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February 10, 2016

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

**Re: Panasonic Avionics Corporation – Section 1.65 Submission,
Call Sign E100089, File Nos. SES-MFS-20150609-00349,
SES-AFS-20150820-00538 and SES-AFS-20160107-00003**

Dear Ms. Dortch:

Panasonic Avionics Corporation (“Panasonic”), in connection with the above-referenced earth station aboard aircraft (“ESAA”) application and pursuant to Section 1.65 of the Commission’s Rules, 47 C.F.R. § 1.65, hereby supplements certain information provided to the Commission in a submission dated January 7, 2016,¹ as well as related information associated with the application proceeding.

In the January 7th submission, Panasonic provided clarification of certain information in its pending ESAA application, including: (i) the orbital range associated with the Eutelsat 70B coordination letter; (ii) additional information regarding orbital debris mitigation for the Eutelsat 70B, Yamal 401 and NSS-6 satellites; and (iii) the name of the relevant ITU satellite network filings and administrations for the Eutelsat 70B, JCSAT-5A, Yamal 401, Yamal 300K and NSS-6 satellites.² In addition, Panasonic submitted a concurrently filed application amendment demonstrating that operation of the Yamal 300K satellite is consistent with rules and policies for U.S.-licensed systems operating in the United States, subject to a limited waiver of certain conditions consistent with FCC precedent.³ Additional information clarifying or correcting the January 7th submission and other application information is set forth below.

¹ See Letter from Carlos M. Nalda, LMI Advisors, to Marlene H. Dortch, Federal Communications Commission, File Nos. SES-MFS-20150609-00349 and SES-AFS-20150820-00538, Call Sign E100089 (Jan. 7, 2016).

² See generally *id.*

³ See File No. SES-AFS-20160107-00003, Call Sign E100089.

First, Panasonic provided the type and mass of residual pressurant in the NSS-6 satellite's oxidizer tanks, and the type of oxidizer in them, in the January 7th submission. While the oxidizer information remains accurate, it appears that the satellite operator inadvertently mixed actual/measured data and assumed data in providing the mass of the pressurant (Helium). The mass of Helium should be 1.765 kg rather than 1.398 kg as indicated previously.

Second, subsequent to filing the January 7th submission, further consultations with the operator of the Yamal 300K and Yamal 401 satellites, Gazprom, have resulted in updates to the residual propellant and pressurant that will be onboard each of the spacecraft at end of life. For ease of reference, new tables containing this information are included in Attachment 1 to this submission, and updates to the original tables included in Panasonic's application materials are indicated in bold underlined text.⁴ Panasonic was also informed that the temperature assumed for calculation of the information in the updated tables is 293°K.⁵

Please do not hesitate to contact the undersigned with any questions regarding this submission. Thank you very much for your continued consideration.

Respectfully submitted,



Carlos M. Nalda
LMI Advisors

cc: Jose Albuquerque, FCC
Paul Blais, FCC
Chip Fleming, FCC
Cindy Spiers, FCC

⁴ Panasonic did not provide satellite end-of-life data for the Yamal 300K satellite in the pending application because such information was included in a previously granted application to communicate with that satellite at its original orbit location. Nonetheless, Panasonic takes this opportunity to update the Commission's records regarding Yamal 300K in the context of adding the satellite as an authorized point of communication at its new orbit location.

⁵ This updated end-of-life information for the Yamal 300K and Yamal 401 satellites also was filed by Gogo LLC in connection with its pending application to access these and other satellites. See File No. SES-MFS-20151022-00735, Call Sign E120106.

Attachment 1 – Revised EOL Tables for Yamal 300K and Yamal 401

Yamal 300K:

Item	Purpose	Tank Volume	Number of Tanks / Interconnected	Initial mass of item per tank	End of life mass / volume	Tank pressure rating / units	End of life pressure
Hydrazine (liquid)	Attitude control	26 liters BOL 0.7 liter	Located in common tank and separated by internal membrane.	25 kg	0.7 kg/ 0.7 l	8.1 atm	NA (1)
Nitrogen	Pressurant	14 liters BOL / 39.3 liters EOL		0.1325 kg in each tank	0.1325 kg in each tank/ 39.3 l	8.1 atm	2.9 atm
Xenon	Orbit control	38 liters	2 / Yes	71 kg in each tank	0.54 kg in each tank	140 atm	2.6 atm (2)

(1) – Not applicable, as after hydrazine depletion, membrane-separator of hydrazine and pressurant is completely folded and hydrazine pressure is not guaranteed (at the worst, it does not exceed Nitrogen pressure)

(2) – Indicated value corresponds to the minimum operating pressure for plasma thrusters. Following the satellite orbit-raising, the xenon tank venting operation will be carried out, so the value listed in the table can be taken as the worst case.

Yamal 401:

Item	Purpose	Tank Volume	Number of Tanks / Interconnected	Initial mass of item per tank	End of life mass / volume	Tank pressure rating / units	End of life pressure
Hydrazine (liquid)	Attitude control	26 liters BOL 0.7 liter	3 Tanks / Interconnected Fuel and pressurant are located in common tank and separated by internal membrane.	25 kg	0.7 kg/ 0.7 l	8.1 atm	NA (1)
Nitrogen	Pressurant	14 liters BOL 39.3 liters EOL		0.1325 kg in each tank	0.1325 kg in each tank/ 39.3 l	8.1 atm	2.9 atm
Xenon	Orbit control	38 liters	4 / Yes	71 kg in each tank	0.54 kg in each tank	140 atm	2.6 atm (2)

(1) – Not applicable, as after hydrazine depletion, membrane-separator of hydrazine and pressurant is completely folded and hydrazine pressure is not guaranteed (at the worst, it does not exceed Nitrogen pressure)

(2) – Indicated value corresponds to the minimum operating pressure for plasma thrusters. Following the satellite orbit-raising, the xenon tank venting operation will be carried out, so the value listed in the table can be taken as the worst case.