

**PUBLIC INTEREST STATEMENT**

**1. Introduction**

By the instant application (“Application”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant a two-year experimental license to permit BAE Systems to operate the facilities (the “Facilities”) specified in the instant Form 442.

**2. Purpose of the Operations**

BAE Systems Network Systems (NS), a business unit of BAE Systems Information and Electronic Systems Integration Inc., a wholly-owned subsidiary of BAE Systems Inc., will conduct the testing specified in this STA Request. NS is a leader in developing, testing and building technical systems for the U.S. Department of Defense and the United States’ allies in avionics, navigation, intelligence, and military communications. NS’s business areas include Command, Control, Computing and Intel (C3I) Systems and Communications & Tactical Networks (C&TN).

DARPA has solicited Optical Lasercom and RF CDL capability for a program called ORCA (“Optical RF Communication Adjunct”). As part of the evaluation of this critical warfighter capability, BAE Systems has conducted preliminary demonstrations of a Ku-Band (15 GHz) Common Data Link system running at a data rate of 274 Mbps. As a result of the success of such preliminary tests, BAE Systems is required to obtain a two-year license for anticipated follow-on tests and demonstrations in furtherance of this DARPA contractual opportunity. Demonstration of these capabilities are tied directly to a DoD user need.

The relevant contract/program information is as follows:

|                            |                                                                    |
|----------------------------|--------------------------------------------------------------------|
| Agency/Customer:           | DARPA                                                              |
| Contract/Solicitation No.: | BAA 07-55                                                          |
| DARPA Contact Person:      | Larry Stotts                                                       |
|                            | <a href="mailto:Larry.stotts@darpa.mil">Larry.stotts@darpa.mil</a> |
|                            | (571) 218-4346                                                     |

### **3. Description of Test Procedures/Mitigation of Interference**

#### **A. Highly Directional Antennas**

The experimental antennas being used for this experiment are highly directional, thereby minimizing potential for interference. Specifically, the half power beamwidth is 3°, and the polarization is Right Hand Circular Polarization (RHCP). The directional antennas will lock on its targets during transmission rather than rotating during transmission.

In addition, BAE Systems confirms that the transmitter will not be pointed within the area 120-180 degrees of true north toward Newark, NJ

#### **B. Non-Continuous Ground Operations**

Operation of the requested Facilities will not be continuous. Rather, authority for only limited and sporadic operation of the Facilities is requested during the authorized timeframe, i.e., at any given authorized location, the cumulative period of operation in any given 24 hour period will be no more than 8 hours. In the off state, no measurable power will be radiated.

BAE Systems confirms that testing shall be done only on the ground, with no airborne operations.

#### **C. Stop Buzzer**

BAE Systems hereby advises that Mr. John Santillo will be available by wireless telephone at (201) 452-1010 and will act as a “stop buzzer” if any issues regarding interference arise during testing.

### **4. Transmitter Information**

Manufacturer: BAE Systems  
Model Number: R3T  
Number of Units: 2  
Experimental: Yes

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