

STA REQUEST

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.

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. 0705-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 authority to operate on certain of the Prior Granted Facilities for portions of an additional contract ("Additional Contract"). BAE Systems hereby confirms that it is willing to accept the same conditions for this application as were imposed under File No. 0705-EX-ST-2005.

2. Purpose of the Operation/Overlap With Prior Granted Facilities

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 purpose of the facilities for which consent was requested was to test the functionality of individual antenna elements prior to their assembly into an antenna array.

The Commission previously granted an STA to BAE Systems under File No. 0705-EX-ST-2005 for the Prior Granted Facilities with respect to certain classified 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 Additional Contract:

Agency: Naval Sea Systems Command

Point of Contact: Kemal Atam (of NAVSEA) 202-781-0420

Contract #: N00024-04-C-4210

[Contract awarded to BAE Systems by the U.S. Navy for the manufacture, integration, test and installation of a Cooperative Outboard Logistics Upgrade (COBLU) Communications Electronic Support Measures system. This system is being procured by the U.S. Naval Sea Systems Command under a Foreign Military Sales Contract for a Mediterranean NATO Ally.]

Except for the very minor aspect explained in the following paragraph, upon grant of this STA Request, the operations under these portions of the Additional Contract 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.

- It is noted that the tests associated with the Prior Granted Facilities authorized under File No. 0705-EX-ST-2005 involve the placement of the transmit element at ground level and the receive element may be elevated up to 3.7 meters from ground level. For the overlapping frequencies associated with the Additional Contract above, the associated test may involve the elevation of the transmit element up to 36.6 meters from ground level, while the receive element remains stationary at ground level. This minor issue should have no impact on the emissions levels or potential for interference associated with the system.

3. Specification of Frequencies Overlapping with Prior 0705-EX-ST-2005 Grant

Upon grant of this STA Request, BAE Systems will operate portions of the above Additional Contract on the following overlapping frequencies that were authorized under File No. 0705-EX-ST-2005. Specifically, transmission related to these Additional Contract is intended to be conducted on the following frequencies, all at .007W mean Output Power and ERP:

Overlapping Frequencies/Additional Contract Info.	0705-EX-ST-2005 Approved Freqs
505.3 MHz; 774.475 MHz For use in connection with: Agency: Naval Sea Systems Command Point of Contact: Kemal Atam (of NAVSEA) 202-781-0420 Contract #: N00024-04-C-4210	505.3 MHz; 774.475 MHz

4. Other Issues

A. 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 STA Request, 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 STA Request (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.

B. Directionality/Beamwidth and Orientation of Antennas

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

Directional Antennas

Manufacturer	Model #	Quantity	Gain (Nominal)	3dB BW E (Vertical)	3dB BW H (Horizontal)
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	+8 dBi	60-30°	N/A
Sanders	Dual Horn	1	+8 dBi	60-30°	60-30°
Sanders	1/2 Horn	1	+8 dBi	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
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

C. Transmitting Equipment and Additional Signal Amplification

Transmitting Equipment (all non-experimental):

Manufacturer	Model	Quantity
HP	HP8753A	2
HP	HP8753D	2
HP	HP8753E	2
HP	HP8510B	1
HP	HP8510C	1
HP	HP8340B	1
HP	HP8341	1
HP	HP8643A	1

Additional signal amplification may be utilized as follows:

Power Amplifiers	Model	Frequency Band	Power Output	Quantity
OPHIR	5069	.5MHz to 500MHz	8W	1
OPHIR	5094	1MHz to 1000MHz	3W	1
OPHIR	5160	.8GHz to 4.2GHz	7W	1
ENI	510L	1.7MHz to 500MHz	9.5W	1
ENI	603L	.8 MHz to 1000MHz	3W	1

D. Note Regarding “Mean” Power Designation

In the attached form, the power levels are 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 unit 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.

E. 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.