

Request to Expedite
High Frequency Surface Wave Radar Temporary Radiate License Request

1. Program of Research Description of Experiment:

USCG District 7 Miami and the US Counterdrug Technology Development Program Office (CDTDPO), has requested that Raytheon conduct a High Frequency Surface Wave Radar System (HFSWR) Demonstration in a “Operational Environment” in the Key West area. They have been loaned the Canadian DND 1018-Transportable HF-SWR System, for a period of time not to exceed 6 months,

High Frequency Surface Wave Radar (HF-SWR) is a new type of radar that has been developed for the over-the-horizon detection and tracking of maritime vessels and low-flying aircraft. The High Frequency (HF) refers to the frequency band from 3 MHz to 30 MHz, of which **14.5 MHz** is normally used for the SWR 1018 operation. Equipment used for the demonstration will be a Raytheon Canada Model HF-SWR-1018, 6.5 meter height antenna on a 1m ASL ground height (total of 7.5 meters). Tall mangroves, about 5 meters, are nearby. Unit power is 800 watt at the transmitter, **yielding a 5 kW peak EIRP** (prf 250 Hz, 200 us). The nearest airport is 6.2 miles distant, call sign KNQX. Surface Wave refers to the phenomena of vertically polarized radio waves following the conducting surface of the ocean. This permits the surveillance of surface and low-flying vehicles well beyond the visual horizon.

2. Objectives:

The initial demonstration for US Government personnel, will take place 21-25 April 2003, at the Sugarloaf Key, Florida. Showcased will be a live demonstration of Detection and Display of both surface and airborne targets applicable to Anti-Terrorism, Counter-Narcotics Initiatives, Homeland Defense, Force Protection, and Maritime Domain Awareness and other National surveillance missions. These targets of opportunity include fishing vessels, go-fast boats, small aircraft and helicopters. Following the demonstration period, the USCG and CDTDPO will conduct extensive performance tests with the system for up to 6 months.

Small fast boats, known as “Go-fast” boats, have become a major concern to many communities within the Government. These boats can be used for running illegal drugs, carrying illegal immigrants, and transporting terrorist weapons of destruction. Detection and tracking of these vessels at a tactically significant range from a shoreline is of utmost importance in order to thwart hostile intentions or illegal activities.

3. Request to Expedite: Customer contract will be in place 1 May 2003 for test program, Raytheon has been requested by the US CDTDPO to seek a temporary operating license to support Government demonstrations in 21-25 April 2003.

CUSTOMER DEMONSTRATION:

4/14/2003

The following Government agencies will be attending the demonstrations: US Coast Guard, CDTDPO, US Navy Surface Warfare Center, Joint Interagency Task Force East (JIATFE), SOUTHCOM, NORTHCOM, NORAD, PACOM, Missile Defense Agency (MDA).

Technical Contact:

Michael C Krause
Raytheon
508-490-2443