

Description of Request

By the instant application (“Application For Permanent Authority”), BAE SYSTEMS Information and Electronic Systems Integration Inc. (“BAE SYSTEMS”) requests that the Commission grant an experimental license for the facilities (“Facilities”) specified in the instant FCC Form 442.

Background:

Pursuant to File No. 0486-EX-ST-2004 (the “STA Request”), the Commission granted Special Temporary Authority (“STA”) under Call Sign WB9XZE to BAE SYSTEMS to operate the subject Facilities through March 21, 2005. Authority to operate the Facilities under STA was necessary to permit BAE SYSTEMS to immediately commence the demonstration and verification of performance of the subject system in accordance with the guidelines of a military contract for which BAE SYSTEMS will be competing in the very near future. Because BAE SYSTEMS anticipates that it will remain responsible for testing and maintaining the system after the March 21, 2005 expiration date of the STA, BAE SYSTEMS hereby requests grant of the instant Application For Permanent Authority so that it can operate the Facilities under a full experimental license.

As the Commission is aware, BAE SYSTEMS manufactures and tests numerous antennas for numerous classified customers. The testing specified in this Application For Permanent Authority is to be conducted by a business unit of BAE SYSTEMS, BAE SYSTEMS Information & Electronic Warfare Systems (IEWS). As stated above, authority to operate the Facilities is necessary so that BAE SYSTEMS can demonstrate and verify performance of the subject system in accordance with the guidelines of a military contract for which BAE SYSTEMS will be competing in the very near future. Accordingly, 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.

Response to Item 7:

In response to Item 7 of the Application For Permanent Authority, the following is hereby provided in explanation of the testing to be authorized under the requested experimental license (i.e., “The complete program of research and experimentation proposed including description of equipment and theory of operation; The specific objectives sought to be accomplished; How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion or utilization of the radio art, or is along line not already investigated”):

IEWS, with headquarters in Nashua, N.H., is a business unit of the Information and Electronic Systems Integration Sector (IESI) within BAE Systems North America. IEWS is a major producer of electronic warfare systems, protection systems, and tactical surveillance and intelligence systems for all branches of the armed forces. 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. Almost all systems and electronics produced by BAE SYSTEMS IEWS include radiating elements. The operating frequency band of these radiating elements ranges from HF to Millimeter-wave and the instantaneous frequency bandwidth of these radiating elements are often multi-octave or even decade. As is contracted by all government procurement agencies, any development and/or product sell-off requires realistic measurement of a system. Without the critical capability to perform radiation measurement over broad frequency bandwidth, it would severely hinder the execution of programs in BAE SYSTEMS.

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. In this particular case, authority to operate the Facilities is necessary so that BAE SYSTEMS can demonstrate and verify performance of the subject system in accordance with the guidelines of a military contract for which BAE SYSTEMS will be competing in the very near future. Accordingly, evaluation of the performance of the antenna will be conducted before integrated into the system. 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.

Note Regarding Frequency Requests:

The Facilities requested in the instant Application For Permanent Authority are the same as those that were granted on the STA under call sign WB9XZE. As with respect to the STA Request, BAE SYSTEMS seeks Commission authority in this Application For Permanent 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.

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°

Prevention of Interference:

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.

For the foregoing reasons, approval of this Application For Permanent Authority is in the public interest, convenience and necessity.