

**STA REQUEST
AND DESCRIPTION OF OPERATIONS**

1. **Introduction**

By the instant application (“STA Request”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant special temporary authority (“STA”) to permit BAE Systems to operate the facilities (the “Facilities”) specified in the instant STA Request.

2. **Purpose and Nature of the Operation**

BAE Systems Communication, Navigation, Identification and Reconnaissance (CNIR), a business unit of the Information and Electronic Systems Integration Sector (IESI) within BAE Systems Inc., will conduct the testing specified in this STA Request. CNIR 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. CNIR’s lines of business include C3I systems and communication systems integration, guidance and navigation, electronic identification, and reconnaissance systems.

The mobile field testing for which authority is requested in the instant STA Request will support internal research and development (IR&D) of a radar system of interest to the United States military, including the United States Navy. The following is a contact person in a Navy program office with interest in this technology and the experiments for which authority is requested:

Nicolas J. Mirales
CIV NAVAIR, PMA-209E
Nicholas.mirales@navy.mil

Specifically, the subject program is intended to support the fabrication and testing of a radar collision avoidance system that ultimately will be used by military aircraft (i.e. helicopters) at low altitudes to detect obstacles such as power towers, power lines and structures that are close to the ground. In short, the program involves the development of technology originally deployed as Low Probability of Intercept Radar Altimeter, and the application of such system to helicopters.

A. **DESCRIPTION OF TEST PROCEDURES/
MITIGATION OF INTERFERENCE**

- i. For brief periods (no more than 60 seconds at a time) where initial calibration of the Facilities is required, BAE Systems will transmit directly towards the North Star. At all other times, radar transmissions will be directed at ground-based structures (i.e., power lines and utility poles) that are close to the ground (i.e., no more than 6 feet above ground level). BAE Systems will not direct transmissions at existing cellular or other wireless transmission facilities. For such transmissions, the following is the applicable beamwidth/orientation information:

3dB BW E (Vertical)	3dB BW H (Horizontal)
5°	5°

- ii. Operation of the requested Facilities will not be continuous. Rather, authority for only limited and sporadic operation of the Facilities is requested during the authorized timeframe, i.e., at any given authorized location, the cumulative period of operation in any given 24 hour period will be no more than 4 hours. In the off state, no measurable power will be radiated. In addition, only one (1) unit will be operated at any given time at only one (1) of the specified locations in the STA Request.
- iii. The transmit antenna is highly directional, and will lock on its targets during transmission rather than rotating during transmission.
- iv. 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 radar 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.
- v. Stop Buzzer. BAE Systems hereby advises that Mr. 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.

3. Why STA is in the Public Interest

STA is being requested in order to obtain processing as expeditiously as possible so that the commencement of operation of the proposed facilities can occur as soon as possible. As a leader in technological advancements, BAE Systems continually drives new research efforts in support of the war fighter. As explained above, this testing will support development of a radar system of interest to the United States military, including the United States Navy, and is intended to be used by United States military aircraft. Authority to operate the Facilities under STA is

necessary so that BAE Systems can demonstrate and verify performance of the subject system in accordance with current near-term testing schedules, and as such BAE Systems is not in a position to delay the commencement of these tests.

For the foregoing reasons, approval of this STA Request is in the public interest, convenience and necessity.