

From: William Towle

To: Jose Trevino

Date: April 20, 2009

Subject: FCC 0125-EX-PL-2009

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Message:

1) Coordinate the use of the frequency band 960-1250 MHz with the Central Service Area (CSA) FAA Regional Office. Please obtain the NGT number(s) from the FAA Regional Office at the completion of the coordination and report it in your response to this correspondence. Please report the parameter[s] below in your coordination with the FAA Regional Office:

I was unable to find a contact in the FAA at the web address given  
(<http://www.faa.gov/ats/aaf/locations/fmos.htm>)

2) Submit ERP value, not EIRP:

Site 7, TX 1030:

22.7 dBW (186.2 W)

Control Tower, TX 1090 MHz:

21.5 dBW (141.3 W)

Light Pole, TX 1090 MHz:

21.1 dBW (128.8 W).

This should end up replacing the 5kW value.

3) Peak envelope power (PEP):

100 W

4) Type of antenna:

DB Systems dBs 610

5) Transmit antenna gain:

6 dBi

6) Elevation above sea level of the antenna site:

1020 ft. = 310.9 m

7) Height above ground of the focal point of the antenna[s]:

Site 7, TX 1030 MHz:

36.5 ft. / 11.1 m (AGL)

Control Tower, TX 1090 MHz:

[top of railing height 80 ft + antenna length of 5.5 ft = 24.38 m + 1.68 m = 26.06 m. (AGL) (5.5 ft. = 1.68 m)

Light Pole, TX 1090 MHz:

[light pole 40 ft + antenna length 6.0 ft = 12.19 m + 1.83 m. (AGL) (6 ft. = 1.83 m)

8) Antenna polarization:

Vertical Polarization

9) The azimuth that the antenna is pointed or appropriate designator to indicate whether the antenna is rotating, non-directional, etc.:

Omni-directional antenna

10) Pulse repetition rate (PRR) that the equipment is capable of operating on to include PRR stagger sequences if appropriate, whether the PRR is adjustable and what PRR's the equipment can accept, and

any other information that would be helpful in understanding the pulse characteristics of the equipment: For Mode S squitter signals at 1090 MHz (DF11 or DF18), repetition rate is adjustable between 2 Hz and 0.2 Hz. For Mode 3/A interrogation signals at 1030MHz (All Call and formats 4 and 5), repetition rate is adjustable between 1 Hz and 10 Hz. Stagger sequences are N/A.

11) Pulse width:

Occupied bandwidth and pulse widths are according to ICAO Annex 10

12) Equipment nomenclatures:

Overall model number: 3600. Individual transmitting unit numbers: ATR1ML00.00 (1030 MHz); ATR1MS00.00 (1090 MHz)

13) Whether the equipment is capable of blanking transmissions in certain azimuths and any limitations with respect to blanking:

Equipment is not capable of blanking transmissions in certain azimuths.

14) Radius of operations if appropriate:

Transmitter coverage volume can be up to about 30 nautical miles based upon 1) configuration to full transmission power, 2) the transmitting antenna type used, and 3) airborne receiver sensitivity (MTL -71 dBm).

15) Detailed description of the proposed operation to include any technical parameters that will be altered during operations Description:

See text below table (too big to put in the table)

Parameter Alterations during Operation:

Technical parameters will not be altered during operations (after installation and configuration)

? (Assuming FAA needs heights for all 7 antennas) STC to provide height information to FAA for all 7 antennas, using the heights above and adding the light beacon details. As mentioned above, STC also should determine if surveyed coordinates and/or heights are needed by either FAA or FCC

? STC to delete the receive-only antennas from the FCC application.

? STC to correct antenna designations as ?Directional = No?

? STC to correct / amend frequency for Site 7 ? should be 1030 MHz instead of 1090 MHz.

? STC to correct / amend emission designator for Tower and Light Pole locations ? should be 40M0M1D

Detailed Description of the proposed operation:

The program is a cooperation between the St. Cloud Regional Airport (STC) and a major developer of ground-based airport equipment - Selex Sistemi Integrati (US division).

The objectives of the program are:

? For STC to observe and confirm operation and capabilities in the United States (at STC) of a Selex Advanced Airport Multilateration (ADAM) system similar to systems installed and operating at two Italy airports.

? For STC to gain operational knowledge of, and experience with, a multilateration system.

Selex will be responsible for providing, installing, configuring, and testing the multilateration system equipment.

STC will use and operate the equipment, and will have On/Off control of the system?s transmitters.

The multilateration system to be demonstrated is for aircraft and ground vehicle surveillance (location and identification) on and around the airport.

The ground-based multilateration equipment operates similar to secondary radar to interrogate existing, industry-standard Air Traffic Control transponders (Mode 3/A) on aircraft or ground vehicles being tracked.

The system consists of a number of receiving and transmitting stations in precisely surveyed locations on the airport and determines the 2D/3D target location through the Time Difference Of Arrival (TDOA) principle, that is TDOA between the ?arrivals? of one transponder?s signal received at several receivers, one of them taken as a reference.

Two types of transmitting equipment are used in the system:

? 1090 MHz ?squitter? transmitters for multilateration system internal time synchronization, calibration, and performance monitoring. Equipment is capable of transmitting Mode S squitter types DF11 or DF18 with an adjustable rate between 2 Hz and 0.2 Hz. Current plans are to configure the equipment for DF11 squitter transmission at a 1 Hz rate.

? 1030 MHz ?interrogation? transmitters for requesting air/ground vehicle transponder replies and for requesting vehicle identification data. Equipment is capable of transmitting Mode 3/A All Call and UF4/5 interrogations with an adjustable rate between 1 Hz and 10 Hz. Current plans are to configure the equipment for 1 Hz interrogations.