



ATMOSPHERIC & SPACE TECHNOLOGY RESEARCH ASSOCIATES, LLC

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EIN: 20-2946717

DUNS# 60-1975803

Re: Application for New or Modified Station (Form 442),
QUESTION 4: STATEMENT REGARDING GOVERNMENT CONTRACT

FCC Registration Number (FRN): 0015091481

To Whom It May Concern:

This letter is written in support of an application being submitted to the FCC, and provides a brief narrative describing the government project, agency, and contract number. A second accompanying letter describes a Research Statement for the project.

The requested operation of the Traveling Ionospheric Detector Built in Texas (TIDDBIT) sounder system near Gainesville, FL, will support Over the Horizon Radar (OTHR) measurements made by the US Air Force stationed near Chesapeake, VA. OTHRs can survey vehicle traffic over large distances by using the ionosphere as a reflection point, or mirror, for the radio wave to propagate. In this experiment, the Air Force will direct the OTHR southward towards the Caribbean and Central America, and the signal from the OTHR will be reflected above the Gainesville, FL region. Any disturbances in the ionosphere over Gainesville affect the reliable operation of the OTHR system, and interpretation of their measurements.

Traveling ionospheric disturbances (TIDs) are wave-like corrugations in the ionosphere. When present over Gainesville, they can affect OTHR measurements conducted by the Air Force. Under the proposed FCC license, we plan to assist the Air Force by measuring TIDs in the ionosphere with the TIDDBIT sounder. It is crucial that the transmitters measuring TIDs be in the Gainesville region in order to accurately characterize TIDs that may affect the OTHR measurements conducted by the Air Force, and it will aid the Air Force to generate corrections for their OTHR system.

The TIDDBIT deployment is supported by Air Force Contract FA9453-14-S-0306 to Northwest Research Associates, with ASTRA subcontract NWRA-14-S-176 under the contract title, "Characterizing the Impact of Ionospheric Wave Structures on Coordinate Registration". The Principal Investigator for the subcontract is Dr. Geoff Crowley of ASTRA. Dr. Crowley is recognized as a leading expert in the field of TIDs and the use of HF sounders to detect them, and has worked in this field for over 30 years. Dr. Crowley has successfully operated similar HF Doppler systems under the Experimental Call Sign WC2XRM (File #0161-EX-PL-2001 and FILE #0132-EX-RR-2003).

Further information about the TIDDBIT HF sounder and the proposed experiment is provided in the 2nd accompanying letter with this application.

Please contact Dr. Geoff Crowley at ASTRA with any additional questions.

The Air Force contract monitor for the TIDDBIT sounder is Dr. Jonah Colman, who is based at:
The Air Force Research Laboratory,
Kirtland AFB,
Albuquerque, NM
tel: 505-846-3172

Your help in approving this application would be much appreciated.

Sincerely,

Dr. Geoff Crowley
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