Exhibit No. 1
(See Items 4 and 13 of Form 442)

Experimental Station

1. **Frequency**: Any or all frequencies in the band from 9.2 to 10.0 GHz may be selected in a predetermined sequence.
2. **Peak Power**: 4.0 kW, or +36 dBW, is the total RF peak power generated by the system.
3. **Antenna Gain**: Mid-band antenna gain of the system in 39 dB.
4. **ERP**: Effective Radiated Power (ERP) of the system +75 dBW.
5. **Average Power**: The 36 dBW transmitter power and the 75 dBW ERP are maximum peak power values for radar duty cycles from 5 to 40 percent. Maximum average transmitter power is therefore 1.6 kW.
6. **Modulation**: Emission classification was selected in accordance with FCC Rule 2.201.
   NOTE: All FCC Rules referenced herein may be found in **47 CFR Telecommunications** (FCC Rules, 10/1/95).
   The transmission is a sequence of pulses containing either biphase or polyphase modulation. The modulation has no information content and is provided solely for the purpose of enhancing detectability via matched filter processing, therefore the emission classification is G1N. The modulation is either:
   a) up to 256-CHIP (change in phase) biphase modulation at a 5 MHz CHIP rate, or
   b) 8-bit (256 phase states) polyphase modulation at a 5 MHz CHIP rate, with up to 256 contiguous phase values per pulse.
7. **Waveform characteristics**:

a)	Pulse Repetition Frequency	7.0 to 25 and 60 to 315 kHz
b)	Pulsewidths	0.04 to 40 microseconds
c)	Duty Cycle	5 to 40 percent

8. **Necessary Bandwidth**: Calculated in accordance with FCC Rule 2.202 (g).
   Bandwidth: (2K)/t, where K depends on the ration of pulse duration to pulse rise time, and t = (2 x range resolution) / velocity of light. For this application, range resolution is specified to be 6 meters, thus t = 40 ns. K is defined to be 1.5, thus the necessary bandwidth = 75.0 MHz. (75M0)
   The resulting emission designation is: 75M0P0N.

Exhibit No. 2
(See Items 7 of Form 442)

PROJECT DESCRIPTION

This radar is to be used as part of a program to characterize the detection and tracking capabilities of modern technology radar. This radar was developed by Raytheon Missile Systems on a proprietary program. This radar is designed for evaluation of solid state phased array technology as it applies to radar systems.

The primary objective is to demonstrate the radar's capability to detect and track aircraft targets of various types and flight geometries.

The radar will be installed at Air Force Plant #44 which is part of the Raytheon facility in Tucson, Arizona.

The government contract number is not available. If additional information is required, please contact the individual identified in item 20 of Form 442.