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Responsibilities of Satellite Earth Station Licensees

This memorandum is intended to provide a brief guide detailing the major on-going responsibilities of earth station licensees after they have obtained authorization for their antennas from the Federal Communications Commission ("Commission" or "FCC"). The discussion is divided into four sections covering:

- 1. Completion of construction and commencement of operation,
- 2. Regular operation of an earth station,
- 3. Special circumstances concerning earth stations, including instances of harmful interference, and
- 4. Rules governing changes in an earth station's facilities or operating terms and conditions.

I. Completion of Construction and Commencement of Operation

An earth station licensee generally must complete construction of its licensed facility and bring it into regular operation within 12 months from the date of the construction permit and/or license grant. Upon completion of a new facility, the licensee must file with the Commission a certification containing the following information: the name of the licensee; file number of the application; call sign of the antenna; date of the license; a certification that the facility, as authorized, has been completed and that each antenna facility has been tested and is within 2 dB of the pattern specified in the Commission's rules; the date on which the station became operational; and a statement that the station will remain operational during the license period unless the license is submitted for cancellation. For authorized large networks of small antennas operating in the 12/14 GHz frequency bands and user transceivers in the Mobile-Satellite Service ("MSS"), a certificate must be filed when the network is put into operation. 47 C.F.R. § 25.133(a) & (b).

If the earth station facility does not meet the technical parameters set forth in the Commission's rules (*i.e.*, § 25.209), a request for a waiver must be submitted and approved by the Commission before

operations may commence. 47 C.F.R. § 133(c).

Lastly, each receive-only earth station licensed or registered pursuant to the Commission's rules must be constructed and placed into service within 6 months after coordination has been completed. Each licensee or registrant must file with the Commission a certification that the facility is completed and operating. A certification of antenna patterns is not required for receive-only earth stations. 47 C.F.R. § 133(d).

II. Regular Operation of an Earth StationA. Control of Transmitting Stations

The licensee of a transmitting station is required to ensure that a trained operator is present on the earth station site, or at a designated remote control point for the earth station, at all times that transmissions are being conducted. In this regard, the Commission will grant authority to operate a transmitting earth station by remote control only on certain conditions. These conditions are:

The parameters and operational functions of the remote control system are sufficient to ensure that the operations of the remote station(s) are at times in full compliance with the remote station authorization(s).

The earth station facilities are protected by appropriate security measures to prevent unauthorized entry or operations.

Upon detection by the licensee, notification from the Commission, or notification by another licensee of harmful interference, the operation of the remote station must be immediately suspended by the operator at the control point until the interference is corrected, except that transmissions concerning the immediate safety of life or property may be conducted for the duration of the emergency.

The licensee must have available at all times the technical personnel necessary to perform quickly the necessary technical servicing and maintenance of the remote stations.

Further, the licensee must ensure that the licensed facilities are properly secured against unauthorized access or use whenever an operator is not present at the transmitter. 47 C.F.R. § 25.271.

B. General Inter-System Coordination Procedures

Each transmitting earth station licensee must provide the operator(s) of the satellites on which the licensee is authorized to transmit contact telephone numbers for the control center of the earth station and emergency telephone numbers for key personnel. 47 C.F.R. § 25.272(c).

Further, an earth station licensee must ensure that each of its authorized earth stations complies with the following:

There must be a continuously available means of communication between the satellite network control center

and the earth station operator, or its remote control point, as designated by the licensee.

The earth station operator must notify the satellite network control center and receive permission from the control center before transmitting to the satellite or changing the basic characteristics of a transmission.

The earth station operator must keep the space station licensee informed of all actual and planned usage.

Only upon approval of the satellite network control center may the earth station operator radiate an RF carrier into a designated transponder. If the satellite control center observes an improper illumination of a transponder or undue adjacent transponder interference, the earth station operator must immediately take whatever measures are needed to eliminate the problem. 47 C.F.R. § 25.272(d). **C. Maintenance of**

Antenna Performance Verification Records

Earth station licensees are required to maintain records of the results of tests to verify that their earth stations conform with the Commission's antenna performance standards. Licensees must maintain these records at the antenna site or the earth station operator's control center. These records must also be available for inspection. 47 C.F.R. § 25.132(g). **D. Painting and Lighting of Antennas**

Earth station antenna licensees are not generally required to paint and light their antennas, except that owners of antenna structures are required to paint and light any antenna that exceeds 60.96 meters (200 feet) in height above the ground. In the event of default by the owner, each licensee or permittee is individually responsible for these painting and lighting requirements. 47 C.F.R. § 25.113(d).

III. Special CircumstancesA. Procedures to Be Followed in the Event of Harmful Interference

In case of harmful interference detected by an earth station operator, the operator must first check his earth station equipment, and then all other stations in the licensee's network that could be causing the interference, to ensure that none of the licensee's earth stations are the source of the interference. The operator is also required to verify that the source of interference is not from a local terrestrial source. If the operator determines that the source of the interference is not from an earth station in the operator's network or from a local terrestrial source, then the operator must contact the satellite system control center and advise the satellite operator of the problem. The earth station operator must maintain a record of all harmful interference incidents and their resolution. These records must be made available to an FCC representative on request. 47 C.F.R. § 25.274(a)-(c).

An earth station licensee whose operations are suspected of causing harmful interference to another earth station must take reasonable measures to determine whether its operations are the source of the harmful interference problem. Note that the satellite control center must assist the earth station operator in this determination. When the operations of the suspect earth station are the source of the interference, the licensee of that earth station must take all measures necessary to eliminate the interference. All licensees are

required to cooperate fully with the Commission in any investigation of interference problems. 47 C.F.R. § 25.274(d)-(f).

When the earth station suspected of causing interference to the operations of another earth station cannot be identified or is identified as an earth station operating on a satellite system other than the one on which the earth station suffering undue interference is operating, it is the responsibility of a representative of the earth station suffering harmful interference to contact the control center of other satellite systems. 47 C.F.R. § 25.274(g). **Non-Compliant Very Small Aperture Terminal ("VSAT") Networks**

Licensees authorized to transmit at levels higher than those for which applications are routinely processed (*i.e.*, non-compliant licensees) must coordinate with any future applicants or licensees whose proposed compliant VSAT operations are potentially or actually adversely affected by the operation of the non-compliant licensee. If no good faith agreement can be reached, however, the non-compliant licensee must reduce its power density levels to those compliant with the appropriate FCC Order authorizing the network. 47 C.F.R. § 25.134(c).

IV. Changes in Facilities

Modifications consisting of replacing equipment that is electrically identical to the existing equipment, and do not change the operating parameters of the earth station, do not require prior approval, but must be reported to the Commission within thirty (30) days. Aside from such minor changes, however, licensees are required to get prior approval from the Commission for modifications that would change the station's operating parameters, or change the terms or conditions of its operation. 47 C.F.R. §§ 25.117, 25.118.