

From: Kris Kroc

To: Doug Young

Date: August 28, 2013

Subject: Request for Info - File #0519-EX-PL-2013

Message:

Here are SpaceX's responses to the following questions:

Question 1:

Your "Coordination with New Mexico PBS" exhibit says that you will be transmitting at an approximate power of 20 W ERP. Your application says that the output power is 20 W and the ERP is 31 W. Explain the discrepancy.

Response 1:

Output power of the transmitter is 20 W = 43 dBm

Peak Gain of our Antennas are 6.6 dB

Internal Losses from Transmitter to Antennas = 2.55 dB

Conversion from EIRP to ERP (radiation referenced to isotropic radiator compared to dipole) = -2.15 dB

43 dBm – 2.55 dB + 6.6 dBi - 2.15 dB = 44.9 dBm ERP = 30.9 Watts

Question 2:

Your application also says that the output power of your ground station is 50 W and the ERP is 40 W, using an antenna with a 1.8 degree beamwidth. Explain why the gain seems so low. Is there considerable attenuation inline?

Response 2:

The application should have said the TX EIRP is 40 dBW not 40 Watts, 40 dBW = 10,000 Watts EIRP or = 6095 watts ERP

Question 3:

Your "Coordination with New Mexico PBS" exhibit also says that the ERP of the ground station is 100 W. This does not agree with any numbers in the application. Explain.

Response 3:

The coordination email with Mr. Zillich was before we finalized the specs on the parabolic dish system. Instead of 100W ERP, it is 6095 Watts ERP.