

Exhibit 1

I. Introduction

By the instant application (“Application”), Dynetics, Inc. (“Dynetics”) requests that the Commission grant Special Temporary Authority (“STA”) to permit Dynetics to operate the facilities (the “Facilities”) specified in the instant application from March 15, 2019 to September 15, 2019.

II. Purpose and Nature of the Operation

Dynetics, headquartered in Huntsville, Alabama, delivers high-quality, high-value engineering, scientific, and information technology (IT) solutions to customers within the U.S. government and a range of other market segments. Dynetics provides complete lifecycle analysis, engineering, and hardware, to support customer missions.

An experimental STA is requested to test the wireless two-way data link for the Gremlins Air Vehicle prototype UAS. This activity is necessary to support the Gremlins Phase III contract for testing of the Gremlins system. This activity is necessary to test a prototype system being developed for the DARPA Gremlins Phase III contract. Contract Information is as follows:

Agency:	Defense Advanced Research Projects Agency (DARPA)
Contract No:	HR001118C0071
Government POC:	Mr. Nate Young, Nathan.Young.ctr@darpa.mil, 571.218.4977

Waiver of the Station ID rules set forth at Section 5.115 is respectfully requested.

Ground-Based Transmissions

- Ground operations will be performed at two locations, Niagara Falls International Airport (Antenna 1) and Lyndonville, NY near Lake Ontario (Misty 1 MOA) (Antenna 2).
- The fixed ground station located at the airport will be used for ground checks between the ground station (Antenna 1) and mobile airborne station (Antenna 3) prior to the aircraft taking off.
- When the mobile station (Antenna 3) is airborne, only the fixed location (Antenna 2) in Lyndonville will operated.

Airborne Transmissions

- The mobile station (Antenna 3) will be onboard a Learjet operated by Calspan Flight Research center, based out of Niagara Falls International Airport.
- Once airborne, the aircraft will transit from the airport to the test area located over Lake Ontario (Misty 1 MOA). The mobile airborne station (Antenna 3) will be operational on the ground at Niagara Falls International Airport, operational during flight transit to the test area, and operational during flight for the test activity within the Misty 1 MOA test area.
- The centerpoint of Antenna 3 operations is defined as centered at a latitude and longitude near Hartland, NY with a radius of 64.36 km (40 miles) to include both Niagara Falls International Airport and the Misty 1 MOA test area. The elevation of the ground AMSL at the centerpoint coordinates is 125 m. The distance of the nearest aircraft landing area from the centerpoint coordinates is 18 km.
- The altitude of the airborne station will range from 0-6096 m (0-20,000 ft). When operating at the Niagara Falls International Airport, Dynetics will coordinate activities with the airport authority.

The figure below shows the geographical area of the experiment including the locations of the three antennas.



III. Additional Technical Information

All stations have the same performance specifications including modulating schemes, bandwidth, and transmitter power, 4 Watts.

The ground stations at Niagara Falls International Airport (Antenna 1) and Lyndonville, NY near Lake Ontario (Misty 1 MOA) (Antenna 2) and the airborne station (Antenna 3) will use an omnidirectional (azimuth) antenna with a gain of 1 dBi. Thus the ERP of all ground stations and the airborne station will be a maximum of 5 Watts, mean (average).

IV. Modulating Signal Information

The wireless data link, FGBR-115RA-2 developed by FreeWave Technologies, has a 2-level Gaussian Frequency Shift Keying (FSK) modulation. The FGBR-11RA-2 will be used in a single frequency, no frequency hopping, mode. The transmitter output power is 4 W average. The transmitter utilizes an occupied bandwidth of approximately 230.4 kHz.

The datalink uses channel spacings of 230.4 kHz within the action frequency range requested. A minimum of two frequencies within the requested action frequency range are required for this experimental activity. Therefore, if required, Dynetics will work with the Commission and/or other stakeholders to identify two specific frequencies within the requested action frequency range to avoid interference to co-channel licensees in non-experimental services.

V. Interference Mitigation

Dynetics is well aware of its obligations under Part 5 of the Commission's rules to avoid interference to co-channel licensees in non-experimental services, and will take all steps to ensure compliance with this obligation. As stated above, Dynetics will work with the Commission and/or other stakeholders to carve out a smaller action frequency range or as a minimum, two specific frequencies within the requested action frequency range to avoid interference to co-channel licensees in non-experimental services. With respect to interference mitigation, Dynetics understands that FAA (or other government stakeholders) may restrict radiation to certain azimuth and/or elevation sectors in order to ensure that the proposed Facilities do not pose a threat of interference to adjacent emitters. Accordingly, this is to confirm that Dynetics stands ready to work with the FAA to identify any reasonably necessary restrictions for the system.

VI. Stop Buzzer

Dynetics advises that the following will be available by wireless telephone and will act as "stop buzzers" if any issues regarding interference arise during testing:

Primary: Chris Statler (256-503-9283)

Secondary: Samuel Petersen (573-578-7748)

For the foregoing reasons, Dynetics respectfully submits that approval of this Application is in the public interest, convenience and necessity.