

Raytheon IDS
Experimental STA Application
File Number: 0826-EX-ST-2013

Supplemental Explanation of Experimentation

Procedural Background:

Similar to the Raytheon IDS STA request 0556-EX-ST-2013, approved in August 2013, Raytheon has filed 0826-EX-ST-2013 for experimental operations to further the development of a radar system that operates in the 9.0-9.2 GHz band.

The system tested in Massachusetts, 0556-EX-ST-2013 call sign WG9XSA, is now being transferred to Texas for further experimentation and advanced development of the technology for demonstration of a netted radar aeronautical radio navigation service. This development is moving forward after consultation with the FAA.

The radar system under development is a prototype.

Purpose of Radar Development – Aeronautical Radio navigation Service

The key role for the radar under development is to provide primary surveillance detection of aircraft under any clutter conditions (including wind turbines), to enhance safety of flight in the National Air Space. The radar is being developed to incorporate, on a secondary basis, a hazardous weather radar function that uses the same technology, creating a dual use system.

Raytheon was given to understand that the FAA would support this aircraft detection system development in the band selected. This radar use appears to be in accordance with the existing frequency allocation AM(R)S. We have been given to understand that as long as weather is an embedded part of the surveillance radar, there is no issue with the inclusion of weather radar operations, and incorporating the additional functionality was not considered impermissible when authorization was given for WG2XSA. We respectfully request that the same primary and secondary uses be authorized for testing of the same radar system at these new locations. There is no additional spectrum use nor time of use required to achieve the secondary goals.

Additional Information: The test system is intended to demonstrate the improved capabilities that can be achieved when netting multiple radars, and feeds are intended to be provided to both an automation system (STARS) and weather processor, such as AWIPS.

Regulatory Compliance Going Forward:

Raytheon will prepare and submit a Stage 1 El Cid filing and a DD 1494 to ensure that the spectrum is available for further development of the system on these frequencies. This initial work has been

performed as a Raytheon independent research and development project. This project addresses one of the alternatives that the FAA is assessing for the NextGen Surveillance and Weather Radar Capability (NSWRC) program.

Conclusion:

The primary purpose of the radar under development is for the aeronautical radionavigation service. The advances in the radar technology are intended to allow for capabilities that exceed current primary surveillance capabilities. This multifunction radar system can be used for various types of detection at the same time because of advanced signal processing techniques.

The testing proposed under this STA is identical to testing authorized in Sudbury, MA for development of the same system, WG9XSA.

For additional information about this application, please contact John Adams, Raytheon IDS, 803-318-0021 or john.adams@raytheon.com, or Anne Linton Cortez, WFS, 520-360-0925 or alc@conspecinternational.com.