ELTA North America Request for FCC Experimental License

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Question 9: Statement of Environmental Impact

ELTA North America (N.A.) will occupy a section of the building located at 8955 Henkels Ln Annapolis Junction, MD. The building is single-story structure, with multiple bays, and is constructed of concrete block with a web girder and steel pan roof. The surrounding area is a mixed use development of retail and offices. The adjacent property consists of similar single-story buildings to the north and west of the site.

The antenna will be mounted on top tripod of less than 1.5m height which will be located on the roof. The radar equipment will be remotely controlled from inside the building.
In addition the EL/M-2112 radar will also be operated at various military sites as indicated in the application. The radar antenna at these sites will be located on the ground mounted to a tripod of less than 1.5 m in height. The Radar will be mounted on a vehicle mast 6.7 meter high while operating in Bandera Gun Club.

While operating at Mississippi State University North Farm, Mississippi State University South Farm, and Maritime Applied Physics Corporation, the radar will be vehicle mounted on a mast 21' above ground level.

It is the policy of ELTA N.A. that company personnel, customers, or members of the public are not subjected to RF power density levels that exceed the Maximum Permissible Exposure (MPE) limits as given in Part 1.1310 of the FCC Rules. Experimental testing will only be conducted with appropriate controls in place, and no personnel will be on the roof during transmissions that will exceed the MPE levels. ELTA N.A. will have an RF Safety Plan which describes the procedures and controls necessary to comply with MPE levels during operations and maintenance. Measurements will also be used to confirm that MPE levels are not exceeded.

ELTA N.A. conducted a worst-case analysis of power density levels in the area surrounding the transmitting antenna based on the FCC's OET Bulletin Number 65[1]. The applicable radar parameters and results are shown in Tables 1 and 2, respectively. The MPE limit is exceeded for areas within 5.3 and 11.8 feet for controlled and uncontrolled exposure limits, respectively. With

[1] Cleveland, Robert F., et al., *Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields*, Edition 97-01, OET BULLETIN 65, Washington D.C.: Federal Communications Commission, Office of Engineering and Technology, August 1997.

the building height of approximately 19 feet, personnel on the ground will be beyond the distance where the power density exceeds the MPE limit. For personnel on the roof, the roof has controlled access; therefore, appropriate controls will be implemented for areas within 5.3 ft during test periods. Measurements will be made to confirm the emission levels.

For the Tucson demonstration site, which may have uncontrolled access, all personnel will be required to maintain a minimum of approximately 12 feet from the antenna.

Table 1 – Power Density Analysis

Parameter	Value
Operational frequency, MHz	10250
Transmitter output power (peak), W	10
Antenna gain (mainbeam), dBi	18
Ground reflection factor	1.6

Table 2 – Power Density Analysis Results

Parameter	Controlled	Uncontrolled
Maximum Permissible Exposure, mW/cm2	5	1
Minimum required distance, meters	1.6	3.6
Minimum required distance, feet	5.3	11.8