



ITT Industries

Aerospace/Communications Division

October 26, 1999
Serial No. JFH-99-093

FCC Experimental Radio Service
PO Box 358320
Pittsburgh, PA 15251 5320

1919 West Cook Road
P.O. Box 3700
Ft. Wayne, IN 46801-3700
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Subject: Request for Special Temporary Authority (STA)

Reference: 1) Request for License to FCC dated 10/14/99
2) US Army Contract DAAB07-96-C-C760

Gentlemen:

ITT hereby requests an STA to test prototype antenna for the NTDR system in Fort Wayne, Indiana. The following information for the STA is provided:

1. Name address Phone # / e-mail of applicant

John Hanlon
1919 W. Cook Road, P.O. Box 3700
Fort Wayne, In 46801
(219)-451-6813
jphanlon@itt.com

2. Why STA is required (SPECIAL NEED) CONTRACT REQUIREMENT

STA is needed to fulfill a government Time and Material Task to evaluate antennas under U.S. Army Contract DAAB07-96-C-C760-A. A short excerpt from the SOW is provided:

Task Description for NTDR Antenna Enhancements
6/3/98

This write-up describes the work that will be performed in response to paragraphs 2.3, 2.4, and 2.5 of the SOW for NTDR Technical Enhancements dated 27 April 1998. (See attached schedule for manhours and material cost.)

2.3 Under the T&M task, we will survey antenna vendors to determine the mechanical configuration, performance, and cost of commercially available UHF antennas that cover the NTDR frequency range (225 to 450 MHz). The survey results will be compiled into a trade table that compares the key electrical and mechanical parameters for each antenna against the performance of the existing NTDR antenna. Measured test data from our in-house evaluation of several different UHF antennas in 1997 will also be incorporated into the trade table.

2.4 Upon completion of the vendor survey, a subset of antennas will be selected for further system analysis. The impact of antenna gain on point-to-point communication range and network throughput and message delay will be determined using Longley-Rice and OPNET modeling. A report documenting

the analysis along with recommendations and conclusions will be provided to the Government. A technical exchange meeting will also be held at either ITT's Ft. Wayne, IN or Clifton, NJ facility to review the findings and make a decision on which antenna or antennas to procure for test and evaluation.

2.5 A commercial-off-the-shelf antenna (quantity 6) will be purchased for test and evaluation. Gain and VSWR will be measured at our antenna range in Ft. Wayne, IN and compared against measured data for the existing NTDR antenna (Antenna Products, Model No. DPV-51x). In addition, range tests between 2 NTDR radios will be conducted in Ft. Wayne using the existing NTDR antenna and the purchased antenna at both ends of the link. Test results will be documented in a report and submitted to the Government for review.

3. Operational purpose of test

Purpose of test is to evaluate the performance of various development antennas in conjunction with the NTDR VHF/UHF radio.

4. time & dates of operation

November 1999 to May 2000. Times may be 8 AM - 1200 AM

5. Class of station(Fixed /mobile)

Both a fixed and a mobile setup will be used to evaluate the antennas.

6. Description of location

20 mile radius of 1919 W. Cook Rd. Nearest municipal airport is 10 miles away.

7. Geographical location Longitude / latitude

North Latitude: 41°, 08', 45"

West Latitude: 85°, 10', 00"

using NAD 83.

8. equipment to be used model / manufacturer

2 NTDR radios manufactured by ITT A/CD

9. transmitters used how many

2 transmitters

10. frequency desired / bands

225-450 MHz, Possible frequency bands: 225-50, 290-310, 340-370, 420-450 MHz.

11. Max Radiating power

+47 dBm peak.

12. emission designator

4M00G1D

13. overall height of antenna

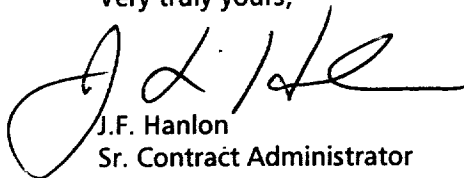
equal to or less than 6 meters.

14. check for \$45.00 and FCC Form 159

Please provide authorization to test as soon as possible. ITT has also submitted a request to test through December 2000 and is awaiting authorization.

If you have any questions, please contact the undersigned at (219) 451-6813.

Very truly yours,



J.F. Hanlon
Sr. Contract Administrator

JFH/ksa

Enclosures