

November 14, 2006

Marlene H. Dortch, Secretary  
Federal Communications Commission  
Washington, D.C. 20554

To: International Bureau  
Systems Analysis Branch

Re: File No. SES-STA-20060725-01254 (Call Sign E980136)

Dear Ms. Dortch:

Telenor Satellite, Inc. (Telenor) hereby supplements the above-referenced request for Special Temporary Authority (STA) in order to submit the following information requested by the staff.

1. **Frequencies.** The frequencies listed in Inmarsat's Schedule S, and in Telenor's current license for this antenna, are as follows:

C-band uplink: 6454.4 – 6456.6 MHz (nominal center frequency 6455.5 MHz)  
C-band downlink: 3629.4 – 3631.6 MHz (nominal center frequency 3630.5 MHz)  
L-band downlink: 1574.4 – 1576.6 MHz (nominal center frequency 1575.5 MHz)

Those frequencies correspond to the 2.2 MHz frequency range of the navigation transponder on the satellite. However, in the underlying application accompanying this STA request (SES-MFS-20060725-01253), Telenor requested authorization for frequency ranges of 2.2 MHz centered on the actual uplink and downlink frequencies used to provide service to the FAA, which are as follows:

C-band uplink: 6454.32 – 6456.52 MHz (center frequency 6455.42 MHz)  
C-band downlink: 3629.32 – 3631.52 MHz (center frequency 3630.42 MHz)  
L-band downlink: 1574.32 – 1576.52 MHz (center frequency 1575.42 MHz)

The reason for this apparent 80 kHz discrepancy is historical. It was originally contemplated that the navigation repeaters onboard the Inmarsat-3 satellites would be used to relay a signal with two separate components, compatible respectively with GPS and GLONASS. A repeater band 2.2 MHz wide and centered on 1575.5 MHz would have been able to accommodate both a GLONASS signal at 1575.5625 MHz and the GPS L1 frequency at 1575.42

MHz. Ultimately, however, there was no need for the GLONASS component. Thus, the only signal transmitted is the one used for GPS.

The uplink signal transmitted by Telenor is a 2.2 MHz carrier centered on 6455.42 MHz. Thus, its frequency range is from 6454.32 to 6456.52 MHz. That signal is split on board the satellite into a C-band downlink centered at 3630.42 MHz and an L-band downlink centered at 1575.42 MHz. Nominally, those are also 2.2 MHz carriers, but the satellite does not receive below 6454.4 MHz or transmit below 3629.4 MHz (C-band) or 1574.4 (L-band), so the lower part of the GPS signal, as received and retransmitted by the satellite, is cut off by 80 kHz.

As stated above, Telenor initially requested a 2.2 MHz authorization for each link, based on the actual center frequencies used to provide service to the FAA. That is clearly correct, at least for the uplink. On the downlink, however, it might be more accurate to specify a 2.2 MHz band for each link, based on the nominal center frequencies of the satellite transponder (C-band and L-band). That would result in the following authorization:

C-band uplink: 6454.32 – 6456.52 MHz (actual center frequency 6455.42 MHz)  
 C-band downlink: 3629.4 – 3631.6 MHz (nominal center frequency 3630.5 MHz)  
 L-band downlink: 1574.4 – 1576.6 MHz (nominal center frequency 1575.5 MHz)

Needless to say, Telenor will accept whatever determination the Bureau makes in this regard.

**2. Site location.** The station license for this antenna specifies a longitude of 119° 4' 21.8" (NAD-27). The frequency coordination report prepared by Comsearch and submitted with this application was based on a longitude of 119° 4' 25.2" (NAD-83), which corresponds to the NAD-27 longitude specified in the license. The longitude of 119° 4' 24.9" stated in the application is also based on NAD-83. The reason for the (very slight) discrepancy is that Comsearch and Telenor used two different tools to make the conversion from NAD-27 to NAD-83. For consistency, we will specify the 119° 4' 25.2" figure used by Comsearch.

**3. Use of 1545.8 – 1548.0 MHz band.** As a matter of general principle, Telenor believes that it should be allowed to use any portion of the L-band that Inmarsat is allowed to use. However, this particular antenna is used only to provide service to the FAA, and that service does not require the use of the 1545.8 – 1548.0 MHz band. Accordingly, Telenor does not request the use of that band in this application.

**4. Maximum EIRP.** The maximum EIRP per carrier requested in the underlying application, and specified in Telenor's existing license, is 83 dBW. The maximum EIRP specified in Inmarsat's technical description, which corresponds to actual operational figures, is 78 dBW. The reason for the discrepancy is that the FAA demanded an extra margin as a countermeasure to interference; therefore, the license (and the underlying application) reflected Telenor's capability and not the actual operating level, which is substantially less. In order to meet FAA requirements, we continue to request a maximum EIRP per carrier of 83 dBW.

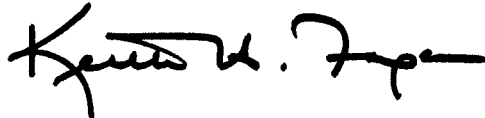
**5. Polarization.** The L-band polarization requested in the underlying application, and specified in Telenor's existing license, is Left and Right Circular Polarization. The actual

polarization, which is reflected in Inmarsat's technical description, is Right Hand Circular Polarization. The reason for the discrepancy is that we originally sought to license the capability rather than the actual operation. For consistency, we will specify Right Hand Circular Polarization.

In light of the above, Telenor respectfully requests the Bureau to grant its Request for Special Temporary Authority.

Respectfully submitted,

TELENOR SATELLITE, INC.

A handwritten signature in black ink, appearing to read "Keith H. Fagan". The signature is fluid and cursive, with a long horizontal stroke at the end.

Keith H. Fagan  
Its Attorney