RADAR SYSTEM DESCRIPTION

To Whom It May Concern:

Mustang Technology Group, LP will use this FCC experimental license to test radar prototypes which are being developed under contract number N00014-07-C-0068 for the Office of Naval Research (ONR) of the United States Navy. The name of the project is MTI Scout. A photograph of the MTI Scout experimental prototype radar system is shown in Figure 1 followed by a system description.

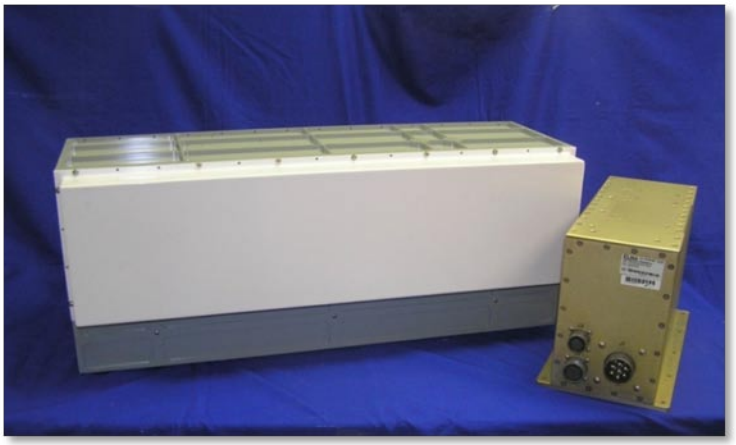

Figure-1 MTI Scout Radar System

Peak envelope power (PEP)

The peak transmit power of the radar will be 720 Watts, nominally operating at 15% duty cycle.

Type of antenna

The antenna is a dipole array that can be steered electronically.

Transmit antenna gain

The transmit antenna gain of the radar will be 27 dBi with an azimuth beamwidth of 4.0 degrees and an elevation beamwidth of 15 degrees.

Elevation above sea level of the antenna site;

The radar will not be permanently attached to a fixed structure at a fixed location.

Height above ground of the focal point of the antenna;

The radar is capable of being transported and operated at different test sites and/or flown in a test aircraft to verify performance. The requirement for operating the radar is from 0 to 20,000 feet above the surface.

Antenna polarization
The antenna transmits linear polarization, nominally horizontal.

The azimuth that the antenna is pointed or appropriate designator to indicate whether the antenna is rotating, non-directional, etc.
The radar antenna is capable of electronically steering the azimuth beam to +/- 60 degrees. However the radar is mobile and can be positioned at any azimuth to avoid interfering with other radar systems.

Pulse repetition rate (PRR) that the equipment is capable of operating on to include PRR stagger sequences if appropriate, whether the PRR is adjustable and what PRR's the equipment can accept, and any other information that would be helpful in understanding the pulse characteristics of the equipment;
The radar is capable of transmitting Pulse Repetition Frequencies (PRF) from 200 to 6250 Hertz. Nominally the radar will be transmitting a PRF of 2500 Hz.

Pulse width;
The radar is capable of transmitting pulse widths up to 80 microseconds.

Equipment nomenclatures;
This radar is an experimental radar being developed for surveillance applications

Whether the equipment is capable of blanking transmissions in certain azimuths and any limitations with respect to blanking;
The radar will have the capability for the azimuth scan volume to be programmed by the operator and therefore the capability to preclude certain regions that may interfere with other radars.

Detailed description of the proposed operation to include any technical parameters that will be altered during operations.
Coordination is being requested to integrate and test the performance of this experimental radar. Ground tests as well as flight tests will be executed with the radar scanning up to +/- 60 degrees in azimuth while steered to +/- 30 degrees in elevation. A nominal waveform will be transmitted, but the radar has the capability to be programmed to transmit any of the waveforms described herein.

Will interrogations (transmissions) be made on 1090 MHz as well as 1030 MHz (airborne transponders typically only transmit on 1090 MHz and receive on 1030 MHz)?
No.

If transmissions will be made on 1030 MHz, in what modes of operation will the transmitter operate (Modes 1, 2, 3A,3C, 4, 5, Mode-S)?
Not Applicable

Is this a TCAS and is TCAS the only reason why the 1030 MHz transmissions are needed (airborne Mode 4 and/or 5 operations will be very difficult if not impossible to authorize and airborne Mode-S is not authorized)?
Not Applicable

Mustang is providing the following information in addition to that requested by the FCC.

Operating Frequency
The radar is capable of selecting the frequency band of operation within 5.2 to 5.9 GHz. Frequencies reserved for other radars can be avoided if necessary. Modes of operation include waveforms with bandwidths of 20 MHz, 180 MHZ. Modes and waveform bandwidths are selectable.

Pulse Modulation
The radar is capable of applying Linear or Non-Linear Frequency Modulation on the pulse with the bandwidths described above.

Questions regarding the content of this attachment can be directed to:

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