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 Lane, Annapolis Junction, MD 20701. The building is a 20 year old, single-story structure, with multiple bays, and is constructed of concrete block with a web girder and steel pan roof. The surrounding area is composed of commercial buildings within a radius of approximately 0.8 miles. To the north and east is Route 32 approximately 315 feet away running parallel to the building. To the south is quarry and commercial buildings approximately 500 feet away. To the west are commercial buildings approximately 1,500 feet away. The antenna will be mounted on top of a four foot mast which will be located on the roof. The radar equipment will be remotely controlled from inside the building.

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 will have an RF Safety Plan which describes the procedures and controls necessary to comply with MPE levels during operations and maintenance.

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. For the Annapolis Junction location, with a building height of approximately 24.5 feet and a width of 100 feet, the line-of-sight distance to a six-foot person standing on the ground is 281 feet. This assumes that the antenna center is 4 feet above the roof. Consequently even under worst-case conditions personnel on the ground will be beyond the distance where the power density exceeds the MPE limit.

In addition the MARS-K 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, Disney World demo is on 189' AGL tower. For the these planned demonstration sites, which will have controlled access, all personnel will be required to maintain a minimum of approximately 14 feet from the antenna.

[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.

Table 1. — Power Density Analysis

Parameter	Value
Operational frequency, MHz	9800
Transmitter output power (peak), W	32
Maximum transmitter duty cycle, %	10
Antenna gain (mainbeam), dBi	31
Ground reflection factor	1.6

Table 2 — Power Density Analysis Results

Parameter	Controlled	Uncontrolled
Maximum Permissible Exposure, mW/cm'	5.005	1.005
Minimum required distance, meters	4.07	9.07
Minimum required distance, feet	13.3	29.77