

## QUESTION 7: PURPOSE OF EXPERIMENT

GUSA Licensee LLC (“GUSA”) is a wholly-owned indirect subsidiary of Globalstar, Inc. (“Globalstar”). Globalstar, a publicly-traded Delaware U.S. corporation, owns and operates the Globalstar low-Earth orbiting mobile satellite constellation. GUSA holds the Fixed-Satellite Earth Station licenses for the three commercial U.S. “Gateways” that operate with the Globalstar constellation.<sup>1/</sup> [I revised this because while there are 3 gateways, there are multiple earth station licenses at each one – not sure if we think this change works]

QUALCOMM Incorporated designed and constructed Globalstar’s first generation ground segment - the gateways and user terminals. In order to develop and test its initial technology and improvements thereto, QUALCOMM constructed and operated an experimental, noncommercial earth station with three antennas at its facility in San Diego, CA pursuant to an experimental authorization issued by the Commission.<sup>2/</sup> Globalstar began to launch its first generation of satellites in 1998 and entered commercial service in the U.S. in January 2000. Following the start of commercial service and through September 2009, QUALCOMM continued to use its San Diego earth station to test new products and to troubleshoot gateway and user terminal malfunctions under contract to Globalstar. Globalstar has now assumed responsibility for troubleshooting and is currently using antennas at its commercial gateways, when needed, to test and diagnose. This is an unsatisfactory arrangement as it has the potential to interfere with the use of antennas for commercial service. The current situation also does not readily allow testing of the second generation equipment and services prior to the careful integration at commercial gateways whereby first and second generation systems must be operational simultaneously so that commercial service is not interrupted.

The Second Generation Space Segment: In November 2006 and March 2007, Globalstar entered into two contracts with Thales Alenia Space to construct 48 new low-earth orbit satellites (the “second generation constellation”) and associated satellite operations control centers, respectively. In September 2007, Globalstar and Arianespace entered into an agreement for the first four launches of 24 second generation satellites and certain pre- and post-launch services. The first launch is scheduled for the third quarter of 2010, and Globalstar anticipates that the entire launch campaign will take nine to twelve months. The total cost of construction and launch will exceed \$1.2 billion.

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<sup>1/</sup> The Gateways are located in Clifton, TX, Sebring, FL, and Wasilla, AK. GUSA’s affiliate, GCL Licensee LLC, holds licenses to operate Fixed-Satellite Earth Stations at Globalstar’s Gateway in Las Palmas, PR.

<sup>2/</sup> Call Sign WA2XGW, File No. 0182-EX-RR-2008.

The Second Generation Ground Segment: Globalstar has entered into two contracts for its second generation ground segment: a \$100 million contract with Hughes Network Systems to design, supply and implement the new Radio Access Network and satellite interface chips to be embedded in the user terminals; and a \$23 million contract with Ericsson Federal Systems to develop, implement and maintain a ground interface, or core network, system that will be installed at the gateway ground stations. Products using the second generation technology are scheduled to be available in 2012.

The ground infrastructure for Globalstar's second generation system will be all Internet Protocol (IP). It will be "3G/4G" compatible and will link the radio access network to the public-switched telephone network (PSTN) and Internet. The system will provide VoIP (Voice Over Internet Protocol) and IMS (IP Multimedia Subsystem) services. Globalstar will introduce this new technology while it continues to operate its first-generation network, an extremely complicated technical challenge. The transition period to a full second generation network is expected to take about three years.

In order to complete the development and to validate prototype and first article equipment prior to deployment at Globalstar's existing gateways, thorough testing must be performed on the new ground network equipment at the subsystem level, at system level using loopback simulators, and finally over the air. The Milpitas development test bed laboratory provides the capability to stage and test the prototype and first article equipment without impacting existing operational systems at the commercial gateways. The new experimental earth station antennas requested in this application will be used to perform these requisite over-the-air tests in the development of the second generation system and provide a means to develop and test new applications and services once the second generation system becomes operational. In addition, the new earth station antennas will be collocated with the Globalstar Space Operations Control Center, allowing rapid and careful coordination during critical constellation events such as the four launches of the second generation satellites, orbital maneuvers and managing anomalous spacecraft behaviors, without impacting the commercially operating gateway earth stations.