

EXHIBIT #1: DESCRIPTION OF RESEARCH PROJECT

Blue Origin is a small aerospace research and development company based in Seattle, Washington. The primary focus of Blue Origin is the development of commercial launch vehicle technology. The project related to these two FCC license applications consists of building an autonomous low-speed, low-altitude vehicle. This vehicle will be operated from our private facility near Van Horn, Texas; it will take off vertically, fly straight up to a maximum altitude of less than 2000 feet, fly down and land vertically at the same location from which it took off. The vehicle includes real-time communications systems in order to provide telemetry and commanding functions. Telemetry data is used to analyze the flight of the vehicle, while commands are used in order to control the flight sequence. The mobile transmitter and receiver on the vehicle interface with a fixed transmitter and receiver located at the operations control center no greater than three miles away from the launch and landing pad.

These two FCC license applications cover the telemetry and command links described above. The first application is for the mobile transmitter (i.e. on the vehicle) that provides the telemetry data link. For this link, Blue Origin is seeking a frequency allocation in the 2200-2290 MHz band. The link operating in this band will consist of a digital telemetry stream with an RF power of 2W, a bit rate of approximately two million symbols per second, and a modulation type of frequency shift keying. The analog bandwidth for this telemetry downlink is approximately 1.5 MHz. An omnidirectional antenna mounted to the top of the vehicle will be used to transmit the telemetry stream to the operations control center. The license application for the 2200-2290 MHz band lists ten separate frequencies. However, only one frequency actually is required. Any of these ten frequencies would be acceptable for the Blue Origin system.

The second application is for the fixed transmitter (i.e. at the operations control center) that provides the command link. For this link, Blue Origin is seeking a frequency allocation in the 2025-2110 MHz band. The link operating in this band will consist of a digital telemetry stream with an RF power of 2W, a bit rate of approximately two million symbols per second, and a modulation type of frequency shift keying. The analog bandwidth for this telemetry downlink is



approximately 1.5 MHz. A fixed horn antenna (with a gain of around 15 dBi) mounted to the roof of the operations control center will be used to transmit the command stream to the vehicle. The license application for the 2025-2110 MHz band lists ten separate frequencies. However, only one frequency actually is required. Any of these ten frequencies would be acceptable for the Blue Origin system.

The following diagram shows the two elements of this Blue Origin system:

