

PUBLIC INTEREST STATEMENT

1. Introduction

By the instant request (“STA Request”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant to BAE Systems Special Temporary Authority (“STA”) to operate the facilities (the “Facilities”) specified in the instant STA Request.

A Start Date of October 5, 2009 is respectfully requested. In this case, a very limited STA of only 51 days is required to permit sufficient time to conduct the experiment. During the grant period, only five (5) cumulative days of flight tests are planned.

2. Purpose and Nature of the Operation

As the Commission is well aware, BAE Systems manufactures and tests antennas as well as RF systems for DOD as well as other governmental customers. BAE Systems Networked Enabled Solutions (NES), a business unit within the Electronics and Integrated Solutions operating group within BAE Systems Inc., will conduct the testing specified in this STA Request. NES is a leader in developing, testing and building technical systems for the U.S. Department of Defense and the United States’ allies in avionics, navigation, and military communications. NES’ lines of business include C3I systems and communication systems integration, guidance and navigation, electronic identification, and reconnaissance systems.

STA is requested because the specified testing is anticipated to be completed within 2 months of grant. In fact, as set forth above, a very limited STA of only 51 days is required to permit sufficient time to conduct the experiment.

For this experiment, an experimental Optical and Thermal Imaging Turret will be mounted to the underside of a twin engine prop aircraft. Flights out of Ft. Belvoir, Virginia will occur within a 50NM radius of the Ft. Belvoir airport. A microwave data link from the air to the ground will relay the video from the turret.

The turret is being designed under BAE IR&D funding to improve Theater Situational Awareness for fixed and rotary winged aircraft.

Staff from the U.S. Army and Marine Corps will witness the flight at their convenience.

3. Descriptions of Airborne Transmissions/Mitigation of Interference

Transmissions will originate from the air-to-ground, as follows:

- For the CDL transmissions, the antenna will be located at the bottom of the aircraft just aft of the main gear, pointing down.

- If requested, prior to each flight BAE Systems will coordinate with the FAA and the Ft. Belvoir Frequency Manager.
- Authority is requested for only limited and sporadic operation of the facilities during the authorized timeframe. Specifically, operation of the facilities will occur only from 7am 5pm (ET). In addition, during those hours, operation will be sporadic, not continuous. In fact, there may be extended periods of non-operation during the authorized period, while other non-RF transmission aspects of the experiment are conducted.
- The transmit antennas for the CDL transmissions are highly directional, and will lock on its ground target during transmission rather than rotating during transmission.
- BAE Systems understands that FAA (or other stakeholders) may require certain limited azimuth and/or elevation blanking in order to ensure that the proposed Facilities do not pose a threat of interference to adjacent emitters. Accordingly, this is to confirm that the subject system does have such blanking capabilities and that BAE Systems stands ready to work with FAA to identify any reasonably necessary azimuth and/or elevation restrictions for the system.

4. **Directionality of Airborne Antennas**

Width of Beam in Degrees at Half-Power Point	Orientation in Horizontal Plane	Orientation in Vertical Plan
The antenna is a flat-plate design with an elevation-over-azimuth positioner which controls its pointing angle. The Horizontal 3dB beamwidth is 30 and its vertical beamwidth is 13 degrees.	3°	13°

5. **Stop Buzzer.**

BAE Systems advises that John Santillo will be available by wireless telephone at 201-452-1010 and will act as a “stop buzzer” if any issues regarding interference arise during testing

For the foregoing reasons, BAE Systems respectfully submits that approval of this STA Request is in the public interest, convenience and necessity.