

Technical Description

Submitted by Joel Thorsheim on behalf of Insitu
The Boeing Company
Frequency Management Services
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PURPOSE

This experimental request is being submitted in lieu of a STA extension originally filed under file number 0846-EX-ST-2012 and approved under call sign WG9XBP. This is required to test and operate UAV (Unmanned Aerial Vehicle) systems for demonstrations of the UAV.

OPERATIONS DESCRIPTION

The system will be installed in a Scan Eagle Ground Control Station, and provide command and control link from the GCS to the aircraft. There will be 2 ground control stations required for this test, one at Insitu/Boeing's Boardman facility and a second "remote" ground control station will be placed in Douglas county Washington on the north western shore of Lenore lake, 15 miles north of Ephrata Washington. The airborne aircraft will remain within Boardman MOA airspace 130 miles to the south. The antenna for both ground control station's C2 link is mounted on an actuator, the remote GCS' actuator movement will be restricted so that the antenna beam will remain within 170-190 degree bearing from the antenna. Both antennas will receive video from the airborne aircraft.

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LOCATION 1

Boardman Bombing Range
Boardman, OR
45-44-53N 119-48-11W
NAD83
Elevation 640 Feet
Fixed Operations

LOCATION 2

Boardman Bombing Range
Boardman, OR
45-44-53N 119-48-11W
NAD83
Elevation 640 Feet
Airborne Mobile Operations in 20 Kilometer Radius

LOCATION 3

Ridgeline by Lenore Lake, Douglas County, WA
47-31-32N 119-30-47W
NAD83
Elevation 2330 Feet
Fixed Operations

EQUIPMENT

Command and Control (Location 1)

Manufacturer:	Freewave Technologies
Model:	P-501X005
Frequency Band:	2304-2314 MHz
Emission:	230KF1D
Transmit Output:	5.01 Watts
Power:	2428 Watts ERP
Antenna Gain:	29 dBi
Antenna Type:	1.8 Meter Parabolic Reflector

Command and Control (Location 3)

Manufacturer:	Freewave Technologies
Model:	P-501X005
Frequency Band:	2304-2314 MHz
Emission:	230KF1D
Transmit Output:	5.01 Watts
Power:	6098 Watts ERP
Antenna Gain:	33 dBi
Antenna Type:	2.7 Meter Parabolic Reflector, Vertical Polarization
Note:	Antenna beam width is 3.3 degrees. Antenna movement will be restricted to keep beam within 170 degrees and 190 degrees. This RF link will be used to control a UAV up to 200 km away.

Airborne Command and Control (Location 2)

Manufacturer:	Freewave Technologies
Model:	MM2-M13-C
Frequency Band:	2304-2314 MHz
Emissions:	200KF1D
Transmit Output:	2 Watts
Power:	2.5 Watt ERP
Antenna Gain:	3 dBi
Antenna Type:	Dipole (Vertical)

Airborne Video (Location 2)

Manufacturer:	L3
Model:	Bandit
Frequencies:	2385 MHz
Emission:	9M58G1D
Transmit Output:	2 Watts
Power:	3.05 Watts ERP
Antenna Gain:	5 dBi
Antenna Type:	Dipole (Vertical)

Stop Buzzer

Stop buzzer for this operation is Insitu the Operations Action Center at 866-637-4691.

SCHEDULE

Start Date: May 7, 2013

Stop Date: May 6, 2015