

### **Description of Experimental Program**

Northrop Grumman Systems Corporation ("Northrop Grumman") requests an experimental radio station license to cover the facilities that are currently covered under a grant of Special Temporary Authority ("STA") permitting Northrop Grumman to operate an airborne mobile and fixed ground experimental radio facility (Call Sign WB9XVN; File No. 0277-EX-ST-2005). This application is necessitated by Northrop Grumman's need to continue to test equipment to obtain a proof of performance of interoperability and data sharing between multiple unmanned air vehicles ("UAVs") for potential customers. During the testing, Northrop Grumman will simulate the UAVs by using crewed aircraft.

The proposed airborne mobile experimental facility will utilize an AetherComm model SSPA X-Band transmitter operating an omnidirectional antenna at 10.290 GHz, with a maximum ERP of 100.0W and a data rate of 11.5MB. The emission designator is 21M4G1D, and the bandwidth will not to exceed 40MHz. The transmitter will be mounted on airborne test bed flying at an altitude of 13,716 meters within a 32.19 kilometer radius of the fixed ground station.

The fixed ground station will be located at Northrop Grumman's Melbourne, Florida (28-06-00 N, 078-40-00 W), where a transportable antenna will be positioned on a rooftop of a building at 13.7 meters AGL, at a site that is 4.9 meters ASL. The fixed ground station will transmit at 9.850 GHz into a 10-degree beamwidth Rozendahl circular horn tracking the airborne test bed, operating with a maximum ERP of 1,000W and a data rate of 11.5 MB. The emission designator is 800KG1D, and bandwidth will not exceed 2.0 MHz.

The testing will be performed during daylight hours, and will should not exceed four hours per day.