

NARRATIVE

Pursuant to Part 5.61 of the Commission's Rules (47 C.F.R. §5.61), General Dynamics SATCOM Technologies, Inc. ("General Dynamics"), respectfully submits this request for Special Temporary Authority ("STA") to add a remote location to its authorized Satcom-on-the-Move™ network which uses sub-meter antennas to provide a mobile satellite communications (satcom) infrastructure for military applications.¹ General Dynamics has been operating this system since November 24, 2004, pursuant to an STA and subsequently granted regular experimental authorization to access Intelsat 707 at 53° W.L.² General Dynamics requests this authorization to accommodate an urgent request from the U.S. Marine Corps to test and demonstrate the Satcom-on-the-Move™ system at the U.S. Marine Corps base at Camp Pendleton, California before the tested units are sent to Iraq. The Marine Corps has requested that General Dynamics be available to conduct such tests by June 15, 2005. General Dynamics requests this STA for a period of six months while it prepares, files and awaits grant of a modification to its current experimental authorization to add this location.

As detailed in its previous STA and experimental license filings, the Satcom-on-the-Move™ system will provide the U.S. military with tactical satellite connectivity. The system uses a network consisting of a VSAT hub and sub-meter terminal antennas. The system mounts small (0.6 meter) earth station antennas on combat vehicles (Humvees, tanks, etc.) to support reliable tactical military communications despite the intense gyrations that occur as the vehicles move over rough terrain. The system's unique design ensures that the satellite dish is stabilized at all times so that there is no need to stop the vehicles to lock onto a satellite. This is an important development in tactical military communications.

The U.S. military has an urgent requirement for broadband satellite communications connectivity. To support U.S. forces in the Middle East as well as other potential theaters of operation, the U.S. military needs reliable communications systems. The Satcom-on-the-Move™ system is a critical leap forward in meeting this goal. Satcom-on-the-Move™ uses TDMA technology and commercial Ku-band transponders to provide very high potential data rates (312 KB/s or greater) to coverage areas that are large and very well defined.

None of the technical or operating parameters as detailed in the original request for STA or experimental authorization have changed. The Satcom-on-the-Move™ system uses a directional antenna. The width of the beam at the half-power point is 2.3° for the 0.6 m antenna and 0.49° for the 2.4 m hub. The orientation on both the horizontal and the vertical plane is adjustable. Because of the use of sub-meter antennas that serve as the essential component of the system, the power levels that result from operation of the system may be

¹ The technical information required by Section 5 of the rules is provided in the electronic form to which this letter is attached.

² File No. 0640-EX-ST-2004 (granted November 24, 2004) and File No. 0123-EX-PL-2005 (granted May 31, 2005).

higher than those that result from the use of larger, more traditional-sized antennas.³ Although the power levels comply with the ITU levels that will govern when the system is used in the field around the world, they may exceed those currently imposed by the Commission for operations in the United States. Accordingly, were General Dynamics to apply to the International Bureau for permanent authority for this system, it may require a waiver to the Commission's rules to operate at these higher power levels. To the extent necessary, General Dynamics requests a waiver of the Commission's rules to operate the system with the technical characteristics set forth in this application.

General Dynamics has previously obtained and provided confirmation from Intelsat that the higher power levels will not cause unacceptable interference to its operations. The antennas used by General Dynamics can provide suitable link performance while restricting interference to other operators. Neither Intelsat or General Dynamics has received complaints of harmful interference caused by operation of the Satcom-on-the-Move™ system on the Intelsat 707 satellite. However, in the event that harmful interference to any lawfully operating communications station should occur, General Dynamics will take all necessary measures to immediately eliminate the interference.

Radiation hazard analyses conducted by General Dynamics indicate that, although the VSAT hub antenna is compliant with the Commission's RF exposure standards, the terminal antennas may exceed those standards.⁴ However, the terminal antennas have a very small signal beam area and are, of course, planned for use on military vehicles with trained operators. The antennas will be mounted on the roof of the vehicles and pointed at geostationary satellites, not at the horizon where personnel could enter the beam. Additionally, the transmitters will be equipped with transmit cut-out protection such that the systems will only transmit when an appropriate satellite receive signal is present. In other words, the transmitters will be disabled at all times other than when the antennas are accurately pointed at the target satellite. Finally, General Dynamics is willing to undertake any other mitigation efforts the Commission deems necessary to safely operate this equipment during the testing, demonstration and training phase of the system.

For the reasons discussed above, the Commission should expeditiously grant this application for STA. Grant General Dynamic's application is necessary and will serve the public interest by contributing to the achievement of essential tactical communications that are critical to successful military engagements worldwide.

³ A link budget analysis for the satellite, attached to the electronic form, provides more information regarding the power levels with which the system will operate.

⁴ The radiation hazard analysis for the antenna is attached to the electronic form.