

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. STA is requested for a period of six (6) months from the date of grant of this STA Request. In this case, a start date of June 10, 2006 is requested by BAE Systems.

2. **Purpose of the Operation**

BAE Systems Network Enabled Solutions (NES), 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. NES is a leader in building technical systems for the U.S. Department of Defense and our 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.

The testing at BAE Systems’ Greenlawn campus will support a contract with the U.S. Army to design/develop, fabricate, test, and deliver prototypes of an omnidirectional, two-port, low profile antenna covering the 960 to 1210 MHz and 1350 to 1850 MHz frequency bands for ports 1 and 2, respectively. The antenna is intended for use on U.S. Army tactical ground and rotary wing platforms.

The specific contract information associated with this application is as follows:

Agency: CERDEC/CECOM Ft Monmouth N J
Contract No.: W15P7T-06-C-P607
POC: Steve Goodall (Technical POC), (732) 532-0445

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. Antennas for communications have been developed over many years by BAE Systems in support of the operational needs of the DOD. For the aforementioned 2-port antenna program, the antenna is tested using the antenna measurement system described in the application. BAE Systems’ antenna testing is critical to the U.S. Army’s development of antennas for use with communications equipment in support of the Country’s defense. Grant of an STA in this instance will permit BAE Systems to meet its near-term scheduling requirements. For the foregoing reasons, approval of this STA Request is in the public interest, convenience and necessity.

4. Transmitting Equipment, Antennas and Additional Technical Information

The following information is provided with respect to the transmitting equipment to be involved in the experiment. All listed transmitters are commercial, not experimental in nature.

Manufacturer	Model #	Quantity
Agilent	E8357A	1

The following information describes the directionality, beamwidth and orientation of the antennas associated with this experiment (all below 6m):

Band	3 dB BW Vertical	3 dB BW Horizontal
960-1210 MHz	60°	OMNI
1350-1850 MHz	30°	OMNI

Additional technical information regarding the proposed experiment is as follows:

- The testing is required for the purpose of measuring the reflection coefficient at each port of the 2-port antenna. The test is performed with the Agilent E8357A Network Analyzer by injecting the transmitter power into one of the two ports of the antenna while the other port is terminated and measuring the signal reflected from the antenna at each port, as the frequency is swept through the designated frequency band for each port. The transmitted signal is CW. The radiation from the antenna is incidental to this testing, only necessary because the antenna must be free to radiate so as to give the correct measurement of reflection coefficient.

5. Note Regarding Output Power/ERP Figures

For the purpose of completion of the attached form, 1 dB circuit loss has been assumed for the 960-1210MHz frequency band and 2 dB for the 1350-1850 MHz frequency band. These losses have been accounted for in the ERP. In practice, there will be some additional small reflection losses that will reduce the reported transmitter power to the antenna as well as the effective radiated power, by an insignificant amount.

6. Prevention of Interference

BAE Systems' Michael Latham will be personally conducting the test and will be available by telephone at (631) 261-7000, ext. 3802. Mr. Latham will act as a "stop buzzer" if any issues regarding interference arise during testing.