related matter among their members;

57. *Requests* entities of the United Nations system and other international organizations to continue and, where appropriate, to enhance their cooperation with the Committee and to provide it with reports on the issues dealt with in the work of the Committee and its subsidiary bodies.

*64th plenary meeting
5 December 2008*

²⁷ *Official Records of the General Assembly, Sixty-first Session, Supplement No. 20 (A/61/20), paras. 301–303; and ibid., Sixty-third Session, Supplement No. 20 (A/63/20), paras. 266 and 277.*

²⁸ *Official Records of the General Assembly, Fifty-eighth Session, Supplement No. 20 (A/58/20), annex II, paras. 4–9.*

²⁹ *Ibid., Fifty-second Session, Supplement No. 20 (A/52/20), annex I; and ibid., Fifty-eighth Session, Supplement No. 20 (A/58/20), annex II, appendix III.*

³⁰ *Official Records of the General Assembly, Sixty-third Session, Supplement No. 20 (A/63/20), paras. 283–285.*

³¹ *Ibid., paras. 308 and 309.*

Monthly Statement of Treaties and International Agreements

Space related documents registered in the U.N.'s Monthly Statement of Treaties and International Agreements (volumes 2008/1 -2008/9)

Vol. 2008/1

No. 34707. **Brazil and Argentina**

Basic Agreement on cooperation in peaceful applications of space science and technology between the Government of the Federative Republic of Brazil and the Government of the Argentine Republic. Buenos Aires, 9 April 1996 Additional Protocol to the Basic Agreement on cooperation in peaceful applications of space science and technology between the Government of the Argentine Republic and the Government of the Federative Republic of Brazil on the granting of reciprocity in the acquisition of equipment for space cooperation. Buenos Aires, 14 August 2001

Entry into force: 6 October 2003 by notification, in accordance with article II

Authentic texts: Portuguese and Spanish

Registration with the Secretariat of the United Nations: Argentina, 2 January 2008

Supplementary Protocol to the Basic Agreement on cooperation in peaceful applications of space science and technology concluded between the Argentine Republic and the Federative Republic of Brazil for the joint development of the Brazilian-Argentine Information Satellite on Hydric Resources, Agriculture and Environment. Puerto Iguazú, 30 November 2005

Entry into force: 30 November 2005 by signature, in accordance with article 17

Authentic texts: Portuguese and Spanish

Registration with the Secretariat of the United Nations: Argentina, 2 January 2008

Vol. 2008/5

No. 44962. **Netherlands and European Space Agency**

Agreement between the Kingdom of the Netherlands and the European Space Agency concerning the European Space Research Technology Centre (with note). The Hague, 21 February 2008

Entry into force: 21 February 2008 by signature, in accordance with article 26

Authentic texts: English and French

Registration with the Secretariat of the United Nations: Netherlands, 28 May 2008

No. 41804. **Netherlands and European Space Agency**

Agreement between the Kingdom of the Netherlands and the European Space Agency concerning the European Space Research Technology Centre. Noordwijk, 10 February 1999

Termination in accordance with:

No. 44962 Agreement between the Kingdom of the Netherlands and the European Space Agency concerning the European Space Research Technology Centre (with note). The Hague, 21 February 2008

Entry into force: 21 February 2008

Registration with the Secretariat of the United Nations: Netherlands, 28 May 2008

Information provided by the Secretariat of the United Nations: 28 May 2008

No. 43667. Netherlands and European Space Agency

Agreement between the Kingdom of the Netherlands and the European Space Agency concerning the privileges and immunities of the staff of the European Space Research Technology Centre (ESTEC) and their family members. The Hague, 29 September 2006

Termination in accordance with:

No. 44962 Agreement between the Kingdom of the Netherlands and the European Space Agency concerning the European Space Research Technology Centre (with note). The Hague, 21 February 2008

Entry into force: 21 February 2008

Registration with the Secretariat of the United Nations: Netherlands, 28 May 2008

Information provided by the Secretariat of the United Nations: 28 May 2008

Brussels, 1st October 2008

EU/AU Joint Statement on "Implementation of the EU-AU Partnership for Science, Information Society and Space" - Presentation of the 19 "Lighthouse" Projects

The European Commission (EC) and the African Union Commission (AUC) agreed on an EU / Africa Strategic Partnership during the EU/ AU Summit in Lisbon in December 2007. 8 thematic partnerships were identified, the 8th of these being the partnership for Science, ICT, and Space.

In this framework, a book of 19 lighthouse projects have been identified; 6 of them are considered as "early deliverables" and will receive immediate attention. These are underlined in the list below.

The significance of these projects is that they are:

- identified and designed by the African Union Commission¹ (AUC) to respond to African needs and challenges; and
- agreed with the European Commission (EC) as the basis for implementing the 8th Partnership (on Science, ICT and Space) of the Africa-EU Strategic Partnership.

The 19 projects are split into 3 groups, corresponding to the 3 Priority Actions included in the Partnership:

- Group 1 - Support for the development of an inclusive information society in Africa (5 projects).
- Group 2 - Support Science and Technology (S&T) capacity building in Africa and implement Africa's Science and Technology Consolidated Plan of Action – CPA (12 projects).
- Group 3 - Enhancing cooperation on Space applications and technology (2 projects).

GROUP 1 - ICTs

- Africa connect
- The African internet Exchange System
- The African Leadership ICT Program
- African Virtual Campus
- Harnessing information & Knowledge for Youth Development

¹ Human Resource Science and Technology Department

GROUP 2 - S&T

- African Research Grants
Capacity Building: EU-AU Africa research grants
- Popularization of S&T
 - Popularization of science and technology and promotion of public participation
- Capacity building in S&T - African level
 - Development of a Common African Union Science and Technology Policy Framework
 - Science and technology for the development of African Small Medium Enterprises (SMEs) and support business incubator networks
 - Securing and Using Africa's Indigenous and Traditional Knowledge
 - Pan African intellectual Propriety Organization (PAIPO)
 - African Observatory of Science, Technology, and Innovation (AOSTI), and Policy Development
- Capacity building - Thematic level
 - Water and food security in Africa
 - Building Africa's Scientific and Institutional Capacity (BASIC) in Agriculture and natural Resource Management
 - Harnessing Biotechnology for the Advancement of African Agriculture
 - African Pole of Excellence on Desertification and Forestry
 - African Union Initiative on Climate Change (African Institute on Climate Change-AICC)

GROUP 3 - SPACE

- Kopernicus - Africa: African global Monitoring for Environment and Security
- Implementation of the African Reference Frame (AFREF) Capacity building in the AUC on Geospatial Sciences

GROUP 1 – Summaries of ICT Projects

Africa Connect ("early deliverable")

The Africa Connect project will support the development of regional research and education networks in Sub-Saharan Africa and their interconnection with the European GEANT2 network², building on a similar initiative, EumedConnect implemented in North-Africa (currently interconnecting around 1,5 Million users across more than 500 research organisations). The objective will be to contribute integrating the African research community both at regional and international levels, through interconnection with the most cost-effective high bandwidth capacity. This project will contribute to the modernization and development of education and research in African countries by supporting research networking and internet connectivity. The target group would be the emerging National Research and Education Networks in Sub-Saharan countries to ensure digital connection for their students and researchers in sufficient capacity and on affordable terms.

African Internet Exchange System (AXIS) ("early deliverable")

This project aims to support the establishment of a continental African internet infrastructure through national and regional internet exchange points. Such deployment is considered crucial for the development of the internet in Africa, generating huge cost savings by keeping local traffic local and offering better quality of service and new applications opportunities. AXIS activities will include technical assistance on planning, regulatory/policy issues, and human training to achieve this objective.

- The African Leadership ICT Programme: a pan-African ICT training programme for policy-makers and IT professionals;
- African Virtual Campus: extension of the Avicenna e-learning network (implemented in the Mediterranean Region through the MEDA/EUMEDIS programme) to Sub-Saharan Africa. This is a flagship UNESCO project for Africa aiming to interconnect African Universities, provide online training facilities and develop ICT-related curriculae;
- Harnessing information & Knowledge for Youth Development: a pan-African programme for youth e-skills development as well as incubation centres.

The African Leadership ICT Program

This is a pan-African ICT training programme for policy-makers and IT professionals. It aims to provide management expertise to potential leaders in African countries to become change agents in the ICT sector. The training will be delivered in a selective variety of qualified training centres and institutions in Africa's five regions.

² GÉANT2 is the high-bandwidth, academic Internet serving Europe's research and education community. Connecting over 30 million researchers with a multi-domain topology spanning 34 European countries and links to a number of other world regions, GÉANT2 is at the heart of global research networking. GÉANT2 is co-funded by the European Commission and Europe's national research and education networks, and is managed by DANTE. <http://www.geant2.net/>

African Virtual Campus

An extension of the Avicenna e-learning network (implemented in the Mediterranean Region through the MEDA/EUMEDIS programme) to Sub-Saharan Africa, this is a flagship UNESCO project for Africa aiming to interconnect African Universities, provide online training facilities and develop ICT-related curriculae.

Harnessing information & Knowledge for Youth Development

This is a pan-African programme for youth e-skills development. It will target the establishment of 35 youth training and information centres as well as 15 community information and multimedia centres in all African sub-regions. It will also plan the design, setup and disbursement of an ICT Youth Incubation Fund for selected incubator projects in at least 5 countries.

GROUP 2 – Summaries of S&T Projects

Africa research grants ("early deliverable")

Whilst many African countries are active in national and international research, their capacity needs strengthening by coordinating, structuring and integrating their efforts for Africa's development. This project will do that by setting up a continent-wide research programme focused on developing sustainable science and technology research responding to Africa's technical, economic and social development. The challenge for African researchers will be to work together creating supranational consortia complementing their scientific competences. Proposals by consortia will be selected via open and competitive selection procedures. The capacity of the AUC to manage and implement the programme itself will be developed so that it can launch, implement and monitor calls for proposals, in different thematic areas related primarily to the earth and life sciences.

Popularization of science and technology and promotion of public participation

In Africa, not only is public understanding of R&D weak, but public opinion is often ignored by the scientists. Application of science and technology will remain ineffective until politicians and the general public understand its benefits. Better public understanding of science will also increase interest of young students in taking up science and technology careers. The AUC has designed a number of activities for increasing public understanding, participation and awareness of the role of science and technology as a driving agent for social and economic progress for Africa and its integration process.

Development of a Common African Union - Science and Technology Policy Framework

Science and Technology is a development instrument for AU Member States to achieve the Millennium Development Goals. But several recent reports show that Science and Technology gaps exist between the African Regions. The AUC has a mandate to facilitate and support the development and harmonization of Science, Technology and ICT policies for Africa's socio-economic development. In this context the S&T policy programme will create a permanent inter-governmental structure able to analyse and implement S&T policies. The project will lead to improved policy approaches for the Socio-economic development via Science and Technology at African Continent level coordinated by the AUC³ and complementing the work of UNESCO at African Union Member State level.

Science and technology for the development of African Small Medium Enterprises and support business incubators network

Turning research into results in terms of innovation and products needs more than support for research organisations. Technology incubators, parks or innovation clusters help turn ideas into commercially viable products and services. This project will focus on applying new technologies to helping existing small medium enterprises create more efficient and sustainable production activities. It will also enhance the capacities of African industry to integrate into the global economy. Specific scientific support will be given to the business incubators by providing inclusive environments that link innovators and researchers with African industry and business communities.

Securing and Using Africa's Indigenous and Traditional Knowledge

The objective of the project is to strengthen Africa's capacity to harness and apply as well as protect indigenous knowledge and technologies in view to solve specific problems and improve the Africa's economies. Institutions to valorise the indigenous and traditional knowledge are weak in most countries. In addition, there are weak links between the formal R&D institutions and local communities that hold and use the knowledge. This has denied Africa the opportunity to better understand and use its own indigenous / traditional knowledge tools techniques. This project will build on the analysis of UNESCO, which has gathered and made available data on such knowledge, and of the work of NEPAD in developing framework documents devoted to the protection and promotion of indigenous knowledge and related technological innovations.

³ AUC Division of Science, Technology and ICT within the Department of Human Resources Science and Technology (HRST)

Pan African intellectual Propriety Organization (PAIPO)

Considerable progress has been made under Trade-Related Intellectual Property Rights (TRIPS) and the Convention on Biological Diversity (CBD) that requires a common policy front by African countries. Growing pressures of globalization mean that many countries require effective guidance. With the right policy and institutional framework, African countries can forge ahead in stimulating both inventiveness and the generation of productive innovations. Africa needs a continental structure to respond to institutional initiatives at the global level in order to ensure the protection of innovations and promotion of inventive activity. The project will provide a broad-based platform for African Member States to benefit from a coordinated stock of specialized intellectual property knowledge and services with a view to promoting innovation, techno-industrial competitiveness, and economic growth in Africa

African Observatory of Science, Technology, and Innovation (AOSTI), and Policy Development

Africa needs to develop new strategies to confront the myriad of challenges facing her peoples. Harnessing the forces of science and technology to these ends has become more urgent than ever before. But this must be done through practical actions that institutionalise the robust application of scientific and technological achievements. The process requires the evolution and management of capacities to map the STI terrain and analyse what is already available, and what needs to be built over time. The project will provide a comprehensive survey of capacity in science, technology, and innovation in Africa. Member States will benefit from a dynamic stock of specialized knowledge that would provide countries with means to address the gaps in STI capacity. Its ambition is to facilitate the harnessing of opportunities for knowledge management in STI, and provide governments with material that would enhance their policy-making processes in science, technology, and innovation.

Water and food security in Africa ("early deliverable")

The main aim of this project is to strengthen the capacity in science and technology in order to cope with food security problems while promoting sustainable management of land and water resources. In this context, demonstration activities in one or more African river basin, such as the Nile basin, will be considered to consolidate the research and work methodology. Agriculture, industry, human health and settlements, environment, and land and water resources are all affected by climate change. Many studies are investigating the possible consequences, and suggesting measures to counteract the undesired outcomes. So far there has been little effort to integrate water availability and water demand with the on-going demographic changes and globalization process. They trigger the socio-economic changes at global level including population migration, urbanization, destabilization of national food reserves, increase of food and oil prices, etc. The project will analyze the negative effects of interaction of the abovementioned factors in strategic and fragile river basins; and it will define the appropriate remedial strategies and measures.

Building Africa's Scientific and Institutional Capacity (BASIC) in Agriculture and natural Resource Management

Raising African agricultural productivity depends on improving the productivity of land holdings of between 0.5 and 0.7 hectares per person. Appropriate technologies and policies must be derived locally in the context of Africa's unique farming and socio-economic circumstances to cope with poor soils, tropical pests, plant and animal diseases and inadequate infrastructure. Africa's Science and Technology Consolidated Plan of Action (S&T CPA) actions for the conservation and sustainable use of biodiversity with a specific objective to promote the development and diffusion of a range of sustainable use technologies. The main objective of the project is to reposition African tertiary agricultural education to produce effective entrepreneurs, change agents and policy makers and render capacity strengthening more responsive to the agricultural development agenda.

Harnessing Biotechnology for the Advancement of African Agriculture

To promote harmonised, efficient and safe use of biotechnology for smallholder development it is essential to facilitate interactions between various actors. The Forum for Agricultural Research in Africa (FARA) established the African Biotechnology and Biosafety Policy Platform (ABBPP) to facilitate biotechnology and biosafety policy dialogue and stakeholder consensus-building in policy formulation and implementation. Many research and regulatory bodies exist that are concerned with biotechnology and biosafety at the continental, sub-regional and national levels. This project will contribute to the establishment of an enabling policy environment that allows Africa to take full, but safe advantage of modern biotechnology application in improving food security and reducing malnutrition among poor African rural and urban dwellers.

African Pole of Excellence on Desertification and Forestry

The African Pole of Excellence on Desertification and Forestry is identified as a research establishment of the Pan African University (PAU) on life and earth Sciences. It advises the AU Member states in the fields of desertification and forestry and serves as a focal point for Knowledge/technology transfer between the African Scientists. This project will not start new research so much as rationalise the existing accumulated knowledge in Africa. Sharing information, data and methodologies will enhance the capacity of African scientists and researcher to analyse problems and provide options and solutions to African decision-makers.

African Union Initiative on Climate Change (African Institute on Climate Change - AICC)

The African Institute on Climate Change (AICC) is identified as a research establishment of the Pan African University (PAU) on the thematic priority areas related to life and earth Sciences. It aims mainly to advise and to guide AU Member States in the issues related to climate change. The AICC will develop and/or improve the capacity of African Climate change scientists. I will also be the focal point for knowledge/technology transfer between the African Scientists and their counterparts worldwide, and particularly in Europe. Therefore, the research to be taken under the AICC will help in identifying the potential impacts and effective adaptation methods for Africa, particularly with regards to ecological resources, water resources, agriculture and human health.

GROUP 3 – Summaries of Space Projects

Global Monitoring for Environment and Security (Kopernicus⁴ – Africa)

("early deliverable")

The potential role of space science and applications as a means of addressing development and poverty alleviation was recognised during a meeting held alongside the EU-AU Summit of December 2007 on "Developing space for developing countries: the case of GMES and Africa". Kopernicus-Africa is now taking this view forward by ensuring a wide consultation process involving users and policy makers within the AUC, its Member States and RECs⁵. The process will result in a "Kopernicus - Africa Action Plan" detailing infrastructure needs, thematic priorities and financial instruments to be submitted to the third EU-Africa Summit, foreseen early 2010 in Libya.

Implementation of the African Reference Frame (AFREF);

Capacity building in the AUC on Geospatial Sciences ("early deliverable")

ICTs can now harness the power of geospatial data, leading to new services capable of estimating crop yields, of monitoring surface water resource location and availability, of mapping and measuring deforestation and of quantifying land degradation trends.

Strengthening the capacity for handling and using ICT applications within the AUC and, in the long-term, ensuring pan-African access to ICT in the geospatial domain are the goals. In a first phase EC staff seconded to the AUC will examine modalities for integrating resource management geospatial information systems developed in the EC into the AUC. Development of the system, databases and applications on natural resources, food security, crisis management and renewable energies will continue, and steps will be taken to ensure technology transfer via training and staff exchanges and the promotion of thematic regional centres of excellence, building on existing capacities.

⁴ Kopernicus is the new name for GMES – Global Monitoring for Environment and Security

⁵ The 5 Regional Economic Communities

Statement of Intent Regarding The International Lunar Network

We, the signatories of this document, affirm that a robotic network on the surface of the Moon, which we propose to call the International Lunar Network (ILN), should provide significant scientific value to the exploration of the Moon. With this document, we hereby state our intention to explore ways in which to structure a partnership of space agencies to maximize the scientific return to all of the participants in the ILN concept. This partnership is an expression of the efforts to coordinate exploration activities consistent with the May 2007 *Global Exploration Strategy: The Framework for Coordination* which articulated a shared vision of space exploration focused on solar system destinations where humans may someday live and work.

As conceived, the network would be gradually established by placing on the surface of the Moon, potentially including its far side and/or polar regions, robotic landers or other vehicles equipped with instruments from a to be agreed-upon set of scientifically equivalent core instrumentation to carry out specific measurements. This core set of instrumentation is fundamental to the ILN concept, since it will allow intercomparison of measurements from instruments from different countries. Space agencies taking part in the ILN concept would, at their discretion, be free to include their own instruments or capabilities beyond those in the core suite.

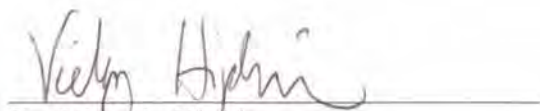
Participation in the ILN concept could come through the contribution of landers, orbiters, instrumentation, or other significant infrastructure contributions, including ground segment elements or power supplies for surviving the lunar night. Additional participants are welcome to join the ILN concept when they are programmatically and financially prepared to do so. As a condition of taking part in the ILN concept, participants will accept a to be defined set of core instruments and measurements, and will agree to a policy of free and open exchange of data from those core instruments, whilst the data obtained may be restricted among the participants for a certain period.

Working groups will be established to examine such key areas as the core suite of instrumentation/measurements and potential landing sites. Interoperable spectrum and communications standards will be coordinated through existing organizations; with membership in these organizations extended as needed to ILN participants who may not be current members. These working groups will be followed by later groups on mission implementation and data policy. The terms of reference for the working groups will be drafted and agreed-upon by all ILN concept participants and will focus on fully understanding the opportunities and advantages of the potential cooperation. The initial working group on core instrumentation should begin work as soon as possible, followed closely by landing sites and communications, with the goal of providing feed-back to the signatories by the end of 2008. All activities to be initiated as a result of the technical working group discussions will be documented by appropriate international agreements.

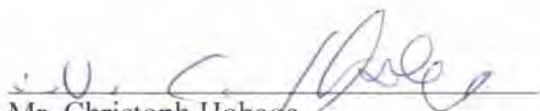
This Statement of Intent serves as an expression of interest in the ILN and will not constitute a binding commitment on the participants. Additionally, it is not the intention of this Statement of Intent to completely define the ILN concept at its end state, but rather to leave open the possibility for its evolution and implementation in both the near- and long-term.

It is anticipated that the ILN will make this great scientific initiative a reality, which could be realized only through multilateral partnership.

Signed this 24th day of July, 2008.



Dr. Victoria Hipkin
Canadian Space Agency



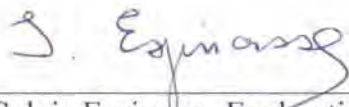
Mr. Christoph Hohage
Director, Space Projects
Deutsches Zentrum für Luft- und Raumfahrt



Ms. Martina Brockers
Program Manager Space Science
Deutsches Zentrum für Luft- und Raumfahrt



Mr. Deviprasad Karnik
Counselor (Space), Embassy of India, Washington, DC, on behalf of
Indian Space Research Organization



Dr. Sylvie Espinasse, Exploration Program Scientist on behalf of
Dr. Enrico Flamini, Director of the Observation of the Universe
Italian Space Agency



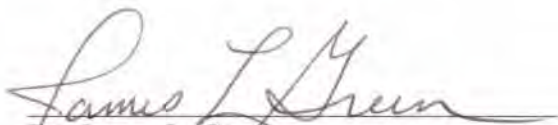
Prof. Jun'ichiro Kawaguchi
Program Director, JSPEC
Japan Aerospace Exploration Agency



Dr. Chin-Young Hwang
Director, Policy and International Relations Division
Korea Aerospace Research Institute



Dr. David Parker, BNSC Director of Space Science on behalf of
Dr. David Williams, Director General
British National Space Centre



Dr. James L. Green
Director, Planetary Science Division
United States National Aeronautics and Space Administration

F. Casoli

22/04/08

Dr. Fabienne Casoli
Responsable des Programmes Etude et Exploration de l'Univers
Direction de la Stratégie, des Programmes, et des Relations Internationales
Centre National d'Études Spatiales

Agreement between the Kingdom of the Netherlands and the European Space Agency concerning the European Space Research Technology Centre

The Kingdom of the Netherlands,

and

the European Space Agency

Having regard to the Convention for the establishment of a European Space Agency of 30 May 1975, and in particular to its Article VI and its Annex I on Privileges and Immunities;

Having regard to the Agreement between the European Space Agency and the Kingdom of the Netherlands concerning the European Space Research Technology Centre of 10 February 1999;

Having regard to the Agreement between the Kingdom of the Netherlands and the European Space Agency regarding the registration of apprentices, who have been accepted by the European Space Agency into its apprenticeship programme in the Netherlands of 23 July 2004;

Considering the need to adapt the Agreement between the European Space Agency and the Kingdom of the Netherlands concerning the European Space Research Technology Centre of 10 February 1999 to the present circumstances;

Having regard in particular to Article XV.3 of the Convention for the establishment of a European Space Agency of 30 May 1975 and to Article XXVIII of Annex I thereto;

Have agreed as follows:

Article 1. Definitions

For the purposes of this Agreement:

- a) “Convention” means the Convention for the establishment of a European Space Agency of 30 May 1975;
- b) “Director General” means the Director General referred to in Article XII, paragraph 1 b) of the Convention;
- c) “the Agency” means the European Space Agency;
- d) “ESTEC” means the European Space Research Technology Centre of the Agency

- located in the Netherlands;
- e) “Staff member” means a member of the staff of the Agency exercising his functions in the Netherlands who has been appointed further to Article XII of the Convention;
 - f) “Experts” means persons, referred to in Article XII, paragraph 3 d) of the Convention and Article XVII of Annex I of the Convention performing missions or tasks authorised by the Agency;
 - g) “Government” means the Government of the Netherlands;
 - h) “Member State” means a State party to the Convention pursuant to Article XX and XXII thereof;
 - i) “Site” means the surface of land put at the disposal of the Agency, in accordance with the notarial deed of 9 November 1966, as amended by notarial deeds of 24 April 1994 and 16 November 2006;
 - j) “Premises” means the site, the buildings, parts of buildings and land or facilities ancillary thereto, including installations and facilities made available to, or maintained, occupied or used by the Agency in the Netherlands for the performance of its official activities. The Agency shall communicate plans of these premises to the Government;
 - k) “Representative of Member States” means the designated representative of a State party to the Convention;
 - l) “Vienna Convention” means the Vienna Convention on Diplomatic Relations of 18 April 1961;
 - m) “Members of the family forming part of a staff member’s household” has the meaning specified in Article 11 of this Agreement.

Article 2. Application of Annex I to the Convention

For the pursuit of its official activities within the territory of the Netherlands, the Agency shall enjoy the privileges and immunities defined in Annex I to the Convention and in any relevant complementary agreement in force between the Government and the Agency in accordance with the provisions for its implementation, set out in this Agreement. This Agreement shall not detract from Annex I to the Convention.

Article 3. Rights incidental to use of the site

1. The Agency shall have the right to build, within the bounds of the site, such installations as it deems necessary for carrying out its activities. Unless otherwise agreed, it shall have exclusive ownership of such installations.
2. The Agency shall have the right to build roads as it deems necessary within the bounds of the site. It may in addition display such signs, plaques and flags as it deems appropriate.

3. The Agency shall have the right to enclose the site by a fence and to control entry. The rights to use the site include the accompanying rights of access necessary for use of the site by the Agency's staff, contractors and visitors.
4. As soon as a planned change in use or in the scale of activities undertaken at ESTEC results in the identification of requirements for expansion of the site or of the buildings thereon, the Agency shall consult with the Government through the Consultative Committee, referred to in Article 25. The Government shall make every effort to accommodate such requirements on terms which are not less favourable than those applicable to the site under this Agreement.

Article 4. Permits

The Government undertakes to issue in a timely fashion the necessary permits for the buildings and installations the Agency requires for its operation and their expansion as provided for in Article 3. Charges for permits shall be proportional to the service rendered.

Article 5. Communications

1. The Agency shall have the right to install and to operate telecommunications systems on the site. The Government shall arrange for the necessary authorisations to be issued in good time to the Agency for the installation and operation of fixed and mobile antennas and other equipment related to satellite communications and ensure that the Agency is able to make use of the radio frequencies it requires for its operations. Those frequencies shall be chosen by the Agency in agreement with the competent authorities of the Netherlands and in accordance with the rules of the International Telecommunications Union. The competent authorities of the Netherlands shall be responsible for taking any necessary national or international steps.

The Agency shall enjoy the same protection as the State's radio communications from interference caused by radio transmissions under the Government's control and, as far as possible, by electrical equipment and installations outside ESTEC.

In accordance with the rules of the International Telecommunications Union, the Government shall use its best endeavours to ensure that any interference caused by radio transmissions that are not under its control is eliminated.

2. The Agency shall be consulted if any new air traffic route passing over the site is proposed.

Article 6. Inviolability of the premises

1. Any person authorised to enter any place under any legal provision shall not exercise that authority in respect of the premises of the Agency unless permission to do so has been given by or on behalf of the Director General of the Agency or the Head of ESTEC acting on his behalf. Such permission may, however, be presumed in the event of fire or other emergencies requiring prompt protective action. Any person who has entered the premises with the presumed permission of the Director General of the Agency or the Head of ESTEC acting on his behalf shall, if so requested by the Director General of the Agency or the Head of ESTEC acting on his behalf, leave the premises immediately.
2. In other cases, the Director General of the Agency or the Head of ESTEC acting on his behalf shall give serious consideration to a request for permission from the authorities of the Netherlands to enter the premises without prejudice to the interests of the Agency.

Article 7. Inviolability of the archives

The inviolability of the archives referred to in Article III of Annex I to the Convention shall apply to the entire archives, correspondence, documents, manuscripts, photographs, films, recordings, computer and media data, data carriers and any other similar material belonging to or held by the Agency, wherever they are located and by whomsoever they are held, and all the information contained therein.

Article 8. Applicable law

Without prejudice to the provisions of the Convention and Annex I thereto and to any relevant complementary agreement between the Government and the Agency, the laws of the Netherlands shall apply within the premises and to the activities of the Agency carried out on the territory of the Netherlands.

Article 9. Liability for injury or damage

1. The Agency shall be liable for any injury or damage resulting from activities, on the territory of the Netherlands, of the Agency, its staff or its experts, acting or failing to act within the limits of their functions. Without prejudice to the provisions of Annex I to the Convention such liability shall be governed by the laws of the Netherlands and be without prejudice to any rights of recourse contracted by the Agency.
2. The Agency shall hold the Government harmless from any obligation arising out of a claim made against the Government at the request of a third party, as a consequence of the activities mentioned in paragraph 1 of this Article.

Article 10. Exemption from taxes and duties

1. For the purposes of Article V.1 of Annex I to the Convention, “direct taxes” shall embrace all direct State taxes (*Rijksbelastingen*) and all direct taxes, dues and levies imposed by a province, municipality or district water board (*waterschap*) without prejudice to the provisions of Article VII.3 of Annex I to the Convention.
2. The Agency shall be exempted on application from tax on motor vehicles and motorcycles (*belasting van personenauto's en motorrijwielen, BPM*) and motor-vehicle tax (*motorrijtuigenbelasting, MRB*) in respect of its motor vehicles used for official purposes.
3. The following taxes and duties shall in particular be considered to fall under article V.2 of Annex I to the Convention:
 - a) value added tax (*omzetbelasting*) in respect of goods supplied or services rendered;
 - b) excise duties (*accijnzen*) on goods;
 - c) real property transfer tax (*overdrachtsbelasting*);
 - d) insurance tax (*assurantiebelasting*);
 - e) import taxes and duties (*invoerrechten*);
 - f) energy tax (*energiebelasting*);
 - g) ground water tax (*grondwaterbelasting*);
 - h) any other tax and duties of a substantially similar character as taxes provided for in this paragraph, imposed by the Netherlands.
4. If value added tax is paid in respect of goods supplied or services rendered to the Agency it shall be refunded to the Agency on application. The tax on hydrocarbons such as fuel oil and motor fuels which the Agency requires for official purposes shall be refunded to the Agency on application.

The Agency shall be exempted in advance from excise duties on goods supplied and required for official purposes, purchased from an “*accijnsgoederenplaats*”, if a permit therefor is acquired from the national tax authority.

The Agency shall submit applications for reimbursement within three months after the end of the quarter in which payment was made for goods supplied or services rendered and shall send the relevant documents together with the applications.

The Agency undertakes to facilitate the verification by the competent authorities of the facts on which the tax exemption or tax refund can be based.

Reimbursement of the above-mentioned taxes and duties shall be made in conformity with the applicable tax regulations and quotas set by the Government.

This Article shall not apply to taxes and duties that are no more than charges for public utility services.

5. Goods acquired or imported under the terms set out in paragraph 3 of this Article shall not be sold, let, given away or otherwise disposed of, except in accordance with the conditions agreed upon with the Government.

Article 11. Members of the Family

1. For the purposes of the Agreement between the Netherlands and the Agency, the following persons shall be recognised as members of the family forming part of a staff member's household:
 - a) the spouse or registered partner of a staff member;
 - b) children of a staff member, of his spouse or of his registered partner who are under the age of 18;
 - c) children of a staff member, of his spouse or of his registered partner who are between 18 and 27 years of age, provided that they:
 - (i) are unmarried,
 - (ii) are financially dependent on the staff member, his spouse or his registered partner, and
 - (iii) are either attending school or studying, or following vocational training, an apprenticeship programme or education, whether or not including a work placement, or intending to do so, in the Netherlands;
 - d) children under the age of 18 and children who fulfil the requirements listed in subparagraph c) of this Article for whom an application for adoption has been lodged and the adoption procedure has been started by a staff member, his spouse or his registered partner;
 - e) irrespective of age, dependent disabled children, or children who are prevented by serious illness or invalidity from earning a livelihood throughout the period of that illness or invalidity, of a staff member, of his spouse or of his registered partner, provided that the Agency supplies the Government with a certificate to that effect.
2. Children of a staff member, of his spouse or of his registered partner who are between 18 and 24 years of age shall also be recognised as members of the family forming part of the household if they do not fulfil the condition set out in paragraph 1, subparagraph c), item iii) of this Article, as long as they fulfil the other conditions set out in that subparagraph.

Article 12. Work permit, residence permit, compulsory registration

1. Staff members:
 - a) shall not require a work permit;

- b) shall not require a residence permit, and shall not be subject to the provisions governing immigration procedures and aliens' registration, provided that they hold the personal identity card referred to in Article 13; the same shall apply to members of their family forming part of their household;
 - c) shall not be subject to the application of the regulations regarding the registration of religious denomination in the Netherlands' population registers; the same shall apply to members of their family forming part of their household.
- 2. Members of the family forming part of the household of a staff member shall not require a work permit for the duration of the staff member's employment with the Agency.
- 3. The rights granted to staff members during their period of employment and to the members of their family forming part of their household shall expire on the staff member's final departure or on expiry of a reasonable period as referred to in Article 39, paragraphs 2 and 3, of the Vienna Convention, such period being counted from the date on which the staff member relinquishes his duties or the family members cease to form part of their household.

Article 13. Identity cards

- 1. The Agency shall promptly notify the Government of: the names of staff members and the dates on which they take up and relinquish their duties; their arrival and final departure; the names and arrival and final departure of members of the family forming part of a staff member's household and the fact that a person has ceased to form part of the household and; the names and arrival and final departure of domestic and private servants of staff members and the fact that they have left the employment of a staff member.
- 2. The Government shall issue identity cards to the following persons:
 - a) staff members and experts;
 - b) members of the family forming part of a staff member's and expert's household who are not nationals of the Netherlands;
 - c) private and domestic servants of a staff member, who are neither nationals of the Netherlands, nor in the possession of a valid permanent residence permit.
- 3. The identity cards issued by the Government shall state the holder's name, sex, date and place of birth, and nationality, and shall bear a photograph of the holder. This card shall serve to identify the holder in relation to the competent authorities.
- 4. The Agency shall make the personal data that will appear on the identity card available to the Government. The recipient authority of the Government shall make the data available to other authorities of the Government solely for the application of Annex I to the Convention and this Agreement.
- 5. Electronically accessible data on the identity cards shall be limited to the data listed in paragraph 3 of this Article. However, the Government may add further electronically

accessible data provided this does not affect any of the rights under Annex I to the Convention and this Agreement. The Government shall inform the Agency of the intended changes at the earliest possible date prior to their implementation.

6. All visible and electronically accessible data on the identity card shall be subject to the data protection legislation (*Wet Bescherming Persoonsgegevens*) of the Kingdom of the Netherlands.
7. The Agency shall promptly return the identity cards of the persons mentioned in paragraph 2 of this Article after termination of employment of the staff member concerned, with due regard to the reasonable period stipulated in Article 12, paragraph 3 of this Agreement. The same shall apply to the identity cards of the persons mentioned in paragraph 2, subparagraph c of this Article after termination of their employment with a staff member.

Article 14. Director General and Head of ESTEC

1. The Director General of the Agency shall, when visiting the Netherlands, enjoy the same privileges and immunities as the Netherlands accords to heads of diplomatic missions in the Netherlands in accordance with the Vienna Convention.
2. The Head of ESTEC in the Netherlands, as the representative of the Director General of the Agency, shall enjoy the same privileges and immunities as the Netherlands accords to heads of diplomatic missions in the Netherlands in accordance with the Vienna Convention.
3. The same provisions shall apply to the members of their families forming part of their respective households.

Article 15. Privileges and immunities of staff members

1. Staff members, having the professional grade of A4/10 and above shall enjoy the same privileges and immunities as the Netherlands grants to diplomatic agents of the diplomatic missions established in the Netherlands, in accordance with the Vienna Convention, except that immunity from jurisdiction and personal inviolability shall not extend to acts performed outside the course of their official functions.
2. Staff members who are not service staff and who do not fall under paragraph 1 shall enjoy the same privileges and immunities as the Netherlands accords to administrative and technical staff of the diplomatic missions established in the Netherlands in accordance with the Vienna Convention, except that immunity from jurisdiction and personal inviolability shall not extend to acts performed outside the course of their official duties.
3. Service staff members shall enjoy the same privileges and immunities as the host State accords to service staff of the diplomatic missions established in the host State in accordance with the Vienna Convention.

4. The same provisions shall apply to the members of their families forming part of their respective households.
5. Immunity from jurisdiction shall not apply in the case of a motor traffic offence committed by a staff member nor in the case of damage caused by a motor vehicle belonging to or driven by a staff member.

Article 16. Servants

1. For the duration of their employment with the Agency in the Netherlands, staff members shall be allowed to employ domestic servants or, where applicable, private servants.
2. The domestic or private servants referred to in paragraph 1 of this Article shall be required to hold neither a work permit nor a residence permit.

Article 17. Experts

1. The Government recognises the importance of the presence at ESTEC of experts, and therefore undertakes to use its best efforts to facilitate their unimpeded entry into and departure from the Netherlands, and to provide, upon request, administrative assistance in connection with their stay in the Netherlands (including, where necessary, the provision of work and/or residence permits).
2. Paragraph 1 of this Article shall also apply to the members of their families forming part of their respective households.

Article 18. Nationals, Permanent Residents and Staff on short-term contracts

1. Articles 14 to 17 shall not apply to nationals and permanent residents of the Netherlands and staff members having an initial contract of less than two years, for the duration of that contract and without prejudice to privileges and immunities that subsequently may be enjoyed. They shall only enjoy immunity from jurisdiction, and inviolability, in respect of official acts performed in the exercise of their functions.
2. Nationals of the Netherlands, covered by Article XV or XVI of Annex I to the Convention, whose names have, by reason of their duties, been entered on a list drawn up by the Director General of the Agency and approved by the Minister of Defence of the Netherlands, shall be exempt from military service. In the event of other nationals of the Netherlands being called up for military service, the Minister of Defence of the Netherlands shall, at the request of the Agency, grant them such deferment as may be necessary to avoid the interruption of essential work.
3. Nationals or permanent residents covered by Article XV or XVI of Annex I to the Convention shall have the right specified under g) of Article XVI.

Article 19. Use of privileges and immunities

The privileges and immunities granted under the provisions of this Agreement are conferred in the interests of the Agency and not for the personal benefit of the individuals themselves. It is the duty of the Agency and all persons enjoying such privileges and immunities to observe the laws and regulations of the Netherlands.

Article 20. Entry, stay and departure

1. The Government shall facilitate the entry, stay and departure of the persons listed below:
 - a) representatives of Member States, as defined in Article XIV of Annex 1 of the Convention;
 - b) staff members and members of their family forming part of their household;
 - c) experts and members of their family forming part of their household;
 - d) domestic and private servants of staff members.
2. The Government shall, on the request of the Agency, facilitate the entry, stay and departure of persons attending official activities and programmes specified in Article V of the Convention.
3. Visas or, if appropriate, multiple-entry visas required by persons referred to in paragraph 1 and 2, shall be granted without charge and as promptly as possible.
4. The provisions under paragraphs 1 to 3 of this Article shall not preclude a request for presentation of reasonable evidence to establish that persons claiming the treatment provided for in these paragraphs fall within the categories described in paragraph 1 of this Article.

Article 21. Social security

As long as the Agency has its own social security system or adheres to a social security system offering comparable coverage to the coverage under the legislation of the Netherlands, the Agency and its staff members shall be exempt from social security provisions in the Netherlands, except if a staff member takes up gainful employment in the Netherlands other than employment with the Agency.

Article 22. Progression

The Government shall not take into account any of the salaries and emoluments paid by the Agency which are exempt from national income tax pursuant to Article XVIII of Annex I to the Convention when assessing the amount of tax to be applied to income from other sources.

Article 23. Driving licence

During their period of employment, staff members, experts and the members of their family forming part of their household, and their domestic or private servants shall be allowed to obtain a Dutch driving licence on presentation of their valid foreign driving licence or to continue to drive using their own valid foreign driving licence, provided the holder is in possession of an identity card issued by the Government.

Article 24. Most favourable treatment

If and to the extent that the Government, in the future, enters into an agreement with, or changes its policy with respect to any intergovernmental organisation, and said agreement or policy contains terms or conditions more favourable to that organisation than comparable terms or conditions in this Agreement, consultations shall be entered into at the request of the Agency with a view to discussing whether the same treatment may be extended to the Agency.

Article 25. Joint Consultative Committee

1. The Joint Consultative Committee shall facilitate the implementation of this Agreement through consultation between the relevant authorities of the Netherlands and the Agency and shall meet as frequently as necessary for that purpose. The Chairman of the Committee shall be appointed by the Government.
2. The Government recognises that certain services, amenities and support are required for the proper and efficient operation of ESTEC. The Government shall make every effort to assist the Agency in establishing and maintaining the proper functioning of the Agency's facilities in the Netherlands.

Article 26. Entry into force and duration

1. This Agreement shall enter into force upon signature.
2. Upon its entry into force, this Agreement shall replace the Agreement between the European Space Agency and the Kingdom of the Netherlands of 10 February 1999, and the Agreement between the Kingdom of the Netherlands and the European Space Agency of 29 September 2006.
3. With respect to the Kingdom of the Netherlands this Agreement shall apply to the part of the Kingdom in Europe only.

Article 27. Amendments

1. At the request of either Party, this Agreement may be amended by mutual consent at any time.

2. Any such amendment may be effected by an exchange of notes.

Article 28. Denunciation

1. Either Party may terminate this Agreement by giving three years' notice which shall start to run from the first day of January of the year following the year in which such notice is given.
2. The Netherlands shall have the right to denounce this Agreement if the site referred to in paragraph i) of Article 1 of this Agreement is either not being used for the Agency's purposes as described in the Convention or will evidently no longer be used at all. In such case, this Agreement shall terminate one year after the date on which the Netherlands gives notice of denunciation to the Agency.

Article 29. Termination

1. In the event of the Netherlands denouncing the Convention in accordance with paragraph 1 of Article XXIV of the Convention, this Agreement shall terminate on the date on which the denunciation takes effect.
2. On termination of this Agreement in accordance with paragraph 1 of this Article, the Government is prepared to enter forthwith into negotiations with the Agency with a view to concluding a special agreement within the meaning of paragraph 2 of Article XXIV of the Convention.
3. Pending the outcome of those negotiations the provisions of this Agreement shall remain applicable.

Article 30. Dissolution

This Agreement shall terminate on the dissolution of the Agency under the conditions set out in Article XXV of the Convention.

Article 31. Consultations

The Parties shall use their best endeavours to overcome any difficulties arising with regard to the interpretation and implementation of this Agreement through early and full consultations.

Article 32. Arbitration

Any dispute arising out of the interpretation or application of this Agreement that cannot be settled between the Parties in any other way shall be submitted to arbitration at the request of either Party for resolution in accordance with paragraphs 2 to 6 of Article XVII

of the Convention and such additional rules as may have been promulgated under the Convention at the time of submission. If either Party intends to submit a dispute to arbitration, it shall notify the other Party.

IN WITNESS WHEREOF the undersigned representatives, being duly authorised thereto, have appended their signature to this Agreement.

DONE at The Hague this twenty-first of February in the year 2008 in two originals in the English and French languages, the two texts being equally authentic.

For the Kingdom of the Netherlands

M.J.M. VERHAGEN

For the European Space Agency

J.J. DORDAIN

Explanatory note to the Agreement between the Kingdom of the Netherlands and the European Space Agency concerning the ESTEC at Noordwijk

Specification regarding Articles, 10, 14 and 15.

1. It is the understanding of the Signatories that, with respect to the exemption from excise duty, the quotas, and any changes thereto, set by the Government for international organisations and diplomatic missions will apply.

Specification regarding Article 12.

2. It is the understanding of the Signatories that privileged staff members and members of their family forming or having formed part of their household shall be entitled to apply for a right of residence in the Netherlands in conformity with the Netherlands' aliens legislation.

Specification regarding Article 13.

3. The Government recognises the fact that for some of the data mentioned, the Agency depends on information provided by its staff members. The Agency shall inform the Government if any identity cards cannot be returned immediately, stating the reasons for the delay.

Specification regarding Article 18.

4. It is the understanding of the Signatories that there is only one notion of “permanent residents”, independent of whether reference is made to Annex I of the Convention or to the Vienna Convention.

Signed at The Hague on 21 February 2008.

For the Kingdom of the Netherlands

M.J.M. VERHAGEN

For the European Space Agency

J.J. DORDAIN

Рамкова угода

між Урядом України та Урядом Сполучених Штатів Америки про співробітництво в дослідженні та використанні космічного простору в мирних цілях

(Угоду ратифіковано Законом [N 681-VI](#) від 17.12.2008 }

Уряд України та Уряд Сполучених Штатів Америки (далі - Сторони), визнаючи взаємний інтерес у дослідженні та використанні космічного простору в мирних цілях;

посилаючись на [Угоду між Україною і Сполученими Штатами Америки про співробітництво в дослідженні і використанні космічного простору в мирних цілях](#) від 1994 року;

бажаючи розширити сферу співробітництва між Сторонами в науці про Землю та космос, у дослідженні, аеронавтиці та інших сферах діяльності в мирних цілях, а також прагнучи встановити всеосяжні правові рамки для полегшення підписання виконавчих домовленостей зі співробітництва між Сторонами, домовилися про таке:

Стаття 1

Мета

Ця Рамкова угода (далі - Угода) встановлює обов'язки, положення та умови співробітництва між Національним космічним агентством України (далі - НКАУ) та Національною адміністрацією з аеронавтики та космосу (далі - НАСА) чи з будь-якою іншою призначеною Установою кожної зі Сторін у дослідженні й використанні космічного простору в мирних цілях у сферах взаємного інтересу та на основі рівності й взаємної вигоди.

Стаття 2

Визначення

Для цілей цієї Угоди:

1. Термін "Установа" означає:

- i) для Уряду України - НКАУ чи будь-який інший український орган чи міністерство (відомство), які Уряд України може призначити своїм рішенням письмово через дипломатичні канали, а також
- ii) для Уряду Сполучених Штатів - НАСА чи будь-який інший орган чи міністерство (відомство) США, які Уряд Сполучених Штатів може призначити своїм рішенням письмово через дипломатичні канали.

2. Термін "Шкода" означає:

- i) тілесне ушкодження або іншу шкоду здоров'ю, або смерть будь-якої особи;
- ii) шкоду, втрату або втрату можливості експлуатації будь-якого майна;
- iii) втрату доходів чи прибутків, або
- iv) іншу пряму, непряму або опосередковану шкоду.

3. Термін "Ракета-носій" означає об'єкт чи будь-яку його частину, призначений для запуску, який запускається із Землі у повітряний простір чи космічний простір або який повертається на Землю, і такий, що несе корисне навантаження чи людей, або й те, й інше.

4. Термін "Корисне навантаження" означає все майно, яке переноситься або використовується на або в ракеті-носії.

5. Термін "захищені космічні операції" означає всі заходи, що здійснюються згідно із цією Угодою чи будь-якою виконавчою угодою, укладеною відповідно до цієї Угоди, зокрема заходи, пов'язані з ракетою-носієм, роботами з корисним навантаженням на Землі, в

космічному просторі або під час польоту між Землею та повітряним простором або космічним простором, на виконання цієї Угоди. Захищені космічні операції починаються з дати набрання чинності цією Угодою та закінчуються, коли всі заходи, здійснені на виконання цієї Угоди, закінчено. Термін "захищені космічні операції" включає в себе, але не обмежується цим, таке:

- i) дослідження, конструювання, розробку, випробування, виробництво, збирання, інтеграцію, експлуатацію або використання ракет-носіїв чи транспортних апаратів, корисного навантаження або приладів, а також відповідного допоміжного обладнання й допоміжних об'єктів і служб, та
 - ii) усі заходи, пов'язані з наземним забезпеченням, випробуванням, навчанням, імітацією чи обладнанням наведення й управління та пов'язаними з ними об'єктами й службами.
- Термін "захищені космічні операції" не включає заходи, які здійснюються на Землі після повернення з космосу для подальшого вдосконалення продукту чи процесу корисного навантаження, що використовуватиметься у заходах, не спрямованих на виконання цієї Угоди.

6. Термін "Пов'язана організація" означає:

- i) підрядника або субпідрядника Установи, будь-якого рівня;
 - ii) користувача або замовника Установи, будь-якого рівня, або
 - iii) підрядника чи субпідрядника користувача або замовника Установи, будь-якого рівня.
- Терміни "Підрядник" та "Субпідрядник" включають постачальників будь-якого типу. Термін "Пов'язана організація" може застосовуватися до держави, міжнародної організації або установи, міністерства (відомства) чи державної інституції, які мають таке саме відношення до Сторони, як це описано вище в підпунктах "i" - "iii", або які задіяні у виконанні захищених космічних операцій, як це визначено вище в пункті 5 статті 2.

7. Термін "Транспортний апарат" означає будь-який апарат, що працює в космосі та перевозить корисне навантаження чи людей, або й те, й інше між двома різними космічними об'єктами, між двома різними місцями на одному й тому самому космічному об'єкті, або між космічним об'єктом та поверхнею небесного тіла. "Транспортний апарат" також уключає апарат, що відлітає та повертається у те саме місце на космічному об'єкті.

Стаття 3

Сфера співробітництва

1. Сторони визначають сфери взаємного інтересу та прагнуть розвивати програми або проекти співробітництва (далі - Програми) в галузі дослідження та використання космічного простору в мирних цілях і тісно працюють разом у цьому напрямі.

2. Ці Програми можуть здійснюватись як взаємно погоджено та визначено положеннями цієї Угоди та окремими положеннями будь-яких виконавчих домовленостей, укладених відповідно до статті 4, у таких сферах:

- a) науки про Землю, моніторингу та спостереження за Землею;
- b) космічної науки;
- c) дослідних систем;
- d) космічних операцій;
- e) авіації, а також
- f) інших відповідних сфер, що становлять взаємний інтерес.

3. Ці Програми можуть здійснюватись:

- a) із використанням космічних апаратів і космічних дослідних платформ;

- b) із використанням наукових бортових засобів космічних апаратів і космічних дослідних платформ;
 - c) за допомогою польотів і місій з використанням зондувальних ракет і наукових повітряних куль;
 - d) за допомогою польотів і місій із використанням літаків;
 - e) за допомогою засобів космічного зв'язку, у тому числі наземних радарних установок для спостереження, телеметрії та прийому даних;
 - f) за допомогою наземних засобів дослідження;
 - g) шляхом обміну науковим персоналом;
 - h) шляхом обміну науковими даними;
 - i) шляхом участі у спільних семінарах та зустрічах;
 - j) за допомогою наземних систем моделювання;
 - k) за допомогою прикладних програм дослідження Землі й космосу;
 - l) шляхом освітньої діяльності й за допомогою заходів інформування громадськості;
 - m) за допомогою інших механізмів, що становлять взаємний інтерес, спільно визначених Сторонами у письмовій формі.
4. Усі заходи в рамках цієї Угоди здійснюються відповідно до національних правових норм Сторін, що можуть бути застосовані.
5. Ці Програми можуть здійснюватися на поверхні Землі, у повітряному просторі або в космічному просторі.

Стаття 4

Виконавчі домовленості

1. Сторони здійснюють спільну діяльність згідно із цією Угодою через свої відповідні Установи. Виконавчі домовленості, укладені Установами, визначають конкретні функції та зобов'язання Установ та включають, у випадку необхідності, положення стосовно сутності та сфери спільної діяльності, індивідуальних та спільних зобов'язань Установ та будь-які інші положення, необхідні для здійснення спільної діяльності.
2. Такі виконавчі домовленості стають невід'ємною частиною Угоди шляхом посилання на неї у назві домовленості, і підпадають під дію цієї Угоди, якщо Установи чітко не домовилися про інше за допомогою окремих положень, викладених у виконавчих домовленостях.
3. Сторони забезпечують, що їхні відповідні Установи докладатимуть максимальних зусиль для виконання зобов'язань, які містяться у виконавчих домовленостях.

Стаття 5

Фінансові домовленості

1. Сторони відповідають за фінансування своїх відповідних заходів в рамках цієї Угоди чи будь-якої виконавчої домовленості, укладеної відповідно до цієї Угоди. Обов'язки Сторін за цією Угодою та будь-якою виконавчою домовленістю залежать від наявності виділених коштів та процедур фінансування кожної зі Сторін.
2. Кожна зі Сторін гарантує, що у випадку, коли її Установа зіткнеться з проблемами фінансування, які можуть вплинути на виконання заходів, що здійснюються в рамках цієї Угоди, відповідна Установа в найкоротший строк повідомить про це іншій Установі й проведе з нею консультації.
3. Ця Угода не перешкоджає можливостям Сторін за їх взаємною згодою укласти інші угоди або домовленості стосовно питань у рамках цієї Угоди або поза цією угодою.

Стаття 6

Мита, збори й податки

Відповідно до свого національного законодавства кожна Сторона забезпечує безоплатне митне оформлення та відмову від усіх мит, які накладаються, та зборів і податків за імпортом або експорт товарів, необхідних для виконання цієї Угоди. Якщо будь-які мита, збори й податки будь-якого виду все-таки накладаються на такі товари, то такі мита, збори й податки сплачує Сторона країни, яка їх накладає.

Стаття 7

В'їзд та виїзд персоналу

На основі взаємності кожна Сторона відповідно до свого законодавства докладає максимум зусиль для полегшення в'їзду на її територію та виїзду з неї персоналу, який задіяний у спільній діяльності згідно із цією Угодою.

Стаття 8

Проліт над територією

Кожна Сторона на прохання іншої Сторони сприяє наданню у випадку необхідності дозволів на проліт літального апарату й повітряної кулі в рамках здійснення заходів відповідно до виконавчих домовленостей, укладених згідно із цією Угодою. Докладна інформація про мету прольоту, запропонований тип обладнання, що використовується, та перелік дослідників, які задіяні, наводиться, за необхідністю, у виконавчих домовленостях.

Стаття 9

Права інтелектуальної власності

1. Ніщо в цій Угоді не може тлумачитись як таке, що у прямий чи непрямий спосіб надає іншій Стороні будь-яке право на винаходи чи розробки іншої Сторони або Пов'язаних організацій її Установи, чи будь-яку користь від таких винаходів чи розробок, що були зроблені до набрання чинності або поза сферою застосування цієї Угоди, зокрема будь-які патенти (чи подібні форми захисту в будь-якій країні) на такі винаходи або авторські права на такі твори.

2. Будь-які права на будь-який винахід чи розробку, чи будь-яка користь від таких винаходів чи творів, що були зроблені на виконання цієї Угоди самостійно однією Стороною чи Пов'язаними організаціями її Установи, у тому числі будь-які патенти (чи подібні форми захисту в будь-якій країні) на такі винаходи або авторські права на такі розробки належать цій Стороні або Пов'язаній організації її Установи. Розподіл прав на такі винаходи або твори чи користі від таких винаходів або творів між цією Стороною та Пов'язаною організацією її Установи визначається згідно з нормативно-правовими актами та контрактними зобов'язаннями, що можуть бути застосовані.

3. У ході виконання цієї Угоди не передбачається створення будь-яких спільних винаходів. Проте у випадку, коли у ході виконання цієї Угоди винахід створюється спільно Сторонами та (або) Пов'язаними організаціями їхніх Установ, Сторони проводять протягом 30 календарних днів у дусі доброї волі консультації та погоджують:

a) розподіл прав на такий спільний винахід або матеріальної заінтересованості у ньому, зокрема стосовно патентів (чи подібних форм захисту в будь-якій країні), що стосуються такого спільного винаходу;

b) обов'язки, витрати й дії, які потрібно здійснити для отримання та забезпечення патентів (чи подібних форм захисту в будь-якій країні) для кожного такого спільного винаходу, а також

с) положення та умови будь-якої ліцензії або інших прав, якими обмінюються Сторони або які передаються однією Стороною іншій Стороні.

4. Стосовно будь-якої розробки, яка має спільне авторство Сторін та (або) Пов'язаних організацій їхніх Установ, стосовно якої Сторони вирішують зареєструвати авторські права, Сторони у дусі доброї волі проводять консультації та погоджують відповідальність, витрати й дії, які необхідно здійснити для реєстрації та захисту авторських прав (у будь-якій країні).

5. Відповідно до положень статті 10 (Оприлюднення публічної інформації та результатів) та статті 11 (Передача товарів і технічних даних) кожна Сторона має для власних потреб безвідкличче безоплатне право на відтворення, підготовку похідних розробок, розповсюдження, оприлюднення, а також на надання дозволу іншим робити це від її імені, будь-якої авторської розробки, що стала результатом заходів, здійснених у ході виконання цієї Угоди, незважаючи на те, чи була вона створена одноосібно іншою Стороною чи від імені іншої Сторони або спільно з іншою Стороною.

Стаття 10

Оприлюднення публічної інформації та результатів

1. Сторони залишають за собою право на оприлюднення публічної інформації стосовно власних заходів у рамках цієї Угоди. Сторони заздалегідь узгоджують одна з одною оприлюднення інформації, яка стосується сфер відповідальності або виконання цієї Угоди іншою Стороною.

2. а) Сторони роблять кінцеві результати, отримані в рамках спільної діяльності, доступними для широкого наукового загалу в найкоротший термін та у відповідній науковій манері шляхом публікацій у відповідних часописах або презентацій на наукових конференціях;

(b) Сторони включають до виконавчих домовленостей положення, на основі яких здійснюватиметься обмін науковою інформацією.

3. Сторони визнають, що наступні дані або інформація не є публічними і не розміщуються у жодній публікації чи презентації Сторони відповідно до цієї статті без попереднього письмового дозволу на це іншої Сторони:

1) дані, надані іншою Стороною згідно зі статтею 11 (стосовно передачі товарів і технічних даних) цієї Угоди, які підпадають під дію положень про експортний контроль або є її захищеною власністю, або

2) інформація про винахід іншої Сторони до подання заявки на патент на нього або у випадку прийняття рішення про неподання такої заявки.

Стаття 11

Передача товарів і технічних даних

1. Сторони зобов'язані передавати лише ті товари й технічні дані (зокрема програмне забезпечення), які необхідні для реалізації їхніх відповідних сфер відповідальності у рамках цієї Угоди відповідно до таких положень:

а) усі заходи Сторін здійснюються згідно з їхніми чинними нормативно-правовими актами, які можуть бути застосовані, у тому числі стосовно експортного контролю та контролю інформації з обмеженим доступом;

б) передача товарів і технічних даних для реалізації відповідальності Сторін стосовно взаємодії, інтегрування та безпеки зазвичай здійснюється без обмежень, крім викладеного вище в пункті "а". Якщо проектні, технологічні дані та дані обробки, а також відповідне програмне забезпечення, які є захищеною власністю, але не підпадають під дію положень

про експортний контроль, є необхідними для взаємодії, інтегрування чи безпеки, то їх передача здійснюється, а ці дані та пов'язане з ними програмне забезпечення відповідно позначаються;

с) усі передачі товарів і технічних даних, які є захищеною власністю або підпадають під дію положень про експортний контроль, здійснюються відповідно до таких положень. Якщо Сторона або Пов'язана організація її Установи вважає за необхідне передати товари або технічні дані, які є захищеною власністю або підпадають під дію положень про експортний контроль і які повинні бути захищені, то такі товари спеціально ідентифікуються, і такі технічні дані, які є власністю або підпадають під дію положень про експортний контроль, відповідним чином маркуються. Ідентифікація товарів і маркування технічних даних, які є захищеною власністю або підпадають під дію положень про експортний контроль, буде вказувати на те, що товари й технічні дані, які є власністю або підпадають під дію положень про експортний контроль, використовуються Стороною, яка їх отримує, або Пов'язаною організацією її Установи виключно для виконання обов'язків за цією Угодою як Сторони, що отримує, або Пов'язаної організації її Установи, і що ідентифіковані товари й промарковані технічні дані, які є захищеною власністю або підпадають під дію положень про експортний контроль, не розкриваються або не передаються іншій організації без попереднього письмового дозволу Сторони, яка передає, або Пов'язаної організації її Установи. Сторона, що їх отримує, або Пов'язана організація її Установи дотримується умов попередження й захищає від несанкціонованого використання та розкриття будь-які подібні ідентифіковані товари та промарковані технічні дані, які є захищеною власністю або підпадають під дію положень про експортний контроль. Сторони цієї Угоди зобов'язують свої Установи та їхні Пов'язані організації дотримуватися положень цієї статті стосовно використання, розкриття та подальшої передачі ідентифікованих товарів і промаркованих технічних даних шляхом укладення контрактів чи подібних заходів.

2. Усі товари та промарковані технічні дані, які є захищеною власністю або підпадають під дію положень про експортний контроль, обмін якими здійснюється в ході виконання будь-якої виконавчої домовленості, повинні використовуватися Установою, яка їх отримує, та (або) її Пов'язаними організаціями виключно у цілях зазначеної виконавчої домовленості. Після закінчення заходів за такою угодою Установа, що їх отримала, або її Пов'язана організація їх повертають або, за запитом і відповідно до вказівок Установи, що передала, або її Пов'язаної організації, іншим шляхом розпоряджається усіма товарами та промаркованими технічними даними, які є власністю або підпадають під дію положень про експортний контроль та які були передані за виконавчою домовленістю.

Стаття 12

Взаємна відмова від відповідальності

1. Стосовно заходів, що виконуються згідно із цією Угодою, Сторони погоджуються, що всеосяжна взаємна відмова від відповідальності сприятиме співробітництву в дослідженні та використанні космічного простору. Ця взаємна відмова від відповідальності, як викладено нижче, повинна тлумачитися розширено для досягнення зазначеної вище мети. За умови, що відмова від претензій є взаємною, Установи можуть визначати обсяг взаємної відмови у відповідних пунктах виконавчих домовленостях з огляду на конкретні обставини певного співробітництва.

2. а) Кожна Сторона погоджується на взаємну відмову від відповідальності, згідно з якою кожна зі Сторін відмовляється від усіх претензій до будь-яких організацій чи осіб,

перелічених нижче у рубриках "i" - "iii" підпункту "a" пункту 2 стосовно шкоди, завданої в результаті проведення захищених космічних операцій. Ця взаємна відмова застосовується тільки у випадку, якщо особа, організація або власність, що спричинила шкоду, задіяна у захищених космічних операціях, і особа, організація чи власність, якій була заподіяна шкода, зазнала шкоди через участь у захищених космічних операціях. Взаємна відмова застосовується до будь-яких претензій з приводу шкоди, незважаючи на правову основу таких претензій, до:

i) іншої Сторони;

ii) Пов'язаної організації Установи іншої Сторони;

iii) працівників будь-яких організацій, визначених вище у підпунктах "i" - "ii".

b) Крім того, кожна Сторона гарантує, що її Установа поширює взаємну відмову від відповідальності, як зазначено у підпункті "a" пункту 2 статті 12, на свої Пов'язані організації, вимагаючи від них через контракт або в інший спосіб погодитися на:

i) відмову від усіх претензій до організацій чи осіб, визначених у рубриках "i" - "iii" підпункту "a" пункту 2 статті 12, а також

ii) вимогу до своїх Пов'язаних організацій відмовитися від усіх претензій до організацій чи осіб, визначених вище у рубриках "i" - "iii" пункту "a" статті 12.

c) Для уникнення сумніву ця взаємна відмова від претензій застосовується до позовів, що виникають відповідно до [Конвенції про міжнародну відповідальність за шкоду, завдану космічними об'єктами](#), від 29 березня 1972 року (Конвенція про відповідальність), у випадках, коли особа, організація або власність, що спричиняє шкоду, бере участь у захищених космічних операціях та особа, організація або власність, якій заподіяна ця шкода, зазнає її внаслідок участі в захищених космічних операціях.

d) Незалежно від інших положень цієї статті ця взаємна відмова від претензій не застосовується до:

i) претензій, що виникають між Установою та її власною Пов'язаною організацією або між власними Пов'язаними організаціями Установи;

ii) претензій з боку фізичної особи, її (його) правонаступників, спадкоємців, осіб, до яких переходять права в порядку суброгації (за виключенням випадків, коли така особа є Стороною цієї Угоди або в інший спосіб пов'язана умовами цієї взаємної відмови), стосовно тілесних ушкоджень такої фізичної особи, іншого погіршення її здоров'я або її смерті;

iii) претензій стосовно шкоди, спричиненої в результаті навмисної неправомірної дії;

iv) претензій стосовно прав інтелектуальної власності;

v) претензій стосовно шкоди, заподіяної внаслідок непоширення Сторонами взаємної відмови від претензій на їхні Пов'язані організації відповідно до підпункту "b" статті 12, або

vi) претензій від або до Установи або її Пов'язаної організації через невиконання іншою Установою або її Пов'язаною організацією своїх обов'язків згідно з цією Угодою чи будь-якою виконавчою домовленістю, укладеною відповідно до цієї Угоди, або ж які пов'язані з таким невиконанням.

e) Ніщо в цій статті не може тлумачитись в цілях створення підстави для претензії або позову у випадках, коли за інших обставин такої претензії або позову не існувало б.

f) У випадку позовів з боку третіх сторін, де Сторони можуть бути відповідачами, Сторони негайно проводять консультації для визначення належного й справедливого

розподілу будь-якої потенційної відповідальності та стосовно захисту у випадку виникнення будь-яких таких позовів.

Стаття 13

Реєстрація космічних об'єктів

Стосовно виконавчих домовленостей, що стосуються запуску, Сторони забезпечують вирішення їхніми Установами, яка з них подасть запит до свого Уряду стосовно реєстрації космічного апарату як космічного об'єкту відповідно до [Конвенції про реєстрацію об'єктів, що запускаються в космічний простір](#), від 14 січня 1975 року. Реєстрація згідно з цією статтею не впливає на права чи обов'язки кожної зі Сторін згідно з [Конвенцією про відповідальність](#).

Стаття 14

Консультації та вирішення спорів

1. Сторони заохочують свої Установи до проведення, у випадку необхідності, консультацій стосовно перегляду стану реалізації заходів, які виконуються згідно з цією Угодою, та для обміну думками стосовно потенційних сфер майбутнього співробітництва.
2. У випадку виникнення питань стосовно реалізації заходів згідно з цією Угодою або її тлумачення чи застосування, керівники програм Установи докладають зусиль для вирішення цих питань. Якщо керівники програм не можуть досягти згоди, то питання переноситься на вищий рівень керівництв Установ для спільного вирішення.

Стаття 15

Вплив на інші угоди

У випадку, коли ця Угода зачіпає права чи обов'язки будь-якої із Сторін за будь-якою іншою угодою, в якій Сторона бере участь, Сторони проводять консультації з метою вирішення протиріч.

Стаття 16

Внесення змін

Сторони за взаємною письмовою згодою можуть вносити зміни до цієї Угоди.

Стаття 17

Набрання чинності й строк дії

Ця Угода набирає чинності з дня отримання останнього повідомлення шляхом обміну дипломатичними нотами, в яких Сторони повідомляють одна одній про виконання ними внутрішньодержавних процедур, необхідних для набуття цією Угодою чинності. Ця Угода діятиме протягом 10 (десяти) років, якщо тільки її дія не припиняється згідно з положеннями статті 18.

Стаття 18

Припинення дії

1. Кожна Сторона може припинити дію цієї Угоди шляхом надіслання письмового повідомлення іншій Стороні не пізніше, ніж за шість місяців.
2. Припинення дії цієї Угоди не впливає на виконавчі домовленості, що є чинними на час припинення дії цієї Угоди.
3. Незважаючи на припинення дії цієї Угоди, обов'язки Сторін, викладені в статтях 9, 11 та 12 цієї Угоди, що стосуються прав інтелектуальної власності, передачі товарів і технічних даних та взаємної відмови від відповідальності, продовжують застосовуватися після припинення дії цієї Угоди.

На посвідчення чого ті, що підписалися нижче, належним чином уповноважені на те своїми Урядами, підписали цю Угоду.

Учинено в м. Києві 31 березня 2008 року у двох примірниках українською та англійською мовами, причому тексти обома мовами є рівноавтентичні. У випадку виникнення розбіжностей перевагу має англomовний текст.

За Уряд України Генеральний директор Національного космічного агентства України Ю.С.Алексєєв	За Уряд Сполучених Штатів Америки Надзвичайний і Повноважний Посол Сполучених Штатів Америци в Україні Вільям Тейлор
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Joint Statement by Representatives of the United States, the European Community and its Member States on GPS and Galileo Cooperation

The following is a statement issued jointly by representatives of the United States of America, the European Community and its Member States on Global Positioning System GPS and Galileo Cooperation on October 23, 2008, at the United States Naval Observatory in Washington, D.C.

Begin text:

Representatives of the Government of the United States, the European Community (EC) and its Member States met in their first plenary session to review and discuss matters of mutual importance regarding cooperation in the use of global navigation satellite systems. Such consultations are held pursuant to the 2004 Agreement on the Promotion, Provision and Use of Galileo and GPS Satellite-Based Navigation Systems and Related Applications between the United States of America and the EC and its Member States. During the meeting, representatives of the Parties reviewed the ongoing work of the U.S.-EC working groups on GPS and Galileo technical and trade issues and discussed various issues related to the emergence of global and regional satellite navigation systems in addition to GPS and Galileo. The Parties reaffirmed their commitment to the implementation of the Agreement and presented the current status of their respective systems. The U.S. intends to continue to operate GPS, a dual use system that provides precision timing, navigation and position location for civil and military purposes, and to provide the Standard Positioning Service for peaceful civil, commercial and scientific use on a continuous, worldwide basis, free of direct user fees. The European Community has launched the procurement of the Galileo system and revised the governance of the European global navigation satellite systems (Galileo and European Geostationary Navigation Overlay Service (EGNOS)) which will provide services including open, safety-of-life, commercial, and public regulated services. The Parties believe that compatibility and civil interoperability not only between GPS and Galileo, but also with other global navigation satellite systems, will promote global economic growth and strengthen transatlantic cooperation.

The Working Groups established under the Agreement provided updates on their ongoing activities and ideas for future work.

The Working Group on Compatibility and Interoperability (WG-A) continued its close coordination, building upon the 2007 decision to jointly adopt and provide an improved version of the common civil signal. The improved common civil signal, referred to as L1C on GPS and E1 Open Service on Galileo, has been optimized using a Multiplexed Binary Offset Carrier (MBOC) waveform. Future receivers using this signal should be able to track the GPS and/or Galileo signals with higher accuracy in challenging environments. In line with the 2004 Agreement, Galileo test satellite GIOVE A began emitting the signals described in the Annex of the 2004 Agreement in 2006 and GIOVE B now transmits, in addition, the new MBOC signal and a GPS-Galileo Time Offset since April 2008. Working Group A plans to ensure future GPS and Galileo modernization remains compatible.

The Working Group on Trade and Civil Applications (WG-B) discussed its success in opening channels of communication to raise and respond to questions related to market access and fair trade, addressing barriers to the development of the global market for satellite navigation services, equipment, and applications. The Working Group intends to continue working on topics including access to simulators, non-discriminatory approaches, procurement mechanisms and joint outreach.

A working group designed to enhance cooperation for the next generation of GPS and Galileo (WG-C) discussed possible short and long term priorities in order to prepare its first work plan. In the first stage, this group plans to address safety of life services including GPS space-based augmentation systems like EGNOS and the GPS Wide Area Augmentation System (WAAS) as well as Galileo and GPS III constellations. The group will also discuss interoperability of new civil signals.

The co-chairs of the Working Group on Security (WG-D) presented plans for future work. The Plenary meeting took place at the United States Naval Observatory (USNO) in Washington D.C., which maintains the atomic time standard for the United States and the Global Positioning System. USNO headquarters hosts joint U.S. and EC monitoring stations for both GPS and Galileo.

The participants expressed strong support for continued close cooperation, which has the potential to significantly improve services related to space-based positioning, navigation and timing.

2008/909

Released on October 24, 2008

FRAMEWORK AGREEMENT

BETWEEN

THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

AND

THE INDIAN SPACE RESEARCH ORGANISATION

FOR COOPERATION

IN THE EXPLORATION AND USE OF OUTER SPACE

FOR PEACEFUL PURPOSES

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The United States National Aeronautics and Space Administration (hereinafter referred to as "NASA") and the Indian Space Research Organisation (hereinafter referred to as "ISRO") (hereinafter collectively referred to as "the Parties"),

RECOGNIZING their mutual interest in the exploration and use of outer space for peaceful purposes;

RECALLING their long and fruitful cooperation in the exploration and peaceful use of outer space, through the successful implementation of cooperative activities in a broad range of space science and applications areas;

TAKING NOTE of the Joint Statements made by the President of the United States of America and the Prime Minister of India on November 9, 2001, July 18, 2005, and March 2, 2006, encouraging the enhancement of civil space cooperation;

DESIRING to build upon the advances attained through the Memorandum of Understanding Between the National Aeronautics and Space Administration and the National Oceanic and Atmospheric Administration of the United States of America and the Department of Space and the Department of Science and Technology of the Government of the Republic of India for Scientific Cooperation in the Areas of Earth and Atmospheric Sciences, signed on December 16, 1997, and amended on December 17, 2002;

WISHING to expand the scope of cooperation between the Parties in earth and space science, exploration, human space flight, and other activities for peaceful purposes; and

DESIRING to establish an overall legal framework to facilitate the signing of Implementing Arrangements for cooperation between the Parties;

HAVE agreed as follows:

ARTICLE 1 – PURPOSE

This Framework Agreement, hereinafter referred to as the "Agreement," sets forth the obligations, terms, and conditions for the cooperation between NASA and ISRO in the exploration and use of outer space for peaceful purposes in areas of common interest and on the basis of equality and mutual benefit.

ARTICLE 2 – DEFINITIONS

For the purposes of this Agreement,

1. The term “Damage” means:

- (i) bodily injury to, or other impairment of health of, or death of, any person;
- (ii) damage to, loss of, or loss of use of any property;
- (iii) loss of revenue or profits; or
- (iv) other direct, indirect, or consequential damage;

2. The term “Launch Vehicle” means an object, or any part thereof, intended for launch, launched from Earth into air space or outer space, or returning to Earth, which carries Payloads or persons, or both;

3. The term “Payload” means all property to be flown or used on or in a Launch Vehicle;

4. The term “Protected Space Operations” means all activities conducted pursuant to this Agreement, or any Implementing Arrangement concluded hereunder, including Launch Vehicle activities, and Payload activities on Earth, in outer space, or in transit between Earth and air space or outer space, in implementation of this Agreement. Protected Space Operations begins on the date of entry into force of this Agreement and ends when all activities done in implementation of this Agreement are completed. The term “Protected Space Operations” includes, but is not limited to:

- (i) research, design, development, test, manufacture, assembly, integration, operation, or use of Launch or Transfer Vehicles, Payload, or instruments, as well as related support equipment and facilities and services; and
- (ii) all activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services;

The term “Protected Space Operations” excludes activities on Earth that are conducted on return from space to develop further a Payload’s product or process for use other than for activities in implementation of this Agreement.

5. The term “Related Entity” means:

- (i) a contractor or subcontractor of a Party, at any tier;
- (ii) a user or customer of a Party, at any tier; or
- (iii) a contractor or subcontractor of a user or customer of a Party, at any tier.

The terms “contractor” and “subcontractor” include suppliers of any kind.

The term "Related Entity" may apply to a State, an international organization, or an agency, department, or institution of a State, having the same relationship to a Party as described in subparagraphs (i) to (iii) above, or otherwise engaged in the implementation of Protected Space Operations as defined in paragraph 4 above.

6. The term "Transfer Vehicle" means: any vehicle that operates in space and transfers a Payload or person or both between two different space objects, between two different places on the same space object, or between a space object and the surface of a celestial body.

ARTICLE 3 – SCOPE OF COOPERATION

1. The Parties shall identify areas of mutual interest and seek to develop cooperative programs or projects, hereinafter referred to as "Programs," in the exploration and peaceful uses of outer space and shall work closely together to this end.
2. These Programs may be undertaken, as mutually agreed, and subject to the provisions of this Agreement and the specific terms and conditions of any Implementing Arrangements concluded pursuant to Article 4, in the following areas:
 - a) Earth science, observation, and monitoring;
 - b) Space science;
 - c) Exploration systems;
 - d) Space operations; and
 - e) Other relevant areas of mutual interest.
3. These Programs may be implemented using the following:
 - a) Spacecraft and space research platforms;
 - b) Scientific instruments onboard spacecraft and space research platforms;
 - c) Space operations missions;
 - d) Sounding rocket and scientific balloon flights and campaigns;
 - e) Aircraft flights and campaigns;
 - f) Space communications, including ground-based antennas, for tracking, telemetry, and data acquisition;
 - g) Ground-based research facilities;
 - h) Exchanges of scientific personnel;
 - i) Exchanges of scientific data;
 - j) Participation in joint workshops and meetings;

- k) Terrestrial analogs;
 - l) Earth and space applications;
 - m) Education and public outreach activities; and
 - n) Other mechanisms of mutual interest jointly decided in writing by the Parties.
4. All activities under this Agreement shall be conducted in a manner consistent with the applicable national laws and regulations of the Parties.
 5. These Programs may take place on the surface of the Earth, in air space, or in outer space.

ARTICLE 4 – IMPLEMENTING ARRANGEMENTS

The specific terms and conditions for Programs, and the specific roles and commitments of the Parties shall be set forth in Implementing Arrangements mutually agreed and signed by the Parties, hereinafter referred to as "Implementing Arrangements." Implementing Arrangements under this Agreement shall include, as appropriate, provisions related to the nature and scope of the Programs and the individual and joint responsibilities of the Parties, consistent with this Agreement. Such Implementing Arrangements shall incorporate by reference and be subject to this Agreement, unless the Parties expressly agree otherwise through specific terms set forth in the Implementing Arrangements.

ARTICLE 5 – FINANCIAL ARRANGEMENTS

1. NASA and ISRO each shall bear the costs of discharging its respective responsibilities under Implementing Arrangements concluded pursuant to this Agreement, including travel and subsistence of personnel and transportation of all equipment and other items for which it is responsible. Further, it is understood that the ability of each Party to carry out its obligations is subject to the availability of appropriated or allocated funds. Should either Party encounter budgetary problems that may affect the activities to be carried out under this Agreement, the Party encountering the problems shall notify and consult with the other Party as soon as possible.
2. This Agreement shall not prejudice the ability of the Parties to conclude other agreements or arrangements regarding matters outside or within the scope of this Agreement, as mutually agreed.
3. All activities under or pursuant to this Agreement are subject to the availability of appropriated or allocated funds and each Party's respective funding procedures.

ARTICLE 6 – CUSTOMS, DUTIES, AND TAXES

Each Party shall facilitate free customs clearance and waiver of all applicable customs duties and taxes for goods necessary for the implementation of this Agreement subject to its national laws and regulations. In the event that any customs duties or taxes of any kind are nonetheless levied on such equipment and related goods, such customs duties or taxes shall be borne by the Party of the country levying such customs duties or taxes.

ARTICLE 7 – ENTRY AND EXIT OF PERSONNEL

On a reciprocal basis, each of the Parties shall use reasonable efforts to facilitate, in accordance with its laws and regulations, the entry to and exit from its territory of personnel engaged in joint activities pursuant to this Agreement.

ARTICLE 8 – OVERFLIGHT

Each Party shall facilitate, upon request from the other Party, the provision of aircraft and balloon overflight clearances, as necessary, in order to carry out activities under Implementing Arrangements established under this Agreement. Detailed information regarding the purpose of the overflight, the proposed type of equipment to be used, and the researchers involved shall be addressed, as appropriate, in the Implementing Arrangements.

ARTICLE 9 – INTELLECTUAL PROPERTY RIGHTS

1. Nothing in this Agreement shall be construed as granting, either expressly or by implication, to the other Party any rights to, or interest in, any inventions or works of a Party or its Related Entities made prior to the entry into force of, or outside the scope of, this Agreement, including any patents (or similar forms of protection in any country) corresponding to such inventions or any copyrights corresponding to such works.
2. Any rights to, or interest in, any invention or work made in the performance of this Agreement solely by one Party or any of its Related Entities, including any patents (or similar forms of protection in any country) corresponding to such invention or any copyright corresponding to such work, shall be owned by such Party or Related Entity. Allocation of rights to, or interest in, such invention or work between such Party and its Related Entities shall be determined by applicable laws, rules, regulations, and contractual obligations.
3. It is not anticipated that there will be any joint inventions made in the performance of this Agreement. Nevertheless, in the event that an invention is jointly made by the Parties in the

performance of this Agreement, the Parties shall, in good faith, consult and agree within 30 calendar days as to:

- a. the allocation of rights to, or interest in, such joint invention, including any patents (or similar forms of protection in any country) corresponding to such joint invention;
 - b. the responsibilities, costs, and actions to be taken to establish and maintain patents (or similar forms of protection in any country) for each such joint invention; and
 - c. the terms and conditions of any license or other rights to be exchanged between the Parties or granted by one Party to the other Party.
4. For any work jointly authored by the Parties, should the Parties decide to register the copyright in such work, they shall, in good faith, consult and agree as to the responsibilities, costs, and actions to be taken to register copyright protection (in any country).
 5. Subject to the provisions of Article 10 (Publication of Public Information and Results) and Article 11 (Transfer of Goods and Technical Data), each Party shall have an irrevocable royalty free right, for its own purposes, to reproduce, prepare derivative works, distribute, and present publicly, and authorize others to do so on its behalf, any copyrighted work resulting from activities undertaken in the performance of this Agreement, regardless of whether the work was created solely by, or on behalf of, the other Party or jointly with the other Party.

ARTICLE 10 – PUBLICATION OF PUBLIC INFORMATION AND RESULTS

1. The Parties retain the right to release public information regarding their own activities under this Agreement. The Parties shall coordinate with each other in advance concerning releasing to the public information that relates to the other Party's responsibilities or performance under this Agreement.
2. (a) The Parties shall make the final results obtained from joint activities available to the general scientific community through publication in appropriate journals or by presentations at scientific conferences as soon as possible and in a manner consistent with good scientific practices.

(b) The Parties shall include provisions for the sharing of science data in the implementing arrangements.
3. The Parties acknowledge that the following data or information does not constitute public information and that such data or information shall not be included in any publication or presentation by a Party under this Article without the other Party's prior written permission: 1) data furnished by the other Party in accordance with Article 11 (concerning Transfer of Goods and Technical Data) of this Agreement that is export-controlled or proprietary; or 2) information about an invention of the other Party before a patent application has been filed covering the same, or a decision not to file has been made.

ARTICLE 11 – TRANSFER OF GOODS AND TECHNICAL DATA

1. The Parties are obligated to transfer only those goods and technical data (including software) necessary to fulfill their respective responsibilities under this Agreement, in accordance with the following provisions:
 - (a) All activities of the Parties shall be carried out in accordance with applicable laws, rules, and regulations, including those pertaining to export control and the control of classified information.
 - (b) The transfer of goods and technical data for the purpose of discharging the Parties' responsibilities with regard to interface, integration, and safety shall normally be made without restriction, except as provided in paragraph (a) above.
 - (c) All transfers of goods and proprietary or export-controlled technical data are subject to the following provisions. In the event a Party or its Related Entity finds it necessary to transfer goods or to transfer proprietary or export-controlled technical data, for which protection is to be maintained, such goods shall be specifically identified and such proprietary or export-controlled technical data shall be marked. The identification of goods and the marking on proprietary or export-controlled technical data will indicate that the goods and proprietary or export-controlled technical data shall be used by the receiving Party or its Related Entities only for the purposes of fulfilling the receiving Party's or Related Entity's responsibilities under this Agreement, and that the identified goods and marked proprietary technical data or marked export-controlled technical data shall not be disclosed or retransferred to any other entity without the prior written permission of the furnishing Party or its Related Entity. The receiving Party or its Related Entity shall abide by the terms of the notice and protect any such identified goods and marked proprietary technical data or marked export-controlled technical data from unauthorized use and disclosure. The Parties to this Agreement will cause their Related Entities to be bound by the provisions of this Article related to use, disclosure, and retransfer of identified goods and marked technical data through contractual mechanisms or equivalent measures.
2. All goods and marked proprietary or export-controlled technical data exchanged in the performance of this Agreement shall be used by the receiving Party or its Related Entity exclusively for the purposes of the Agreement. Upon completion of the activities under this Agreement, the receiving Party or its Related Entity shall return or, at the request of the furnishing Party or its Related Entity, otherwise dispose of all goods and marked proprietary or export-controlled technical data provided under this Agreement, as directed by the furnishing Party or its Related Entity.

ARTICLE 12 – CROSS-WAIVER OF LIABILITY

1. With respect to activities performed under this Agreement, the Parties agree that a comprehensive cross-waiver of liability will further cooperation in the exploration and use of outer space. This cross-waiver of liability, as set out below, shall be broadly construed to achieve this objective. Provided that the waiver of claims is reciprocal, the Parties may tailor the scope of the cross-waiver clause in an Implementing Arrangement to address the specific circumstances of a particular cooperation.
2. (a) Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in sub-paragraphs 2(a)(i) through 2(a)(iii) below based on Damage arising out of Protected Space Operations. This cross-waiver shall apply only if the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver shall apply to any claims for Damage, whatever the legal basis for such claims, against:
 - (i) the other Party;
 - (ii) a Related Entity of the other Party;
 - (iii) the employees of the other Party or of a Related Entity of the other Party.
- (b) In addition, each Party shall extend the cross-waiver of liability as set forth in Article 12.2(a) to its Related Entities by requiring them, by contract or otherwise, to agree to:
 - (i) waive all claims against the entities or persons identified in Article 12.2(a)(i) through Article 12.2(a)(iii); and
 - (ii) require that their Related Entities waive all claims against the entities or persons identified in Article 12.2(a)(i) through Article 12.2(a)(iii) above.
- (c) For avoidance of doubt, this cross-waiver of liability shall be applicable to claims arising under the *Convention on International Liability for Damage Caused by Space Objects*, done on March 29, 1972 (the “Liability Convention”), where the person, entity, or property causing the Damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.
- (d) Notwithstanding the other provisions of this Article, this cross-waiver of liability shall not be applicable to:
 - (i) claims between a Party and its own Related Entity or between a Party’s own Related Entities;

- (ii) claims made by a natural person, his/her estate, survivors, or subrogees (except when a subrogee is a Party to this Agreement or is otherwise bound by the terms of this cross-waiver) for bodily injury to, other impairment of health of, or death of such natural person;
 - (iii) claims for Damage caused by willful misconduct;
 - (iv) intellectual property claims;
 - (v) claims for Damage resulting from a failure of a Party to extend the cross-waiver of liability to its Related Entities, pursuant to Article 12.2.(b); or
 - (vi) claims by a Party arising out of or relating to the other Party's failure to perform its obligations under this Agreement or any Implementing Arrangement concluded hereunder.
- (e) Nothing in this Article shall be construed to create the basis for a claim or suit where none would otherwise exist.
- (f) In the event of third-party claims for which the Parties may be liable, the Parties shall consult promptly to determine an appropriate and equitable apportionment of any potential liability and on the defense of any such claims.

ARTICLE 13 – REGISTRATION OF SPACE OBJECTS

For Implementing Arrangements involving a launch, the Parties shall decide as to which Party will request its Government to register the spacecraft as a space object in accordance with the *Convention on the Registration of Objects Launched into Outer Space*, done on January 14, 1975. Registration pursuant to this Article shall not affect the rights or obligations of either Party under the *Liability Convention*.

ARTICLE 14 – CONSULTATIONS AND SETTLEMENT OF DISPUTES

1. The Parties shall consult, as appropriate, to review the implementation of activities undertaken pursuant to this Agreement, and to exchange views on potential areas of future cooperation.
2. In the event questions arise regarding the implementation of activities under this Agreement or regarding the interpretation or application of this Agreement, the Program managers of the Parties shall endeavor to resolve the questions. If the Program managers are unable to reach an

agreement, then the matter will be referred to a more senior level of the Parties for joint resolution.

ARTICLE 15 – EFFECT ON OTHER AGREEMENTS

This Agreement shall not affect the rights and obligations of the Parties under other international agreements to which they are party.

ARTICLE 16 – AMENDMENTS

The Parties may amend this Agreement by mutual written agreement.

ARTICLE 17 – ENTRY INTO FORCE AND DURATION

This Agreement shall enter into force upon signature by the Parties. It shall remain in force for ten (10) years unless terminated in accordance with the provisions of Article 18. Thereafter, subject to the provisions of Article 18, it shall be extended automatically for additional periods of five years.

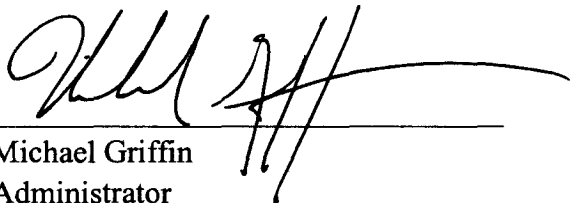
ARTICLE 18 – TERMINATION

1. Either Party may terminate this Agreement at any time by providing at least six months written notice to the other Party.
2. Termination of this Agreement shall not affect Implementing Arrangements that are in effect at the time of termination of this Agreement.
3. Notwithstanding termination of this Agreement, the obligations of the Parties set forth in Articles 9, 11, and 12 of this Agreement, concerning Intellectual Property Rights, Transfer of Goods and Technical Data, and Cross-Waiver of Liability shall continue to apply after termination of this Agreement.

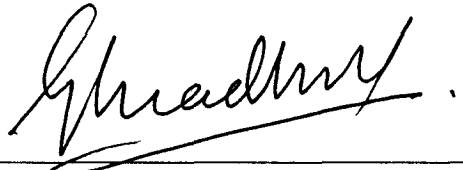
IN WITNESS WHEREOF, the undersigned, being duly authorized thereto by their respective Governments, have signed this Agreement.

DONE at the John F. Kennedy Space Center, Florida, USA, this 1st day of February, 2008.

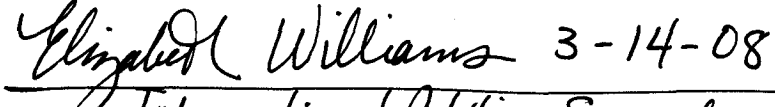
FOR THE NATIONAL AERONAUTICS
AND SPACE ADMINISTRATION OF
THE UNITED STATES OF AMERICA:


Michael Griffin
Administrator

FOR THE INDIAN SPACE
RESEARCH ORGANISATION OF
THE REPUBLIC OF INDIA:


G. Madhavan Nair
Chairman

I certify that this is a true copy of the
original document.

 3-14-08
International Relations Specialist
NASA Office of External Relations

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AMENDMENT TO THE

MEMORANDUM OF UNDERSTANDING

BETWEEN THE

DEPARTMENT OF DEFENSE OF THE UNITED STATES OF AMERICA

AND THE

SECRETARY OF STATE FOR DEFENCE OF THE UNITED KINGDOM
OF GREAT BRITAIN AND NORTHERN IRELAND

CONCERNING

THE MUTUAL EXCHANGE OF MILITARY SATELLITE
COMMUNICATIONS

SERVICE AND SUPPORT

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The Department of Defense of the United States of America and the Secretary of State for the Defence of the United Kingdom of Great Britain and Northern Ireland; hereinafter referred to as the "Participants":

Having entered into a Memorandum of Understanding (MOU) between the Department of Defense of the United States of America and the Secretary of State for the Defence of the United Kingdom of Great Britain and Northern Ireland Concerning the Exchange of Military Satellite Communications Services and Support, entered into force on 10 May 2007 (US-UK SERVICES AND SUPPORT MOU);

Recognizing in paragraph 14.3 of that MOU that an overarching MOU between the Ministry of Defence (MOD) and Department of Defense (DOD) would be forthcoming, and the US-UK SERVICES AND SUPPORT MOU would be amended as required beneath the overarching MOD/DOD MOU;

Having now entered into this overarching MOD/DOD MOU, titled "Memorandum of Understanding between the Department of Defense of the United States of America and the Secretary of State for Defence of the United Kingdom of Great Britain and Northern Ireland Concerning the Framework for Cooperation Regarding Defense Communications (Short Title Defense Communications MOU), entered into effect on 26 Sept 2007;

Having conducted a formal review by the signatories of the US-UK Services and Support MOU, as required by paragraph 2.2 of the Defense Communications MOU, and determined that the US-UK SERVICES AND SUPPORT MOU as amended below is within the scope of the Defense Communications MOU as a Communications Arrangement (CA);

Hereby amend the US-UK SERVICES AND SUPPORT MOU, as required by paragraphs 14.3 and 14.6 of that MOU, and as directed by paragraph 3.2 of the Defense Communications MOU, as follows:

1. The US-UK SERVICES AND SUPPORT MOU is adopted as a CA under the Defense Communications MOU and is subject to all requirements and provisions of the Defense Communications MOU, including but not limited to Section XII (Security), paragraph 12.5. Should any conflict or inconsistency arise between the US-UK SERVICES AND SUPPORT MOU and the Defense Communications MOU, the Defense Communications MOU will govern.
2. Annex A to the US-UK SERVICES AND SUPPORT MOU will become an Implementation Arrangement (IA) to the now-adopted CA. Subsequent IAs, containing the specific technical and operational details necessary for the satisfactory completion of the planned activities or projects, may be added as annexes as needed.
3. Services and equipment provided under this CA, including the provisions for their valuation, will be specified in IAs.
4. Information concerning the procurement, installation, operation, maintenance, logistics, and training relating to equipment provided by one Participant for use at the other Participant's

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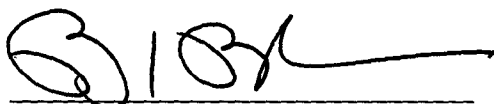
communications facilities as may be required to implement the CA will be contained in an IA. The IA will also detail the responsibilities of each Participant for the project or program and the financial provisions, including procurement or leasing of facilities or equipment, as well as costs for restoring equipment to as good condition as received, normal wear and tear excepted. A list of any equipment provided by one Participant to another Participant will be developed and maintained in this IA.

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Signed by the Participants:

For the Department of Defense
of the United States of America:



Signature

Brooks L. Bash
Brigadier General, USAF
Name

Director, Combat and Information
Operations

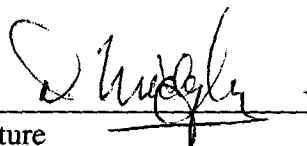
Title

18 JAN 08

Date

OFFUTT AFB, NE USA
Location

For the Secretary of State for Defence
of the United Kingdom of Great Britain
and Northern Ireland:



Signature

Darrell Midgley
IPT Leader
Name

Defence Equipment & Support Global
Communication Services IPT Leader

Title

4 Dec 2007

Date

DE&S Abbey Wood
Location

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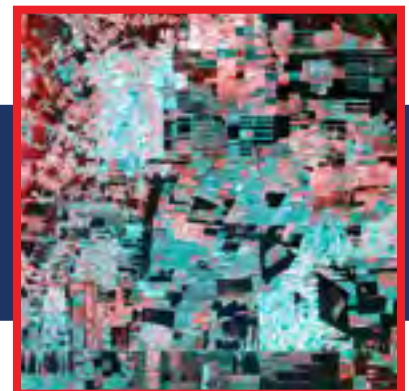
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A blog on the legal aspects of human activities using aerospace technologies

Selected bills and legislation

- **H.R. 6063: National Aeronautics and Space Administration Authorization Act of 2008**
- **S. 3001: Duncan Hunter National Defense Authorization Act for Fiscal Year 2009**
- **H.R. 6984: Federal Aviation Administration Extension Act of 2008**

Selected interviews

- **Mike Gold - Corporate Counsel, Bigalow Aerospace**
- **Tracey L. Knutson - Attorney, Knutson & Associates**
- **Glenn H. Reynolds - Professor of Law, University of Tennessee College of Law**

Selected primary sources

- **Hearing: China's Proliferation Practices, and the Development of its Cyber and Space Warfare Capabilities**
- **Conference on Disarmament Statements**
- **Statement of Intent Regarding the International Lunar Network**

Selected guest bloggers

- **Hiroshi Kiyohara - Chief Attorney, Musashi International Law Offices**
- **Col. M.V. "Coyote" Smith - United States Air Force**
- **Parviz Tarikhi - Department Head, Mahdasht Satellite Receiving Station**

Selected court cases

- **Enomoto v. Space Adventures**
- **Ladman Partners Inc. v, Globalstar Inc.**
- **Bowe v. Worldwide Flight Services**
- **Ary v. United States**
- **American Air Transport Association of America v. Cuomo**

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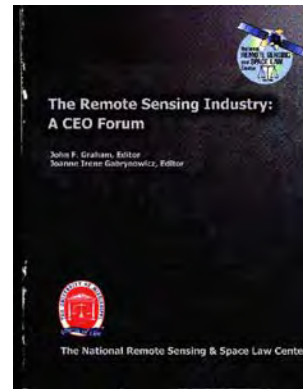
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LandSat 7: Past, Present, and Future -
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The UN Principles related to Remote
 Sensing of the Earth from Space - \$25.00



Proceedings, The First International Conference
 On the State of Remote Sensing Law - \$40.00



The Land Remote Sensing Laws and Policies
 of National Governments: A Global Survey -
 available free online



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