Marlink, Inc.

Application for Modification of WB36 License to
Add New Emission Designators Authorized for Antenna IDs "4012", "900B/FV110",
"9707/97/11", "9711QORC", "INTV100", "INTV110", "INTV130G",
"INTV240", "INTV240MC", "INTV80G", "TTSA800A" and "TTSA900"
And

Update the Power to the Antenna Flange and Certain Other Specifications and Add New Emission Designators Authorized for Antenna IDs "6006/9/12" and "INTV240K" And

Add a Second Model Number to Model Listed for Antenna ID "OR7-300C", the Model to be Added Being "OrBand AL-7107-C" And

Add a Third Model Number to Model Listed for
Antenna ID "9797/11KU", the Model to be Added Being "9711IMAKU"; as well as
Update the Power to the Antenna Flange and Certain Other Specifications and
Add New Emission Designators Authorized for Antenna ID "9797/11KU"

Update the Antenna ID listed for Antenna ID "INTV240KU" the
Updated Antenna ID for this Facility to be "INTV240MKU"; as well as to
Update the Power to the Antenna Flange and Certain Other Specifications and
Add New Emission Designators Authorized for
Antenna ID "INTV240KU"/(now to be called) "INTV240MKU"

And

Add Authorization for up to 500 Orbit Model "OrBand AL-7108-C" 2.4 Meter C-band Antennas and 500 Intellian Model "V150" 1.5 Meter Ku-band Antennas to the WB36 Authorization for Earth Station on Vessels (ESV),

And

Make Updates and/or Corrections to Certain of the "Section H) Special and General Provisions" of the License

SES-MOD-20160630-00625

Call Sign WB36

I) Request to Add New Emission Designators Authorized for Antenna IDs "4012", "900B/FV110", "9707/97/11", "9711QORC", "INTV100", "INTV110", "INTV130G", "INTV240", "INTV240MC", "INTV80G", "TTSA800A" and "TTSA900"

Marlink requests that new Transmit Emission Designators be added to the Emission Designators authorized per the WB36 license for the above listed ESV remote antennas. The specifics for the new Emission Designators are set forth in the Schedule B

of the Application. It is noted that this addition of Emission Designators is the only change being requested for these antennas. The Commission Staff may therefore disregard the "Antenna" sub-section of the Schedule B as it processes the application. The "Antenna" sub-section of the Schedule B was only completed in order to open and complete the "Frequency" sub-section to add the new Emission Designators. No change was made to any of the information listed for the above antennas in Section E) of the license.

II) Request to Update the Power to the Antenna Flange and Certain Other Specifications and Add New Emission Designators Authorized for Antenna IDs "6006/9/12" and "INTV240K"

Marlink is requesting that the "Maximum Total Input Power at Antenna Flange" and "Maximum Aggregate Output EIRP for all Carriers" specifications in the Antenna Facilities Section E) of the license for Antenna IDs "6000/9/12" and "INTV240K" be updated as set forth below and in the Schedule B and as shown in the attached license mark-up (Exhibit 2) in order to increase the power authorized per the WB36 license for these ESV antennas. Please delete the "Maximum Total Input Power at Antenna Flange" and "Maximum Aggregate Output EIRP for all Carriers" specifications currently listed in Section E) for Antenna IDs "6000/9/12" and "INTV240K" and then add the new specifications following below back in as per the Schedule B information set forth in the Modification Application.

In Section E) of the license for Antenna 6006/9/12

New "Maximum Total Input Power at Antenna Flange" = 107.1

New "Maximum Aggregate Output EIRP for all Carriers" = 65.39

In Section E) of the license for Antenna INTV240K

New "Maximum Total Input Power at Antenna Flange" = 173

New "Maximum Aggregate Output EIRP for all Carriers" = 70.38

Marlink also requests that new Transmit Emission Designators be added to the Emission Designators authorized per the WB36 license for Antenna IDs "6000/9/12" and "INTV240K". The specifics for the new Emission Designators are set forth in the "Frequency" sub-section of the Application Schedule B.

Radiation Hazard Reports for the "6006/9/12" and "INTV240K" antennas for the powers set forth above and in the Schedule B are included in the Radiation Hazard Report Exhibit 5 which is being submitted with the application.

III) Request to Add a Second Model Number to Model Listed for Antenna ID "OR7-300C", the Model to be Added Being "OrBand AL-7107-C"

Marlink requests that Model Number "OrBand AL-7107-C" be added to the Model Number currently listed for Antenna ID "OR7-300C". The Model Number that is currently listed in the WB36 license for Antenna ID "OR7-300C" is Model Number "OceanTRx 7-300-C". Included in the Declarations Exhibit which is being submitted with the application as Exhibit 3 is a "Declaration of Orbit Communication Systems Ltd" which states that the

"...marine stabilized antenna systems for satellite communications at sea model:

OrBand AL-7107-C VSAT system, 2.2 meter C-band antenna and the OceanTRx 7-300-C VSAT system, 2.2 meter C-band antenna models, are electronically identical to each other."

It is therefore requested that Model Number "OrBand AL-7107-C" be added to the Model Number currently listed for Antenna ID "OR7-300C" as shown in the mark-up of the current license submitted with the application as Exhibit 2. It is noted that this is the only change being requested for this antenna. The "Antenna" sub-section of the Schedule B was only completed in order to add the 2nd model number. No change was made to any of the other information listed for the "OR7-300C" Antenna ID in Section E) of the license.

IV) Request to Add a Third Model Number to Model Listed for Antenna ID "9797/11KU", the Model to be Added Being "9711IMA" as well as Update the Power to the Antenna Flange and Certain Other Specifications and Add New Emission Designators Authorized for Antenna ID "9797/11KU"

Marlink requests that Model Number "9711IMA" be added to the Model Numbers currently listed for Antenna ID "9797/11KU". The Model Numbers currently listed in the WB36 license for Antenna ID "9797/11KU" are Model Numbers "9797/9711KU". Included in the Declarations Exhibit which is being submitted with the application as Exhibit 3 is an "FCC Declaration of Conformity" by Sea Tel, Inc. which lists the model numbers of the Sea Tel 2.4 Meter Ku-Band antenna which is the subject of the Declaration as follows-

"...2.4 Meter Ku-Band, Models 9797/9711/9711IMA...."

It is therefore requested that Model Number "9711IMA" be added to the Model Numbers currently listed for Antenna ID "9797/11KU". As shown in the mark-up of the current license submitted with the application as Exhibit 2 that will result in the Model Number being listed as "9797/9711/9711IMAKU".

Marlink is also requesting that the "Maximum Total Input Power at Antenna Flange" and "Maximum Aggregate Output EIRP for all Carriers" specifications in the Antenna Facilities Section E) of the license for Antenna ID "9797/11KU be updated as

set forth below and in the Schedule B and as shown in the attached license mark-up (Exhibit 2) in order to increase the power authorized per the WB36 license for this ESV antenna. Please delete the "Maximum Total Input Power at Antenna Flange" and "Maximum Aggregate Output EIRP for all Carriers" specifications currently listed in Section E) for Antenna ID "9797/11KU and then add the new specifications following below back in as per the Schedule B information set forth in the Modification Application.

In Section E) of the license for Antenna 9797/11KU

New "Maximum Total Input Power at Antenna Flange" = 210.3

New "Maximum Aggregate Output EIRP for all Carriers" = 71.72

Marlink further requests that new Transmit Emission Designators be added to the Emission Designators authorized per the WB36 license for Antenna ID "9797/11KU". The specifics for the new Emission Designators are set forth in the "Frequency" subsection of the Application Schedule B.

A Radiation Hazard Report for the "9797/11KU" antenna for the power set forth above and in the Schedule B is included in the Radiation Hazard Report Exhibit 5 which is being submitted with the application.

V) Request to Update the Antenna ID listed for Antenna ID "INTV240KU", the Updated Antenna ID for this Facility to be "INTV240MKU" and Correct a Typo in the Model Number Listed With This Antenna ID, as Well as to Update the Power to the Antenna Flange and Certain Other Specifications and Add New Emission Designators Authorized for Antenna ID "INTV240KU"/(now to be called) "INTV240MKU"

Marlink requests that the Antenna ID for Antenna ID "INTV240KU" be updated in Section E) in order to clarify that it is for the Ku-band side of the Intellian Multi-band (C/KU) 2.4 meter antenna system and differentiate it from the stand-alone Intellian 2.4 meter Ku-band antenna. The stand-alone Intellian 2.4 meter Ku-band antenna is authorized by the WB36 license as Antenna ID "INTV240K". In order to clearly differentiate the Ku-band side of the multi-band (C/KU) 2.4 meter antenna from that stand-alone 2.4 meter Ku-band antenna it is requested that Antenna ID "INTV240KU" be changed to Antenna ID "INTV240MKU" as shown in the license mark-up being submitted with the application as Exhibit 2. The typo for which correction is being requested is to delete the "5" from the beginning of "5V240M(KU-BAND)' currently listed as the Model Number for this Antenna ID so that as shown in Exhibit 2, the Model Number is listed as "V240M(KU-BAND)'.

Marlink is also requesting that the "Maximum Total Input Power at Antenna Flange" and "Maximum Aggregate Output EIRP for all Carriers" specifications in the Antenna Facilities Section E) of the license for Antenna ID "INTV240MKU" (formerly "INTV240KU") be updated as set forth below and in the Schedule B and as shown in the

attached license mark-up (Exhibit 2) in order to increase the power authorized per the WB36 license for this ESV antenna. Please delete the "Maximum Total Input Power at Antenna Flange" and "Maximum Aggregate Output EIRP for all Carriers" specifications currently listed in Section E) for Antenna ID "INTV240MKU" (formerly "INTV240KU") and then add the new specifications following below back in as per the Schedule B information set forth in the Modification Application.

In Section E) of the license for Antenna INTV240MKU (formerly INTV240KU)

New "Maximum Total Input Power at Antenna Flange" = 165.2

New "Maximum Aggregate Output EIRP for all Carriers" = 70.58

Marlink further requests that new Transmit Emission Designators be added to the Emission Designators authorized per the WB36 license for Antenna ID "INTV240MKU" (formerly "INTV240KU"). The specifics for the new Emission Designators are set forth in the "Frequency" sub-section of the Application Schedule B.

A Radiation Hazard Report for the "INTV240MKU" antenna for the power set forth above and in the Schedule B is included in the Radiation Hazard Report Exhibit 5 which is being submitted with the application.

VI) Request to Add Authorization for up to 500 Orbit Model
"OrBand AL-7108-C" 2.4 Meter C-band Antennas and 500 Intellian
Model "V150" 1.5 Meter Ku-band Antennas to the WB36 Authorization
for Earth Station on Vessels (ESV)

Marlink requests that the following new ESV remote antennas be added to the WB36 authorization to provide ESV service:

500 Orbit Model "OrBand AL-7108-C" 2.4 Meter C-band Antennas and 500 Intellian Model "V150" 1.5 Meter Ku-band Antennas

All the remote ESVs – both the currently authorized antennas which are being updated and the new antennas which are being added to the authorization - will be located on vessels traveling in U.S. and international waters. They will operate with hub antennas that are separately licensed. They will be utilized to provide ESV service in the same manner as previously authorized by the Commission and will be operated in full compliance with the requirements of the Commission's ESV regulations as set forth in part 25 of the Rules.

Marlink's Showing of Compliance with Part 25 of the Commission's Rules follows herewith and the exhibits required by Sections 25.221 and 25.222 are included as attachments to the Modification Application.

Showing of Compliance for C-band Operation of the Orbit Model OrBand AL-7108-C Antenna with Part 25 of the Commission's Rules

Section 25.221

(a) (1) Comply.

See the Orbit declaration in Exhibit 3 and "Tables Required by 25.221(b)(1)(i) to Demonstrate Compliance of Orbit Antennas with 25.221(a)(1)(i)" in Exhibit 4 for the Orbit Model OrBand AL-7108-C 2.4 Meter C-band Antennas.

The antennas use transmitters that have off-axis EIRP spectral densities less than or equal to the levels in paragraph 25.221(a)(1)(i) and meet the requirements of 25.221 (a)(1)(i)(A-C) with an N value of 1. Exhibit 4 contains the detailed demonstration described in paragraph 25.221 (b)(1). The declaration in Exhibit 3 contains the certification that the antenna complies with the pointing requirement in paragraph 25.221 (a)(1)(ii)(A) and the cessation of emission requirement in paragraph 25.221 (a)(1)(iii)(A).

- (a) (2) Not Applicable
- (a) (3) Not Applicable
- (a) (4) Comply. The U.S. based ESV Compliance Officer has authority and ability to cease all emissions from ESVs through teleports located in the U.S. and elsewhere used to uplink the ESVs. The ESV Compliance Officer is able to direct the Marlink Network Operations Center (MNOC) located in Eik, Norway to send commands via the uplink teleports which cause the remote ESVs to cease transmitting. The business address for the ESV Compliance Officer is 11707 S Sam Houston Parkway West, Suite A, Houston, Texas, 77031 and this point of contact is available 24 hours a day, seven days a week via 203-346-0461 which is the U.S. number for the MNOC
- (a) (5) Comply. These records are being collected and maintained as specified. Requests to make this data available may be directed to the ESV Compliance Officer via 203-346-0461.
- (a) (6) Comply.
- (a) (7) Comply. The ESVs are controlled through teleports located in the United States and elsewhere used to uplink the ESVs. As noted in the (a) (4) response, the ESV Compliance Officer that is located within the United States has the capability and authority to cause any of the ESVs to stop transmitting if necessary.
- (a) (8) Comply.
- (a) (9) Comply.

- (a) (10) Comply. No protection is sought for docked ESVs at this time. In the event it is necessary to seek protection at some point in the future, it will be accomplished in accordance with the terms of this §25.221 (a) (10).
- (a) (11) Agree.
- (a) (12) Comply. The C-band ESVs which are the subject of this application will not operate within 200 Km of the U.S. coastline or fixed service offshore facilities unless prior coordination has been completed. It is noted that numerous C-band ESV interference studies and frequency coordinations have been completed for applicant by Comsearch and Skjei Telecom; the Notifications Concerning Completion of the Coordinations have been filed with the Commission as specified in this regulation; and the Notifications placed on Public Notice. Other coordinations may be completed as-needed and if so, Notifications for same will be filed with the Commission for Public Notice as they are completed.
- (a) (13) Comply. Hardware and software have been developed and deployed which continuously monitors the location of each ESV and its operating frequency; compares this information with data containing mapping coordinates for areas in which ESV operation is (and is not) permitted and coordination information and terms for same; and which will automatically cease the transmissions of the ESV if it is in an area for which coordination is required and operation would be in violation of the terms of coordination.
- (b) (1) Comply. The tables described in 25.221(b)(1)(i) are attached in Exhibit 4. The value N described in 25.221(a)(1)(i)(A) is 1. The detailed demonstration described in paragraphs 25.221(b)(1)(i)(A), (B) & (C) is contained in the attached Exhibit 4. The certification stating that the tracking system meets the pointing and cessation of emission requirements of 25.221(b)(1)(iii) is contained in the declaration for this antenna in Exhibit 3.
- (b) (2) Not Applicable.
- (b) (3) Not Applicable.
- (b) (4) Comply. See Exhibit 6 for map showing geographic areas in which ESVs authorized per the WB36 license will operate.
- (b) (5) Comply. The U.S. based ESV Compliance Officer has authority and ability to cease all emissions from ESVs through teleports located in the U.S. and elsewhere used to uplink the ESVs. The ESV Compliance Officer is able to direct the Marlink Network Operations Center (MNOC) located in Eik, Norway to send commands via the uplink teleports which cause the remote ESVs to cease transmitting. The business address for the ESV Compliance Officer is 11707 S. Sam Houston Parkway West, Suite A, Houston, Texas, 77031 and this point of contact is available 24 hours a day, seven days a week via 203-346-0461 which is

the U.S. number for the MNOC

(b) (6) Comply. See the Radiation Hazard Report in Exhibit 5.

Showing of Compliance for the Ku-band Operation of the Intellian Model "V150" Antennas with Part 25 of the Commission's Rules

Section 25.222

(a) (1) Comply.

See the Intellian declaration for this antenna in Exhibit 3 and "Tables Required by 25.222(b)(1)(i) to Demonstrate Compliance of Intellian Antennas with 25.222(a)(1)(i)" in Exhibit 4 for the Intellian Model "V150" 1.5 Meter Ku-band Antennas.

The antennas use transmitters that have off-axis EIRP spectral densities less than or equal to the levels in paragraph 25.222(a)(1)(i) and meet the requirements of 25.222 (a)(1)(i)(A-C) with an N value of 1. Exhibit 4 contains the detailed demonstration described in paragraph 25.222 (b)(1). The declaration in Exhibit 3 contains the certifications that the antenna complies with the pointing requirement in paragraph 25.222 (a)(1)(ii)(A) and the cessation of emission requirement in paragraph 25.222 (a)(1)(iii)(A).

- (a) (2) Not Applicable
- (a) (3) Not Applicable
- (a) (4) Comply. The U.S. based ESV Compliance Officer has authority and ability to cease all emissions from ESVs through teleports located in the U.S. and elsewhere used to uplink the ESVs. The ESV Compliance Officer is able to direct the Marlink Network Operations Center (MNOC) located in Eik, Norway to send commands via the uplink teleports which cause the remote ESVs to cease transmitting. The business address for the ESV Compliance Officer is 11707 S. Sam Houston Parkway West, Suite A, Houston, Texas, 77031 and this point of contact is available 24 hours a day, seven days a week via 203-346-0461 which is the U.S. number for the MNOC.
- (a) (5) Comply. These records are being collected and maintained as specified. Requests to make this data available may be directed to the ESV Compliance Officer via 203-346-0461.
- (a) (6) Comply.
- (a) (7) Comply. The ESVs are controlled through teleports located in the United

States and elsewhere used to uplink the ESVs. As noted in the (a) (4) response, the ESV Compliance Officer that is located within the United States has the capability and authority to cause any of the ESVs to stop transmitting if necessary.

- (a) (8) Comply.
- (b)(1) Comply. The tables described in 25.221(b)(1)(i) are attached in Exhibit 4.

The value N described in 25.222(a)(1)(i)(A) is 1. The detailed demonstration described in paragraphs 25.222(b)(1)(i)(A), (B) & (C) is contained in the attached Exhibit 4. The certification for the antenna stating that the tracking system meets the pointing and cessation of emission requirements of 25.222(b)(1)(iii) is contained in the declarations in Exhibit 3.

- (b) (2) Not Applicable.
- (b) (3) Not Applicable.
- (b) (4) Comply. See Exhibit 6 for map showing geographic areas in which ESVs authorized per the WB36 license will operate.
- (b) (5) Comply. The U.S. based ESV Compliance Officer has authority and ability to cease all emissions from ESVs through teleports located in the U.S. and elsewhere used to uplink the ESVs. The ESV Compliance Officer is able to direct the Marlink Network Operations Center (MNOC) located in Eik, Norway to send commands via the uplink teleports which cause the remote ESVs to cease transmitting. The business address for the ESV Compliance Officer is 11707 S Sam Houston Parkway West, Suite A, Houston, Texas, 77031 and this point of contact is available 24 hours a day, seven days a week via 203-346-0461 which is the U.S. number for the MNOC.
- (b) (6) Comply. See the Radiation Hazard Reports in Exhibit 5.
- (c) Comply. Coordination has been completed with NASA for ESV operations in the 14.0 14.2 GHz frequency band within 125 km of NASA TDRSS facilities protected per 24.222 (c). The coordination has been filed with the Commission for completion of the coordination process. Marlink has developed and deployed a system which utilizes hardware and software to continuously monitor the location of each ESV and its operating frequency; compares this information with data containing mapping coordinates for areas in which ESV operation is (and is not) permitted and coordination information and terms for same; and which will automatically cease the transmissions of the ESV if it is in an area for which coordination is required and operation would be in violation of the terms of coordination. Mapping coordinates for 14.0 14.2 GHz frequency band Transmit Exclusion Zones required by NASA per the above described coordination to protect the TDRSS facilities have been programed into Marlink's system. It will

automatically mute any Marlink ESVs operating in the 14.0-14.2~GHz frequency band which enter one of these Exclusion Zones.

(d) Comply. Mapping coordinates for 14.47 – 14.5 GHz frequency band Transmit Exclusion Zones have been developed for the areas within the specified distances of the facilities protected per 24.222 (d) and programed into Marlink's system. It will automatically mute any Marlink ESVs operating in the 14.47 – 14.5 GHz frequency band which enter one of these Exclusion Zones.

VII) Request for Updates and/or Corrections to Certain of the Section H) Special and General Provisions of the License

Marlink respectfully requests that certain of the Special and General Provisions currently set forth in Section H of the WB36 license be updated and/or corrected as explained below. The requested changes are also shown in the mark-up of the current license which is being submitted with the application as Exhibit 2.

It is requested that conditions number 2938 and 5015 be deleted in their entirety. Both condition number 2938 and 5015 require submission of certifications to the commission upon completion of construction of antennas. Marlink notes that all antenna authorizations currently on the WB36 license are "blanket authorizations" for stated quantities of remote antennas. While there were one or more hub antennas on the license in the past for which conditions number 2938 and 5015 would have been appropriate there are no longer any hub antennas listed on the WB36 license. The only authorizations now listed on the license are remote antenna blanket authorizations for which conditions number 2938 and 5015 do not appear to Marlink to be appropriate.

Marlink is also requesting that condition number 3212 be deleted because it likewise appears to have been designed to address hub antennas. Marlink notes that condition number 5208 (page 30 of the license) appears to be more appropriate for the remote antennas now authorized per the WB36 license and is consistent with the measures set forth in the Radiation Hazard Reports utilized by Marlink for ensuring that ESV antennas do not create potential exposure of humans to radiofrequency radiation in excess of FCC exposure limits. It is therefore respectfully requested that condition number 3212 be deleted from the license.

Two conditions that are appropriate for the WB36 authorizations but which the International Bureau may want to consider updating for clarity are condition numbers 217 and 5606. Condition number 217 states that the "ALSAT" authority listed in the authorization is limited to the 14.0-14.5 and 11.7-12.2 GHz bands only. It is noted however that the WB36 license does also provide Permitted Space Station List Point of Communications authority for C-band ESVs. Condition number 5606 seems to acknowledge this as it states that the use of the frequency bands 3700-4200 MHz and 5925-6425 MHz shall be limited to communication with ALSAT only. Marlink suggests though that the International Bureau consider modifying one or both of these conditions

so that it is clear that the Permitted Space Station List Point of Communications authority granted by the license is for both C-band and Ku-band frequencies.

Finally, it is requested that condition number 90275 be deleted and replaced in its entirety inasmuch as it cites a 2011 foreign ownership authorization which is out of date and has been superseded by a 2016 foreign ownership authorization. Condition 90275 should be replaced with a condition reading as follows-

"We grant the Petition to Adopt Conditions to Authorizations and Licenses which was filed on May 24, 2016 by the Department of Justice in the SES-T/C-20160119-00063 proceeding for consent for the transfer of control of the WB36 license from Airbus DS Holdings SAS to Toruk AS. Accordingly, we condition grant of the application for consent for transfer of control of the WB36 license on compliance by Toruk AS and Marlink, Inc. with the commitments and undertakings set forth in the May 24, 2016 Network Security Agreement (NSA) between Toruk AS and Marlink, Inc. and the Department of Justice. A copy of the Petition and the NSA are publicly available and may be viewed on the FCC web-site through the International Bureau Filing System (IBFS) by searching for file number SES-T/C-20160119-00063 and accessing "Other filings related to this application from the Document Viewing Area."

Questions with respect to any of the above may be directed to James G. Lovelace at (281) 606-0117 or james.lovelace@marlink.com.