To: Mike Miller
E-Mail: mlmiller@sterksolutions.com
From: Leann Nguyen
Date: July 10, 2017

Subject: Request for Info - File # 0099-EX-CN-2017

Message:

Below is IB's comments, please response as soon as possible:

1) On the Cost Recovery letter, the letter is signed by two professors. Are both professors' school officials duly authorized by University of Florida to sign this cost recovery commitment on behalf of the University? The signatory should be school official duly authorized by the University to sign the cost recovery commitment on behalf of the University.

2) Per RR footnote 5.279A, the 432-438 MHz band is allocated to EESS (active) on a secondary basis; however, this mission is not in accordance with the EESS (active) allocation rather it is being used as an uplink (to a) satellite. Does the applicant intent to operate below 435 MHz band? If so, the applicant will need to provide an EMC analysis to show that operations in the 432-435 MHz will not cause harmful interference to incumbent operations in this band.

However, we note that the API uplink center frequency is given as 437.56 MHz; applicant please verify the frequency range and update any document as appropriate. Please note that the amateur satellite band is from 435-438 MHz band.

ODAR:

3) There is surviving debris reported in the ODAR—stainless steel battery holders, with greater than 15J energy.

Applicant please provide any justification for use of non-demising components, and a description of liability insurance arrangements. Alternatively, applicant can provide, if available, a higher fidelity analysis showing demise or reduction to below 15 J energy. Alternatively, the applicant can modify this component choice.

4) The ground station shown in the exhibit is the “Eric Farber” ground station. If this is not a ground station controlled by the University of Florida, it should be applied for separately, presumably by Mr. Farber. It would be helpful to understand the relationship between Mr. Farber and the University.

5) Applicant please indicate the laser ground station operator(s) and the frequency the laser operates in.

Form 442:

6) For the uplink frequency 432-438 MHz the ERP value is given as 1162 W; however, our ERP calculation value is 2438 Watts (20 dBW + 16.02 dBi = 36.02 – 2.15 dBi = 33.87; divide by 10 = 3.387 and raise to the 10^ gives approx. = 2438 W. Please review our calculation and make any changes as appropriate.

SpaceCap API file:

7) Orbital parameters, make sure the Perigee value (499 km) matches the altitude value (500 km). ODAR seems to indicate this orbit was circular 500 km x 500 km.

8) On the UPLINK beam name UHFUP, please recalculate the power spectral density values; please use the equation power spectral density equation = Power (dBW) – 10*Log10(bandwidth in Hertz); our calculation does not match with what is given in the API file.

9a) On the DOWNLINK beam name CHMTBEA, the service area is given as XVE and the earth station is described as typical but the USA is not identified as a service area. Will this downlink beam transmit over the USA territory?

9b) Also, please recalculate the power spectral density values; please use the equation power spectral density equation = Power (dBW) – 10*Log10(bandwidth in Hertz); our calculation does not match with what is given in the API file.

9c) the earth station antenna gain value shows as 18 dBi; however, the antenna pattern has a value of 18.95 dBi.

10a) On the DOWNLINK beam name CHMTDOWN, recalculate the power spectral density values; please use the equation power spectral density equation = Power (dBW) – 10*Log10(bandwidth in Hertz); our calculation does not match with what is given in the API file.

10b) the earth station antenna gain value shows as 12.8 dBi; however, there is NO antenna pattern with this antenna gain of 12.8 dBi. Please provide the antenna pattern or if this is an error, please correct this section.

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 July 10, 2017 may result in application dismissal pursuant to Section 5.67 and forfeiture of the filing fee pursuant to Section 1.1108.

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