Douglas Young

From: Ryan Martineau <Ryan.Martineau@sdl.usu.edu>
Sent: Thursday, December 14, 2017 4:12 PM
To: Douglas Young
Subject: RE: Request for Info - File #0759-EX-CN-2017
Attachments: ITUcostrecletter.docx; SpaceCapCoverLtr.docx; OPAL.txt; NTIA Space Record Data Form_OPAL.pdf

Doug,

Here is the requested information, with the SpaceCap and NTIA data record.

Ryan

From: Douglas Young [mailto:Douglas.Young@fcc.gov]
Sent: Thursday, December 7, 2017 11:42 AM
To: Ryan Martineau <Ryan.Martineau@sdl.usu.edu>
Subject: Request for Info - File #0759-EX-CN-2017

This application requires a cost recovery letter and an ITU SpaceCap cover letter to submit the API SpaceCap file. A cost recovery letter template is attached. In addition, a draft ITU SpaceCap cover letter is attached. The applicant should submit a cost recovery letter and provide the points of contact information mentioned in the ITU SpaceCap cover letter.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of December7, 2017 may result in application dismissal pursuant to Section 5.67 and forfeiture of the filing fee pursuant to Section 1.1108.

December 7, 2017

Secretary
Office of the Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Subject: ITU Cost Recovery Fees for the OPAL Network
Reference: FCC experimental application file number 0449-EX-CN-2017

Dear FCC Secretary,

The Space Dynamics Laboratory, proposed operator of the subject network, is aware that as a result of actions taken at the International Telecommunication Union's 1998 Plenipotentiary Conference, and modified by the ITU Council in 2001, 2002 and 2004, processing fees will now be charged by the ITU for satellite network filings. As a consequence, Commission applicants are responsible for any and all fees charged by the ITU. The applicant hereby states that it is aware of this requirement and accepts responsibility to pay any Cost Recovery fees associated with these applications. Invoices for such fees should be sent to the point of contact specified below:

Sincerely,

Ryan Martineau
Space Dynamics Laboratory
1695 Research Park Way
Logan, UT 84341
Email: ryan.martineau@sdl.usu.edu
Tel: (435) 713-3599
Fax: (435) 713-3430

FEDERAL COMMUNICATIONS COMMISSION
INTERNATIONAL BUREAU
WASHINGTON, D.C. 20554

fax: +1 202 418 1208; TWX: 710 822 0160
e-mail: IBMAIL@FCC.GOV

IN REPLY REFER TO:

800C2/SEB15109

Atila Matas, Head of SPR
Radiocommunication Bureau
International Telecommunication Union
Place des Nations
CH-1211 Geneva 20

Subject: Advance Publication Information for the BisonSat Satellite network.

Dear Sir:

In accordance with the provisions of Article 9.1 and Appendix 4 of the Radio Regulations, the Administration of the United States is submitting a request for the Advance Publication Information of the BisonSat satellite network.

Enclosed is a diskette containing an electronic copy using Space Capture V.7 of the information for the BisonSat satellite network.

In addition we would like to provide the cost recovery billing information under Agency code 528 in the Preface to the International Frequency List (IFL) for U.S.A. commercial operators. Cost-recovery invoices associated with this filing should be sent to the following point of contact:

Ryan Martineau
Space Dynamics Laboratory
1695 Research Park Way
Logan, UT 84341
E-Mail: ryan.martineau@sdl.usu.edu
Phone: (435) 713-3599
Fax: (435) 713-3430

NTIA Space record data form

NTIA requires the following data for space related experiments using government shared spectrum. For each transmit frequency, please provide the data for both ends of the transmit-receive link. Use Part A to describe the satellite to ground information. Part B is for all ground to space transmit links.

Part A: Space to Earth Downlink Data

Satellite Transmitter Data

Transmit Frequency: 468.000 MHz		
Satellite Name: OPAL		
Data Field	**Data Answer**	**Description/Comments**
Polarization (XAP)	XAP = L	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN 5 BEAMWIDTH 060 XAD = XAD01 05G060B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 51.6, APOGEE IN KILOMETERS 400, PERIGEE IN KILOMETERS 400, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .54, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB = ORB,51.6IN00400AP00400 PE001.54H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

Earth Station Data (Receiver)		
State (RSC)	RSC = Virginia	
City Name (RAL)	RAL = Temperanceville	
Latitude (DDMMSS)	Lat = 375121 North	
Longitude (DDDMMSS)	Lon = 0753043 West	
Antenna Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = RAZ 01 V00	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN 36, BEAMWIDTH 3, AZIMUTHAL RANGE 0 -360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 0 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 10 RAD = RAD01 36G003B000-360A00000H010	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (insert name) OPAL		

Part B: Ground Stations, Earth to Space link data:

Earth Station Transmitter Data

Transmit Frequency: 450.000 MHz		
State (XSC)	XSC = Virginia	
City Name (XAL)	XAL = Temperanceville	
Latitude (DDMMSS)	Lat = 375121 North	
Longitude (DDDMMSS)	Lon = 0753043 West	
Antenna Polarization (XAP)	XAP = R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ = XAZ01 V00	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN 36, BEAMWIDTH 3, AZIMUTHAL RANGE 0-360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 0 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 10 XAD = XAD01 36G003B000-360A00000H010	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Specifications		
Polarization (RAP)	RAP = J	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = RAZ01 V00	STATION RECEIVER ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Dimension (RAD)	ANTENNA GAIN 5 BEAMWIDTH 060 RAD = RAD01 05G060B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary

For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 51.6, APOGEE IN KILOMETERS 400, PERIGEE IN KILOMETERS 400, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .54, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB, 51.6 IN 00400 AP00400 PE001.54 H01 NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

We request that a courtesy copy of all correspondence be sent to our Administration also.

Please acknowledge receipt of this information.

Thank you for your kind consideration in this matter.

Sincerely,

Chief, Strategic Analysis and
Negotiations Division
International Bureau

Enclosure

If replying by fax, reply to 1 202 418 1208 (preferred) or 1 202 418 0398 (alternate)