

Jan 14, 2009

Raytheon Request for Experimental License

Form 442 Confirmation Number: EL926937

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FCC Exhibit

Background:

Raytheon Integrated Defense Systems operates the Raytheon Test and Integration Facility (RTIF), as a part of its Expeditionary Warfare Center (EWC) in San Diego CA. Raytheon proposes to relocate, install, and integrate the AN/SPS-73(V) Radar Set assets from Sperry Marine Systems, Charlottesville Virginia to the RTIF Lab EWC, San Diego. The RTIF site location in San Diego is shown in Figure 1. The RTIF is a distributed land-based test facility for the US Navy's Landing Platform Dock (LPD 17) Ship Class Integrated Shipboard Electronics (ISE) equipment and software. The RTIF performs integration and testing in support of the 4 deployed LPD 17 Class ships (USS San Antonio, USS New Orleans, USS Mesa Verde and USS Green Bay). The RTIF includes the physical resources to allow users to verify interoperability of components, equipment, and subsystems; perform regression tests, develop operational software builds; replicate shipboard test or operational environments to assist in problem resolution of reported hardware or software; tracking itinerant air tracks of interest to validate tracking a display of targets on shipboard user interfaces. Additional activities include evaluation of other design changes for impact to ship configuration baselines. This work is being performed for the United States Navy Ship Acquisition Manager, PMS-317 LPD 17 Program, under Contract number: N00024-06-C-2207.

The Sustaining Engineering Environment assets located at the RTIF include Ship Wide Area Network (SWAN), Engineering Control System (ECS), Magnetic Signature Control System (MSCS), Ship Control System (SCS), and Navigation Ships System Integrated (NAVSSI). The RTIF Radar Set AN/SPS-73(V) assets are currently located at Sperry Marine Systems in Charlottesville, VA. LPD 17 hardware and software will be upgrading from AN/SPS-73(V) 13 to AN/SPS-73(V) 12 for the production Surface Search Radar (SSR). The EWC-San Diego RTIF Lab will require the capability of AN/SPS-73(V) 12 and AN/SPS-73(V) 13 to support LPD fielded configurations for testing and life cycle support. The USN AN/SPS-73(V) radar configurations are based on the Furuno Model FR-2120 commercial X Band surface search navigation radar, Figure 2 provides a photograph of the radar scanner electronics and antenna array.

Prior Coordination:

Raytheon has contacted Montgomery Airfield, located directly to the south of EWC site, who have informed us that they do not use radar. This airfield uses and relies on a primary radar feed from Marine Corps Air Station Miramar, CA. and a backup feed radar provide by USMC Camp Pendleton, CA range control (Long rifle).

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Planned Transmission Paths:

Raytheon intends to transmit 360° with the exception of a single blanking sector for the AN/SPS-73 radar from 070° to 120° True North. This blanking sector is required in order to eliminate spurious returns and radar reflections from the 2 story building immediately adjacent to the proposed radar installation position atop Building 8650 shown in Figure 3.

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RF Safety Considerations:

Raytheon will establish an RF Safety Program at the RTIF in accordance with company policies and standards based on *IEEE C95.7, IEEE Recommended Practice for Radio Frequency Safety Programs, 3 kHz to 300 GHz* and *FCC OET Bulletin 65*. This will be accomplished by establishing a RF Safety Control Plan that will incorporate RF survey measurements, the use of physical barriers for keep-out-zones, visual inspection and personnel training. Similar RF safety programs exist for AN/SPS-73 radar sets at other Raytheon locations.

Power density levels will be verified to be within safe limits for personnel at the initial turn-on of the RF equipment, and at any time test setup changes are made that affect power density levels of the test or surrounding areas.

Technical Characteristics of Radar:

Obtained from DD-1494 Frequency Allocation Form for AN/SPS-73 (J/F 12/07547).

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Figure 1. Map of Raytheon Expeditionary Warfare Center and surrounding area in San Diego, CA



Figure 1

★ 8650 Balboa Ave. ☞ = Blanking Area

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Figure 2. AN/SPS-73 Surface Search Radar:



Figure 3. Rooftop, Building 8650, Expeditionary Warfare Center, San Diego, Ca.

