

APPLICATION FOR NEW EXPERIMENTAL AUTHORITY

Lockheed Martin Corporation hereby submits application for new experimental license authority to operate a radar system as described below.

Program of Research and Objectives:

The SCANTER 1002 radar is a sensor in Terma A/S' T.react CIP system and provides data for perimeter surveillance of an area of interest. The main objective of the research is to gain valuable feedback relating to the following:

- behavioral and operational performance in a real-time environment;
- ability to detect and track moving objects in a live environment and under all types of weather conditions;
- suitability for use and performance against other sensors in the said environment.

The experimental program exists in conjunction with Lockheed Martin Corporation through its Mission Systems and Training (MST) Division at 1801 State Route 17C, Owego, New York 13827-3998 in support of the Denmark MH-60R Program.

As noted in the accompanying Form 442, the equipment is experimental. Applicant is requesting a two-year experimental authority in order to benefit from a seasonal test cycle covering all weather conditions and to achieve a solid understanding of the radar system's capability and performance. The ultimate goal of the testing is to calibrate an error-free and stable product, suitable for the purpose of detecting objects in the area of concern.

Technical Details of the Facility:

The transmitter is embedded so that it may digitally generate linear frequency modulated pulses (chirps) within a 200 MHz band. The frequency modulation ranges up to 20 MHz and the chirp length between 100ns and 12us. Typically, one long chirp at one frequency and one short chirp will be sent on another frequency. The short chirp is used for covering the blind zone resulting from the radar not receiving echoes simultaneously with the transmission. The transmitter may place the chirps freely within the 200 MHz bandwidth.

The receiver may receive frequencies in two 90 MHz bands (a high and a low side band) and from pulse to pulse. The receiver may choose to receive either the high or the low side band. The receiver samples the signal with 200 MHz in order that the filtering of

the frequency band is made digitally and thus is ideal as a matched filter with high suppression of unwanted frequencies outside the transmission band. Thus, the radar is very tolerant to signals from other transmission sources at frequencies outside its own transmission band.

Operation of the Facility:

Form 442 asks whether the applicant will be the owner and operator of the facility. The radar antenna has been loaned to Lockheed Martin for the purposes of this testing. Accordingly, it will be utilized exclusively on the above-referenced Lockheed Martin property and will be in control only by Lockheed Martin personnel.

The following Lockheed Martin security personnel is accessible as a 24/7 “stop buzzer” contact in the event of interference:

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