

STA REQUEST

1. Introduction

By the instant application, 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.

As the Commission is aware, the Commission previously granted to BAE Systems Information and Electronic Systems Integration Inc. ("BAE Systems") Special Temporary Authority ("STA") under File No. 0593-EX-ST-2005 for certain antenna test range testing activities at the company's facilities in Litchfield, NH. The frequencies and associated facilities previously authorized under that STA (as supplemented by any appropriate notifications submitted/filed with the Commission) will be referred to as the "Prior Granted Facilities". Under the Commission's rules, BAE Systems has continuing authority to operate the Prior Granted Facilities during the pendency of its application for a two-year experimental license for these facilities. This STA Request is being submitted in order to obtain certain of the Prior Granted Facilities for portions of two additional contracts ("Additional Contracts").

For the Prior Granted Facilities under File No. 0593-EX-ST-2005, the Commission imposed a number of conditions. BAE Systems hereby confirms that it is willing to accept the same conditions for this application as were imposed under File No. 0593-EX-ST-2005.

2. Purpose of the Operation

BAE Systems Information & Electronic Warfare Systems (IEWs), 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. IEWS is a major producer of electronic warfare systems, protection systems, and tactical surveillance and intelligence systems for all branches of the armed forces. IEWS' lines of business include Electronic Warfare/Electronic Protection, Electronic Warfare/Information Warfare, Integrated Defense Solutions, and Mission Electronics with products and services spanning the whole electromagnetic spectrum.

The testing at the Litchfield Antenna Test Range is a critical part of the manufacture and delivery of military systems provided to the Armed Forces in support of Homeland Security as well as war efforts. For the Prior Granted Facilities, the purposes of the facilities for which consent was requested was to determine the requirement for calibration of the arrays installed on the candidate platform, generate calibration parameters if required and verify the accuracy of the calibration parameters by conducting carefully controlled flight tests.

The Commission previously granted an STA to BAE Systems under File No. 0593-EX-ST-2005 for the Prior Granted Facilities with respect to certain contractual requirements. This STA Request is being submitted in order to obtain authority to operate on certain of the Prior Granted Facilities for portions of the following two Additional Contracts:

Customer: U.S. Army TACOM
Contact: Allen Traciak, Grants Officer
(586) 574-5678
Contract #: W56HZV-05-C-0724

[Purpose: To develop and deliver a networked systems of 18 communication subsystems that are to link the soldier with manned and unmanned ground and air vehicles and sensors - utilizing the latest of technologies]

Agency: USAF
Point of Contact: Doug Daegele
937-255-2091
Contract #: F33657-03-G-3027

[Purpose: To measure the amplitude and phase response of an array of antennas mounted on a scale model aircraft in order to determine their performance and to generate a calibration table for the purpose of radio direction finding.]

Upon grant of this STA Request, the operations under these portions of the Additional Contracts will be conducted pursuant to precisely the same technical and operational parameters specified in the Prior Granted Facilities. That means that - among other things - (i) no ungranted frequencies are required; (ii) the operation will be within the same power levels and emissions and will not result in the licensee exceeding the authorized maximum emissions envelope nor in any operations inconsistent with any terms of the outstanding authorization for the station involved; (iii) any antennas and transmitting equipment employed will be from the list of equipment specified in the Prior Granted Facilities and any subsequent notifications, and will have the same height limits, directionality, gain and orientation/beamwidth as specified in the Prior Granted Facilities; (iv) any signal amplification equipment employed will be from the list of equipment specified in the Prior Granted Facilities; (v) transmissions will be limited to the same area of operation specified in the Prior Granted Facilities; and (vi) all of the Special Conditions issued by the Commission for the Prior Granted Facilities will apply to these additional operations.

3. **Specification of Frequencies Overlapping
with Prior 0593-EX-ST-2005 Grant**

Upon grant of this STA Request, BAE Systems will operate portions of the above Additional Contracts on the following overlapping frequencies that were authorized under File No. 0593-EX-ST-2005. Specifically, transmission related to these Additional Contracts is intended to be conducted on the following frequencies, all at .007W mean Output Power and ERP:

Overlapping Frequencies/Additional Contract Info.	0391-EX-ST-2005 Approved Freqs
330.050 MHz For use in connection with: Customer: U.S. Army TACOM Contact: Allen Traciak, Grants Officer (586) 574-5678 Contract #: W56HZV-05-C-0724	330.050 MHz
500 MHz; 646.825 MHz; 700.125 MHz; 757.85 MHz 800 MHz 858.287 MHz; 902.025 MHz 999.950 MHz For use in connection with: Agency: USAF Point of Contact: Doug Daegele 937-255-2091 Contract #: F33657-03-G-3027	500 MHz; 646.825 MHz; 700.125 MHz; 757.85 MHz 794-800 MHz 809-928 MHz 940.4-1200 MHz

4. **Requested Area of Operation**

The Litchfield Antenna Test Range is comprised of multiple separate testing locations on the BAE Systems campus at which the subject experiment may be conducted. In addition, depending on the particular requirements of the experiment (i.e., when generating signals at zero degree elevation), it may be necessary to move a given antenna along the bore site line on the range up to a distance of 100 feet.

Accordingly, in order to accommodate these requirements, by this application, BAE Systems is requesting authority to operate all of the specified ground-based transmissions within a 1,500 foot radius from the centerpoint geographic coordinates identified in the Application (i.e., 42-48-22 N.Lat.; 071-25-33 W.Long. [NAD 83]).

Commission approval of such area of operation will provide BAE Systems with the flexibility it requires to move the specified test equipment to any appropriate testing location on the Litchfield Antenna Test Range during the authorized term of operation, in response to the requirements of the experiment.

5. **Other Information**

a. Receive targets may be utilized while resting at ground level or resting on a platform raised no higher than 12.5 feet above ground level, with a transmit distance of no more than 100 feet (see figure attached hereto).

b. The Output Power and ERP for these transmissions are proposed to be .007W, reported as a "Mean" value. The transmitter will not be left on continuously due to the nature of the experiment and the need to physically reposition the model under test between measurements, cycle through frequencies, change elevation angles of the transmit antenna, etc. where the transmit power is reduced to zero. The actual duty cycle of the transmit system is approximately 7%. Mean power is therefore a more accurate representation of the applicant's proposed activity.

c. **Directionality/Beamwidth and Orientation of Antennas**

The frequencies specified herein relate to ground-based CW transmissions. The following information describes the directionality, beamwidth and orientation of the antennas associated with these Ground-Based Transmissions (all below 6m):

Directional Antennas

Manufacturer	Model #	Quantity	Gain (Nominal)	3dB BW E (Vertical)	3dB BW H (Horizontal)
KMA	26500	1	-6dBi	90°	90°
SA	26-0.1	1	+8 dBi	60°	120°
SA	29-0.1	2	+8 dBi	60°	120°
SA	27-1.0/8	1	+8 dBi	9°	1.5°
SA	28-1.0/8/10	1	+8 dBi	9°	4.5°
Sanders	1/2 Horn	1	+8dBi	60-30°	N/A
Sanders	Dual Horn	1	+8dBi	60-30°	60-30°
Sanders	1/2 Horn	1	+8dBi	60-45°	N/A
Condor	AS-48461	1	+5-18 dBi	60-10°	60-10°
AEL	H-1498	1	+8-12 dBi	60-30°	60-30°
SA	28-2.0/8/10	1	+8 dBi	60-30°	60-30°

Non-Directional Antennas

Manufacturer	Model #	Quantity	Gain (Nominal)	3dB BW E (Vertical)	3dB BW H (Horizontal)
Sanders	1/4Mon	4	-5.2 dBi	OMNI	N/A
Electro Metrics	EM-6924	2	+2.6 dBi	OMNI	120°
Sanders	TASES 36	2	-60 to -5dBi	OMNI	N/A
Sanders	TASES 24	2	-31.5 to +1.1 dBi	OMNI	N/A
Sanders	TASES 12	2	-10 to -5	OMNI	N/A
Sanders	Slant	1	-20 to -5	OMNI	N/A

d. **Transmitting Equipment and Additional Signal Amplification**

Transmitting Equipment:

Transmitters associated with Ground-Based CW Transmissions (all non-experimental):

Manufacturer	Model	Quantity
HP	HP8645A	1
HP	HP8341	1
HP	HP8643A	1
HP	HP8340B	1
HP	HP8662A	1
HP	HP8671A	1
HP	HP8753A	1
HP	HP8753D	1
HP	HP8753E	1
HP	HP8510B	1
HP	HP8510C	1
Agilent	E8257D	1

Additional Signal Amplification:

Additional signal amplification may be utilized as follows:

Power Amplifiers	Model	Frequency Band	Power Output	Quantity
OPHIR	5163	.8GHz-4.2GHz	50W	1
OPHIR	5162	20-10000 MHz	50W	1
OPHIR	5127	20-1000 MHz	250W	1
OPHIR	5069	.5MHz to 500MHz	8W	1
OPHIR	5094	1MHz to 1000MHz	3W	1
OPHIR	5160	.8GHz to 4.2GHz	7W	1
CPI	VZV-2776K4/K6	4.0GHz to 18GHz	25W	1
ENI	510L	1.7MHz to 500MHz	9.5W	1
ENI	603L	.8 MHz to 1000MHz	3W	1

6. **Prevention of Interference**

BAE Systems' Richard C. Ball will be personally conducting the test and will be available by wireless telephone at (603) 318-6913. Mr. Ball will act as a "stop buzzer" if any issues regarding interference arise during testing.