

DESCRIPTION OF REQUEST

By the instant application (“Application for Two-Year License”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant a Two-Year experimental license for the facilities (“Facilities”) specified in the instant FCC Form 442.

Pursuant to File No. 0010-EX-ST-2005 (the “STA Request”), the Commission granted Special Temporary Authority (“STA”) under Call Sign WB9XZE to BAE SYSTEMS to operate the subject Facilities through July 25, 2005. As explained in the STA Request, authority to operate the Facilities under STA was necessary to permit the company to demonstrate and verify performance of the subject system in accordance with the guidelines of certain military contracts. Because BAE SYSTEMS anticipates that it will remain responsible for testing and maintaining the system after the July 25, 2005 expiration date of the STA, BAE SYSTEMS hereby requests grant of the instant Application for Two-Year License so that it can operate the Facilities under a full experimental license.

1. **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 North America, will conduct the testing specified in this application. 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.

As a leader in technological advancements, BAE SYSTEMS continually drives new research efforts in support of the war fighter. Each candidate antenna design is fabricated and tested using the antenna measurement system described in the application. Accordingly, evaluation of the performance of the antenna is conducted before integrated into the system in connection with the guidelines of certain military contracts. The testing at the Merrimack Antenna Test Facilities 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. Due to the nature of the program for which the system is being designed, BAE SYSTEMS is not in a position to discuss the particular anticipated system function.

2. **Discussion Regarding the Specified Frequency Bands**

The STA Request seeks Commission authority to operate within a number of different frequency bands. Although BAE SYSTEMS is aware that requesting authority for such a broad selection of frequencies will require significant review and coordination efforts, BAE SYSTEMS notes that the subject system’s capabilities will span the whole electromagnetic spectrum, and the

operating frequency bands of the system's radiating elements will range from HF to Millimeter-wave, and the instantaneous frequency bandwidth of these radiating elements are often multi-octave or even decade. As contractually specified by all government procurement agencies, any development and/or product sell-off requires realistic measurement of a system. Should BAE SYSTEMS be denied the critical ability to perform radiation measurement over broad frequency bandwidths, such denial would severely hinder the execution of the programs and systems developed by the company in support of Homeland Security efforts. Accordingly, authorization under such a broad variety of frequency bands is necessary in this context.

It is further noted that the Commission has already previously granted STA to BAE SYSTEMS to operate at the Merrimack Antenna Test Facilities on these exact same frequency bands. See File No. 0010-EX-ST-2005. Accordingly, BAE SYSTEMS trusts that the Commission's coordination and processing of this application may benefit from the prior grant of these same frequency bands under STA.

3. Other Issues

A. Directional Antenna Data - Width of Beam/Orientation

The antennas to be used in the experiment are directional and the following sets forth, for each of the directional antennas, the: (i) Width of Beam (in degrees) at the Half-Power Point; (ii) Orientation in Horizontal Plane; and (iii) Orientation in Vertical Plane:

Ant. #	Mfg.	Model Number	Frequency Range	Gain (Nom.)	3 dB Beamwidth	
					E Plane (Vert.)	H Plane (Horiz.)
1	Condor	AS-48450	.5 to 2.0 GHz	7-12 dBi	70°to 25°	70°to 25°
2	Condor	AS-48461	2.0 to 18.0 GHz	5-18 dBi	60°to 10°	60°to 10°
3	Condor	AS-48440	18.0 to 26.0 GHz	.6 to 14 dBi	60°to 25°	60°to 25°

B. Prevention of Interference, etc.

BAE SYSTEMS hereby advises the Commission that the tests to be conducted under the requested Commission authorization are to be conducted outdoors, near the center of BAE SYSTEMS' Merrimack, New Hampshire facilities. Such location will result in the separation of the test facilities from other existing transmit or receive facilities. BAE SYSTEMS' Brian Egan will be personally conducting the test and will be available by wireless telephone at (603) 566-4879. Mr. Egan will act as a "stop buzzer" if any issues regarding interference arise during testing. In addition, BAE SYSTEMS is mindful of the need to mitigate interference to any and all co-channel licensees, and to that end, operations of the requested facilities will not be

continuous during any given 24 hour period and should provide ample access and opportunity for co-channel licensees on these frequencies to complete their desired transmissions. Operations are intended to involve only the testing of antenna patterns, analyzing the results of such patterns, and modifying the test article and re-testing when necessary. In order to accommodate the needs of co-channel licensees, BAE SYSTEMS intends to limit operations of the requested facilities to 8:00 am to 5:00 pm, Monday through Friday.

Finally, BAE SYSTEMS hereby confirms that use of the non-government spectrum specified in this application by BAE SYSTEMS will be limited to the testing and development purposes outlined in the subject application. The United States Government, not BAE SYSTEMS, will be the ultimate operational user of the system once it is delivered by BAE SYSTEMS. Once delivered to the United States Government, it is BAE SYSTEMS' understanding that - to the extent that the Government's operational use occurs within the United States - such operational use of the system will occur on Federal Government-allocated frequencies, not the privately-allocated frequencies specified in the application.