

PUBLIC INTEREST STATEMENT

1. Introduction

By the instant request (“Application”), BAE Systems Information and Electronic Systems Integration Inc. (“BAE Systems”) requests that the Commission grant to BAE Systems a 6 month STA to operate the facilities (the “Facilities”) specified in the instant Form 442.

2. Purpose and Nature of the Operation

BAE Systems manufactures and tests RF systems as well as antennas for the DOD and other governmental customers. The testing specified in this Application will be conducted by BAE Systems, which is a major producer of electronic warfare systems, protection systems, and tactical surveillance and intelligence systems for all branches of the armed forces. This unit’s lines of business include Electronic Warfare/Information Warfare, Electronic Protection, Integrated Defense Solutions, and Mission Electronics with products and services spanning the whole electromagnetic spectrum.

The testing specified in the instant Application is a critical part of the manufacture and delivery of systems provided to the military in support of war efforts. Specifically, this experiment will involve a ground check of a high power transmit system on a manned aircraft at and around the San Diego/Montgomery Field (MYF) and an in flight verification at and around Coyote Wells, CA.

This experimental authority is requested to support general Internal Research and Development (IR&D) activities in support of Air Force needs.

3. Descriptions of Ground-Based and Airborne Transmissions

The Application seeks authority for a ground check, with transmissions originating from the ground in and around the San Diego/Montgomery Field (MYF) and a flight test with transmissions originating from the air within the Class E airspace at Coyote Wells, CA as follows:

A. Ground-Based Transmissions

i. Ground Location

Temporary ground-based locations (less than 2 m above ground) operating within a one (1) km radius around the following centerpoint coordinates:
32°48'56"N; 117° 8'25"W.

B. Airborne Transmissions

i. Airborne Transmissions Around Coyote Wells, CA

Mobile airborne transmissions originating from a manned aircraft flying in a orbit type pattern, within a 20 km radius around Coyote Wells, CA (center point coordinates of 32°43'50"N;115°57'18"W. Maximum flight ceiling planned is 3658 m (12,000 ft) above mean sea level (MSL). The nearest airport to the center point coordinates is Imperial County (IPL) 37 km (20 nm) from the center point. Ground elevation above sea level is 85 m (280 feet) at the center point coordinates.

4. Transmitting Equipment

Manufacturer	Model	Quantity	Experimental?
BAE Systems	Antenna Array Assembly 8454504-1	1	Yes

5. Directionality of Airborne Array

The Antenna Array Assembly uses an electronically steered array for its antenna. It uses beam forming techniques to focus transmitted energy into a beam. The beam can be steered in azimuth. The array gain, azimuth (Az), and elevation (El) beam widths are summarized below:

Freq (MHz)		Az Freq (MHz) Beamwidth (Degrees)		El Freq (MHz) Beamwidth (Degrees)	
400	Gain (dB)	400	28	400	96
1250	21.8	1250	9	1250	30
2450	27.5	2450	4.6	2450	15.8

6. Mitigation of Interference/Stop Buzzer.

A. Mitigation of Interference

Interference potential is mitigated due to the following factors:

The highly directional transmit antenna will be located at the bottom of the aircraft, pointing down. The beam will be steered at the test site center point during flight.

BAE Systems understands that FAA (or other stakeholders) may require certain limited azimuth and/or elevation blanking in order to ensure that the proposed Facilities do not pose a threat of interference to adjacent emitters. Accordingly,

this is to confirm that the subject system does have such blanking capabilities and that BAE Systems stands ready to work with FAA to identify any reasonably necessary azimuth and/or elevation restrictions for the system.

B. Stop Buzzer

BAE Systems advises that the following will be available by wireless telephone as “stop buzzers” if any issues regarding interference arise during testing:

Primary

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For the foregoing reasons, BAE Systems respectfully submits that approval of this Application is in the public interest, convenience and necessity.