

PUBLIC INTEREST STATEMENT

1. **Introduction**

By the instant application ("Application"), SET Corporation ("SET") requests that the Commission grant a Two Year Experimental License to permit SET to operate the facilities (the "Facilities") specified in the instant Form 442.

2. **Purpose and Scope of Operation**

SET, founded by scientists from the Defense Advanced Research Projects Agency ("DARPA"), offers engineering services to U.S. Government customers with advanced research and development missions. SET's Advanced Technology team develops intelligent information technologies that add value through integration and automation, and specializes in multi-sensor products designed to counter the growing number of deadly security threats faced by homeland security and defense customers. The testing for which authority is sought in the instant Application is a critical part of the manufacture and delivery of such systems to the Armed Forces in support of Homeland Security as well as war efforts, and ultimately to state and local law enforcement and security personnel.

The specific purpose of the system for which authority is requested is described at Exhibit 3, which is subject to SET's "Confidentiality Request" attached to the Application at Exhibit 2. As a general matter, the instant Application seeks Commission authority to operate the specified Facilities within a 100 km radius of the specified centerpoint.

3. **Directional Antennas**

The Antenna Registrations to the instant Application ask:
"Is a directional antenna (other than radar) used?"

In response to this Item, SET has responded "No" because the instant experiment involves the use of radar emissions. However for the purpose of full disclosure, the following information is provided:

- Width of beam in degrees at the half-power point: 0.5-4.0 "pencil" beam
- Orientation in horizontal plane: The antenna may be oriented so as to point its main lobe in any direction within a horizontal plane.
- Orientation in vertical plane: The antenna is oriented such that its main lobe will be parallel to the ground +/-2 degrees.

4. Other Technical Information

This experiment involves the use of three apertures, not simultaneous use, with a variable attenuator in the transmit path between the transmitter and antenna:

First aperture : The attenuator is set to 0 dB;
CW transmit power is 40 mW (0.040 Watts);
Gain is 33 dBi, 6 inch diameter.

Second aperture : The attenuator is set to 6 dB;
CW transmit power is 10 mW (0.010 Watts);
Gain is 39 dBi, 12 inch diameter.

Third aperture: The attenuator is set to 12 dB;
CW power is 2.5 mW (0.0025 Watts);
Gain is 43.5 dBi, 24 inch diameter.

5. Prevention of Interference

SET hereby advises the Commission that Matt Morgenthaler will personally monitor the experiments for which authority is requested, and will act as a “stop buzzer” if any issues regarding interference arise during testing. Mr. Morgenthaler’s wireless number for this purpose will be: 303-550-9559.