

Elbit Systems of America Request for FCC Experimental License

Form 442 File Number: 0211-EX-CN-2017

Form 442 Confirmation Number: EL645154

31 March 2017

Question 9: Statement of Environmental Impact

This experimental license application includes several locations including Elbit's main Texas facility as well as additional test and demonstration sites in Texas and Arizona.

The main Elbit Systems of America facility is located at 4700 Marine Creek Parkway, Fort Worth, Texas, 76179. The building is a single-story structure, with multiple building additions, and is constructed of concrete block with a web girder and steel pan roof. The campus is located at the intersection of Interstate 820W and Marine Creek Parkway. There are no immediate adjacent properties. The Tarrant County Community College campus buildings are located on the other side of Marine Creek parkway approximately .5 mile from the EFW main building. Residential areas are approximately .5 miles north of the ESA campus. The Meacham Airport is located approximately 2 miles from the ESA campus. The FOPEN antenna will be mounted on a sensor platform which will be located on the main building roof, elevated approximately 10 feet to transmit (see Figure 1 below). The radar equipment will be remotely controlled from inside the building. It is the policy of Elbit Systems of America 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 near the sensor platform during transmissions that will exceed the MPE levels. Elbit Systems of America 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.

The remaining sites are located in rural areas with the radar antenna located on either a fixed or portable tower height of between 26 m to 38.3 m.

Elbit Systems of America conducted a worst-case analysis of power density levels in the area surrounding the transmitting antenna based on the FCC's OET Bulletin Number 65¹. The applicable radar parameters and results are shown in Tables 1 and 2, respectively. The MPE limit is exceeded for areas within 1.5 and 3.3 feet for controlled and uncontrolled exposure limits, respectively. With the building height of approximately 24 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 1.5 ft during test periods.

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	615
Transmitter output power (avg), W	1.6
Antenna gain (mainbeam), dBi	11
Ground reflection factor	1.6

Table 2 – Power Density Analysis Results

Parameter	Controlled	Uncontrolled
Maximum Permissible Exposure, mW/cm ²	2.055	.415
Minimum required distance, meters	0.46	1.02
Minimum required distance, feet	1.6	3.3