

From: John Roscoe-Hudson

To: Jose Trevino

Date: January 28, 2008

Subject: FCC file number 0709-EX-PL-2007

Message:

DOF Subsea Address/Response to the NTIA MANUAL, Chapter 8, Section 8.3.28
Use of Fixed Devices That Re-Radiate Signals Received From the Global Positioning System.

1. [DOFsubsea Response] ? One (1) GPS Repeater system is planned to be installed in the Workshop Area of the building if FCC licensing approval is obtained. The Workshop area is 51feet long by 38 feet wide (see DOF Subsea Houston Office Floor Plan.pdf document file)

2. [DOFsubsea Response] ? FCC Form 442 Application File Number: 0709-EX-PL-2007 (Confirmation Number: EL307977) GPS re-radiator kit.

Purpose for the license is for the purchase, installation, and operation of a GPS L1/L2 signal re-radiator kit/system for use within our Houston workshop facility to allow testing and integration of survey GPS equipment as part of our day-to-day activities and operations in providing Survey Positioning Services for our clients.

3. As per procedure if license is granted

4. As per procedure if license is granted

5. [DOFsubsea Response] ? The emitted signals from the installed GPS re-radiator system will be within the workshop facility and will be controlled entirely by DOFsubsea workshop personnel with power supplied and controlled as per item 9 below.

6. [DOFsubsea Response] ? The radiated power from the proposed GPS re-radiator system installation transmitting antenna is calculated to be:-

-143.1dBm at a distance of 100feet for the GPS L1 Carrier Frequency of 1575MHz

-143.9dBm at a distance of 100feet for the GPS L2 Carrier Frequency of 1227MHz

As calculated using the GPS Source, Inc. Repeater Budget Calculator (
<http://www.gpssource.com/Repeaterlinkcalculations.htm>) as follows:-

Average Received Signal Power Expected:

GPS L1 @ 1575MHz = -130dBm

GPS L2 @ 1227MHz = -133dBm

GPS Receive Antenna Gain = 33dB

Antenna Cable Insertion Loss = -7.5 dB

Repeater Amplifier Gain = 24.5 dB

Repeater Antenna Gain = 3dB

Total System Gain = 53dB

Free Space Loss with Isotropic Antennas = -66.09

Total Signal power at 100feet = 4.9e-18 Watts or -143 dBm

Radiated Power = -77 dBm

Transmitted Power = 1.0e-11 Watts

Effective Radiated Power = 2.0e-11 Watts or -107dBW

7. [DOFsubsea Response] ? The GPS re-radiator system radiated signals will be within the DOF subsea workshop facility and is not expected to propagate beyond the DOF subsea office building such as to

interfere with external/outside GPS users. As per step 9 below, when the GPS re-radiator kit/system is in operation, an indicator light at the "Stop Buzzer" location will be illuminated and provide a clear and visual indication that GPS signals are being re-transmitted within the workshop facility area.

8. [DOFsubsea Response] ? The GPS re-radiator system is to be used to facilitate the testing and operation of the commercial GPS equipment systems and sensors used for our project operations to provide surface navigation and positioning to our clients.

9. [DOFsubsea Response] ? The GPS re-radiator system's power supply will be controlled from within the workshop facility by the installation of a Push-Button Stop Switch (pull to start) with an indicator lamp to show when the GPS re-radiator system is active and in operation for testing of GPS equipment within the workshop area.