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February 1, 2011

BY ELECTRONIC FILING

Marlene Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Application of Panasonic Avionics Corporation; File Nos. SES-LIC-20100805-00992, SES-AMD-20100914-01163 and SES-AMD-20101115-01432 (Call Sign E100089); Notice of NASA Coordination Agreement

Dear Ms. Dortch:

Panasonic Avionics Corporation (“Panasonic”), pursuant to Section 1.65 of the Commission’s Rules, 47 C.F.R. § 1.65, hereby submits the enclosed Coordination Agreement Between the National Aeronautics and Space Administration (“NASA”) and Panasonic for Operation of the eXConnect Ku-Band AMSS Terminals in the 14.0-14.5 GHz Band (“Coordination Agreement”) in the docket of the above-captioned application proceeding.¹ In that proceeding, Panasonic stated that it was actively engaged in discussions with NASA to develop an appropriate coordination agreement regarding the protection of current and future Tracking and Data Relay Satellite System (“TDRSS”) sites, and would submit the final coordination agreement to the Commission once executed.²

The enclosed Coordination Agreement, entered into pursuant to analogous provisions of the Commission’s rules for earth stations onboard vessels (“ESVs”) and vehicle-mounted earth stations

¹ See Application of Panasonic Avionics Corporation for Authority to Operate Up to 15 Technically Identical Aeronautical Mobile-Satellite Service (“AMSS”) Aircraft Earth Stations (“AESs”) in the 14.0-14.4 GHz and 11.7-12.2 GHz Frequency Bands, File Nos. SES-LIC-20100805-00992, SES-AMD-20100914-01163 and SES-AMD-20101115-01432 (Call Sign E100089) (“Panasonic AMSS Application”).

² See Panasonic AMSS Application Narrative at 17-18.

37 OFFICES IN 17 COUNTRIES

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("VMESs") governs the use of all Panasonic AMSS terminals operating over the United States and Possessions in the 14.0-14.5 GHz band to ensure protection of NASA TDRSS sites.³

Please feel free to contact the undersigned with any questions you may have or if Panasonic can provide any additional information to facilitate expeditious action on its application.

Sincerely,

Squire, Sanders & Dempsey (US) LLP



Carlos M. Nalda
Joshua T. Guyan

Counsel to Panasonic Avionics Corporation

Enclosure

cc: David Keir, Counsel to Row 44, Inc.
Stephen Duall, FCC International Bureau
Paul Blais, FCC International Bureau

³ See 47 C.F.R. § 25.222(c) and 47 C.F.R. § 25.226(c).

**Coordination Agreement Between the National Aeronautics
and Space Administration (“NASA”) and Panasonic Avionics
Corporation (“Panasonic”) for Operation of the eXConnect
Ku-Band AMSS Terminals in the 14.0 – 14.5 GHz-Band**

Panasonic seeks to operate aeronautical mobile-satellite service (AMSS) stations over the United States and Possessions (US&P) on a secondary basis in the 14.0 - 14.5 GHz band. The AMSS stations are part of the Panasonic eXConnect communications system aboard aircraft using transponders in the geostationary satellite orbit (GSO) arc. This Coordination Agreement has been prepared in compliance with the rules of the Federal Communications Commission (FCC) and the recommendations of the International Telecommunication Union (ITU).

1 Overview

- 1.1 Within the US&P, the 14.0 – 14.5 GHz-band is currently allocated to the mobile-satellite service, including the use of aeronautical mobile stations, on a secondary basis. FCC requires Airborne Earth Stations (AES) in this band to protect Space Research Services (SRS) earth stations and the Tracking and Data Relay Satellite System (TDRSS) that operates and requires protection in this band.
- 1.2 Panasonic has filed an application for license authorization to operate AES units in the 14.0 – 14.5 GHz-band.
- 1.3 The Panasonic eXConnect AESs receive from, and transmit to, GSO satellite transponders under control of a Ground Earth Station (GES) and Network Operations Center (NOC). They, and the terrestrial network to which they are connected, comprise the Panasonic eXConnect system.
- 1.4 This Coordination Agreement has been prepared to ensure that operation of the Panasonic eXConnect AESs conform to FCC requirements for protection of the NASA SRS Network.
- 1.5 Panasonic has the authority to negotiate and sign this Coordination Agreement for its AMSS system and NASA has the authority to negotiate and sign this agreement for the TDRSS and SRS Network sites listed in Section 3.1.

2 AUTHORITY

- 2.1 NASA concludes this agreement pursuant to 42 USC §2473(c)(5) and (6) and section 203(5) of the National Aeronautics and Space Act of 1958 as amended, in addition to the Manual of Regulations and Procedures for Federal Radio Frequency Management (National Telecommunications & Information Administration Redbook), January 2008 Edition, September 2009 Revision.

3 Space Research Service Earth Stations

3.1 Table 1 provides a list of TDRSS earth station sites requiring interference protection. The White Sands and Guam sites are currently operational. The Blossom Point, MD site is planned for operation in about 2 years. The TDRSS satellite orbital locations supported by each earth station site are also shown..

Earth Station Site	Latitude (D,M,S)	Longitude (D,M,S)	TDRSS Satellite Degrees East Long.*
<u>Continental United States</u>			
White Sands, New Mexico (WSC)	N32 30' 18.686"	W106 36' 37.153"	-174
Antenna Size – 18.3 meter			-171
Antenna Gain – 66.4 dBi			-167.5
Elevation – 1456 m			-150
			-79
			-62
			-49
			-47
			<u>-41</u>
Blossom Point, MD (BP)	N38 25' 44"	W77 05' 02"	-12
Antenna Size - 20 m			-41
Antenna Gain -66.7 dBi			-47
Elevation - 0 meter			-49
			-62
			-79
<u>United States Territory</u>			
Guam	N13 36' 0"	E144 54' 0"	85
Antenna Size – 11 meter			89
Antenna Gain – 61.9 dBi			133
Elevation – 0 m			-150
			-167.5
			-171
			-174

Table 1 TDRSS Earth Station Sites

3.2 New TDRSS Earth Station Sites:

3.2.1 NASA shall provide Panasonic at least two months written notice of when the Blossom Point, MD earth station is about to become operational. Protection of this site must be provided by its planned operational date of use.

3.2.2 NASA may unilaterally add additional TDRSS earth station sites to the list in Table 1 above. NASA will notify Panasonic expeditiously, when it knows that a new earth station is being planned and has the coordinates of the newly planned site. [comment: compare para 4.5.3 end comment]

3.3 Earth Site Protection Limits:

3.3.1 The TDRSS protection limits are listed in Table 2 below for the WSC, Guam and BP sites.

Frequency Band	Interference Threshold Limit Measured at Antenna Output	Reference Percentage of Time
13.40 – 14.00 GHz	-176 dBW/ kHz	Never to be Exceeded
14.00 – 14.05 GHz	-146 dBW/ MHz	Never to be Exceeded
14.05 – 14.40 GHz	-100 dBW (WSC/Guam); -85 dBW (BP)	Never to be Exceeded

Table 2. TDRSS Protection Limits

3.3.2 For interference calculations, the TDRSS spacecraft can have an inclination angle up to 15 degrees. In calculating the interference threshold levels in Table 2, the antenna patterns in Figure 1 below should be used. The antenna pattern for the future Blossom Point site should be assumed to be similar to the WSC pattern in Figure 1 unless otherwise provided by NASA.

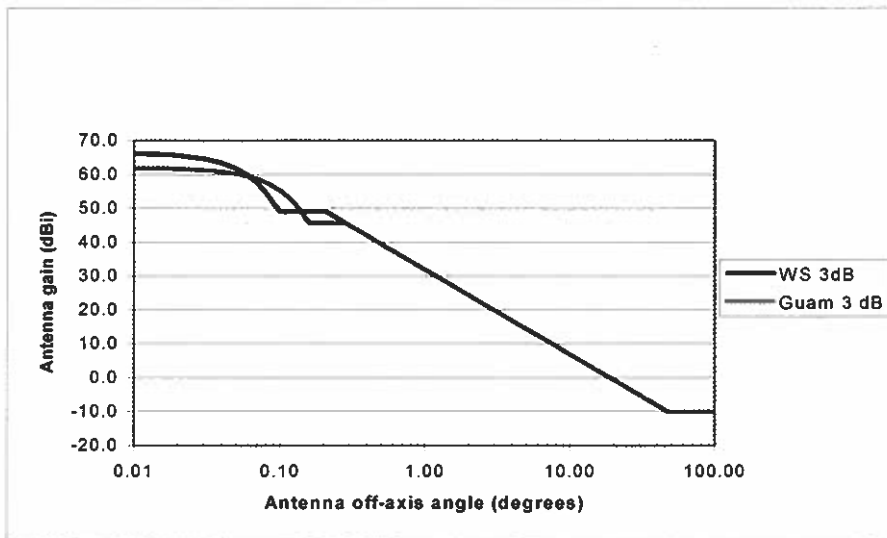


Figure 1. TDRSS Earth Station Antenna Gain Patterns

Note: The antenna patterns shown in Figure 1 are calculated using Annex III of Appendix 8 of the ITU Radio Regulations, with the following modifications:

$$G_1 = 5 + 15 \log(D/\lambda)$$
$$\varphi_r = 12.02 (D/\lambda)^{-0.6}$$

Where Gmax and D are given in Table 1.

4 Operational Coordination Agreement

4.1 NASA and Panasonic agree to the following:

4.1.1 The purpose of this Coordination Agreement is to provide protection to the TDRSS earth station sites listed in Table 1 and any future TDRSS earth station sites.

4.1.2 The level of protection afforded to the earth stations in Table 1, and any future TDRSS earth station sites which NASA adds to Table 1 pursuant to Section 3.2.2 of this Agreement, shall be equal to or greater than the Interference Threshold Limits shown in Table 2.

4.2 This Coordination Agreement may be reviewed periodically by the signatories to the agreement following commencement of service by Panasonic under an operational license from the FCC. The purpose of the review is to assess the effectiveness of this agreement and update this, or subordinate operational agreements, as appropriate.

4.3 Each party shall inform the other party in a timely manner of changes in the points of contact as defined in Section 7.

4.4 Panasonic agrees to:

4.4.1 Monitor, control and cease transmissions from any AES that would exceed the thresholds given in Table 2 within radio line-of-sight of the sites listed in Table 1.

4.4.2 Monitor, control and cease transmissions from any AES that would exceed the thresholds given in the Table 2 within radio line-of-sight of such additional sites as NASA may require.

4.4.3 Respond expeditiously to a NASA request for protection of the sites listed in Section 3.1, in accordance with the threshold limits of Section 3.3.

4.4.4 Respond expeditiously to a NASA request to isolate a source of interference to a TDRSS earth station suspected to be from an AES.

4.4.5 Provide a central point of contact accessible and available (on a 24 hour, 7 day basis) for interference resolution and other contact.

4.5 NASA agrees to:

4.5.1 Maintain an open dialog with Panasonic eXConnect concerning any perceived breach of interference thresholds that may be attributable to an AES that is not in compliance with this Coordination Agreement.

4.5.2 Provide timely notification to Panasonic eXConnect of changes or additions to TDRSS earth station sites, TDRSS spacecraft orbital positions or interference thresholds listed in this Coordination Agreement.

5 Financial Obligations

5.1: Each party shall be responsible for funding its own responsibilities under this Agreement. No provision of this Agreement shall be interpreted to require obligation of funds in violation of the Anti-Deficiency Act 31 U.S.C § 1341.

6 Assignment and Termination

6.1 This Coordination Agreement shall be binding upon the parties hereto and their respective successors and assigns.

6.2 This Coordination Agreement may be terminated by either party upon 6 months written notice to the other.

6.3 CONTINUING OBLIGATIONS: The obligation of Panasonic eXConnect to protect the NASA TDRSS earth stations from interference as described in this agreement will survive termination or expiration of this Agreement.

7 Points of Contact

7.1 Points of contact concerning issues of a policy nature concerning this Coordination Agreement, or the designation of future technical contacts for updating or revising this Agreement:

Name: Victor Sparrow
Title: Director NASA Spectrum Policy
Organization: NASA
Address: NASA Headquarters
300 E Street SW
Washington D.C. 20546-0001
Telephone: (202) 358-0681
e-mail: Victor.D.Sparrow@nasa.gov

Name: Gilbert Dizon
Title: Supervisor, Maint. Ops Center
Organization: Maint. Control Center
Address: Panasonic Avionics Corp
26200 Enterprise Way
Lake Forest, CA 92630
Telephone:(949) 462-1940
e-mail: Gilbert.Dizon@panasonic.aero
mcc@panasonic.aero

7.2 Points of contact for technical issues or questions related to this Coordination Agreement:

Name: William D. Horne
Title: Goddard Spectrum Manager (Interim)
Organization: NASA
Address: Goddard Space Flight Center
Exploration and Space Communications Office
Greenbelt, MD 20771
Telephone: (301) 286-6995
Facsimile: (301) 286-1769
e-mail: william.horne@nasa.gov

Name: Paul Sarraffe
Title: MTS V
Organization: Systems Engineering
Address: Panasonic Avionics Corp.
26200 Enterprise Way
Lake Forest, CA 92630
Telephone: (949) 672-2589
Facsimile: (949) 462-7101
e-mail: paul.sarraffe@panasonic.aero

8 Signatures

This Coordination Agreement is being made in good faith by both parties and is effective on the date on of final signature.

For: The National Aeronautics and Space
Administration:

For: Panasonic Avionics Corporation:

By:  _____

By:  _____

Name: Victor Sparrow

Name: Paul Sarraffe

Title: Director, Spectrum Plans and Policy

Title: MTS V, Systems Engineering

Date: 2/1/11 _____

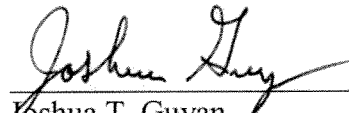
Date: 1/11/11 _____

Certificate of Service

I, Joshua T. Guyan, hereby certify that on this 1st day of February, 2011, I caused a copy of Panasonic Avionics Corporation's Notice of NASA Coordination Agreement to be served via U.S. first class mail on the party listed below.

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2000 K Street, N.W., Suite 600
Washington, DC 20006
(202) 429-8970

Counsel to Row 44, Inc.



Joshua T. Guyan