

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of)
)
Amendment of Parts 25, 74, 78 and 101 of the Rules)
Regarding Coordination between the Non-Geostationary)
and Geostationary Satellite Orbit Fixed-Satellite) ET Docket No. 03-254
Service and Fixed, Broadcast Auxiliary and Cable)
Television Relay Services in the 7, 10 and 13 GHz)
Frequency Bands)
)

To: The Commission

Comments of the Society of Broadcast Engineers, Inc.

The Society of Broadcast Engineers, Incorporated (SBE), the national association of broadcast engineers and technical communications professionals, with more than 5,000 members world wide, hereby respectfully submits its comments in the above-captioned Notice of Proposed Rulemaking (NPRM) relating to frequency coordination protocols between 7 GHz Mobile Satellite Service (MSS) feeder uplink and feeder downlink stations and 13 GHz MSS Gateway uplink stations, and 7 and 13 GHz TV Broadcast Auxiliary Service (BAS) stations.

**I. Proposed Rules Appear Inconsistent with
Section 309(j)(4)(B) of the Communications Act**

1. These rules propose to give MSS feeder uplink and downlink stations, and MSS Gateway uplink stations, greater than co-equal status by requiring broadcasters to protect MSS downlinks on all available frequencies and for all possible look angles, as opposed to only those frequencies and look angles a MSS applicant can show are actually in use and needed. In stark contrast, the proposed rules would only obligate MSS Gateway uplinks to protect fixed BAS stations on the single frequency actually in use, and only for the path(s) actually in use. Not only does SBE see this as *not* a "co-equal" sharing of spectrum, but such an approach would appear to constitute "spectrum warehousing" by MSS. The FCC is clearly told in the Communications Act to take steps to guard against spectrum stockpiling or warehousing. Section 309(j)(4)(B) of the Communications Act states:

(4) CONTENTS OF REGULATIONS. In prescribing regulations pursuant to paragraph (3), the Commission shall

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(B) include performance requirements, such as appropriate deadlines and penalties for performance failures, to ensure prompt delivery of service to rural areas, **to prevent stockpiling or warehousing of spectrum** by licensees or permittees, and to promote investment in and rapid deployment of new technologies and services; [emphasis added]

Thus, it appears to SBE that granting MSS feed uplink and downlink stations what amounts to "greater than co-equal" status is at best inconsistent with, if not in direct violation of, the Communications Act. SBE believes that it is simply unfair for the Commission to propose that 7 GHz BAS operations must protect MSS feeder downlinks on all possible BAS spectrum available for such shared use (*i.e.* 6,875 MHz to 7,075 MHz, or TV BAS Channels B1 through B8, given that MSS is eligible to request any frequency between 6,700 and 7,075 MHz for feeder downlink use). Rather, to be fair and to be consistent with what SBE believes to be the intent of Section 309(j)(4)(B) of the Communications Act, the Commission should only require broadcasters to protect the specific downlink frequencies actually in use. Similarly, the plan appears to be unfair and inconsistent with the Communications Act's provision against spectrum warehousing for the Commission to propose that 7 GHz BAS operations must protect MSS feeder downlinks on all possible look angles. Rather, the protection requirement should apply only for look angles to satellites actually communicating with a feeder downlink station.

2. In regard to 7 GHz MSS feeder uplinks & 13 GHz MSS Gateway uplinks, SBE agrees that, with respect to fixed link TV BAS, CARS and Private Operational Fixed Service (POFS) stations, an MSS Gateway uplink need only demonstrate protection on the actual uplink frequencies in use (or for which authorization is requested and the MSS applicant can demonstrate an immediate need), and not all possible uplink frequencies aimed at all possible look angles (which, for non-geostationary (NGS) satellites in elliptical, low earth orbit (LEO), can be a very wide range of azimuth and elevation angles). However, this also means that should a 7 GHz MSS feeder uplink or 13 GHz MSS Gateway uplink wish to expand or change its uplink frequencies, or communicate with a different constellation of LEO satellites, it would first have to conduct a new frequency coordination study, and demonstrate that the new or modified frequencies and look angles would protect all then existing 7 & 13 GHz BAS, CARS and POFS links.

3. SBE is well aware that in the April 2, 2003, *Memorandum Opinion and Order* (MO&O) to ET Docket 98-142 the Commission disagreed with the *Petition for Reconsideration* filed by SBE,

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objecting to "super primary" status for a supposedly co-equal MSS by granting MSS feeder downlinks protection for all possible frequencies and look angles, while only requiring MSS feeder uplinks and Gateway uplinks to protect BAS links on their actual frequencies and paths. However, at the time SBE filed its *Petition for Reconsideration* of the February 2, 2002, *ET Docket 98-142 Report & Order* (R&O), SBE was unaware of Section 309(j)(4)(B) of the Communications Act. It was not until this Communications Act provision was noted in the *WT Docket 03-66 Notice of Proposed Rulemaking* (NPRM)¹ that SBE realized that the Communications Act contained language that clearly prohibits the stockpiling of frequencies, or "spectrum warehousing."

4. Accordingly, SBE respectfully suggests that the protection entitlement of 7 GHz MSS feeder downlinks should only be granted for frequencies actually in use (or for which an immediate need can be demonstrated), as opposed to protection that encompasses no less than 80% of the 7 GHz TV BAS band. Similarly, SBE suggests that the Commission should only require protection over the look angles to satellites that a particular MSS feeder downlink station is actually communicating with, as opposed to all possible look angles for all possible MSS LEO satellites. If the Commission does not do this, then the existence of an MSS feeder downlink in a TV market has the potential to in effect freeze 7 GHz TV BAS operations in that market, much as the widespread licensing of C-Band television receive only (TVRO) sites had the effect of freezing Common Carrier links sharing those frequencies. While long-distance telephone common carriers were for the most part able to move their links to fiber, BAS mobile operations don't have that opportunity.

5. Further, such a *de facto* "freezing" of BAS 7 and 13 GHz spectrum could not come at a worse time, in light of the reduction of 2 GHz TV BAS spectrum, broadcaster stress to build and operate their government-mandated DTV plants, and pressures to add high-definition TV (HDTV) to TV Pickup operations.

II. 7 GHz TV Pickup and CARS Pickup Stations

6. In regard to 7 GHz mobile/portable/itinerant TV Pickup and CARS Pickup stations, SBE concedes that such stations authorized after the effective dates of the three "grandfathered" MSS feeder downlinks at Brewster, Washington; Clifton, Texas; and Finca Pascual, Puerto Rico, must

¹ At Paragraph 190 of the April 2, 2003, WT Docket 03-66 NPRM, and also in Footnote 455, at Page 81.

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restrict their operations so as to not cause harmful interference to those receiving stations (but again, only for the actual frequencies and look angles in use, and not all possible frequencies and look angles). According to the *ET Docket 98-142 MO&O*, those effective dates are as follows:

<u>Location</u>	<u>Protection Date</u>
Brewster, WA	May 10, 2001
Clifton, TX	February 27, 1998
Finca Pascual, PR	June 23, 2000

7. However, SBE wishes to point out that this logically also means that 13 GHz TV Pickup stations authorized to operate in these areas *prior to* the above dates have no obligation to protect the MSS feeder downlinks from any harmful interference that might be caused, although SBE would expect that licensees of TV Pickup stations with such "grandfather" rights would make every effort to avoid such interference.

8. With respect to 7 GHz MSS feeder uplink stations, the NPRM indicates, at Footnote 18, that there is presently only one such station, and that it communicates with a geostationary (GSO) satellite. Therefore, rather than the wide range of look angles that a MSS uplink would use, due to its need to communicate with a constellation of NGSO satellites, a GSO uplink sharing the 7 GHz TV BAS band is not nearly the interference threat that 7 GHz MSS feeder uplinks needing to communicate with NGSO satellites would be. Because of the preclusive nature that a 7 GHz MSS uplink would have on new 7 GHz TV BAS paths, and to 7 GHz TV Pickup and CARS Pickup stations, SBE proposes that no 7 GHz MSS feeder uplinks be allowed within 150 km of the top-100 TV markets. Of course, a newcomer 7 GHz MSS feeder uplink would still have to demonstrate protection of all existing fixed link 7 GHz TV BAS paths, using Section 101.103(d) protocols.

III. 13 GHz TV Pickup and CARS Pickup Stations

9. MSS Gateway uplink stations are required to protect all pre-existing point-to-point, terrestrial BAS, CARS, and POFS links, and that protection will now be pursuant to Section 101.103(d) of the FCC Rules; SBE does not have a problem with this. Because terrestrial point-to-point links are required to use directional antennas meeting Category A standards in "frequency congested areas," and directional antennas meeting Category B standards in all other areas, it will probably not be too difficult for an MSS Gateway uplink station to demonstrate

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such protection, especially if MSS Gateways are limited to outside the major metro areas, where 13 GHz TV BAS links are less common. However, MSS Gateway uplinks represent a substantial interference threat to 13 GHz TV Pickup stations and to 13 GHz CARS pickup stations needing to operate in the vicinity of a Gateway uplink. While the protection of 13 GHz fixed-link BAS, CARS and POFS stations is now subject to Section 101.103(d) prior coordination notice (PCN) protocols and is reasonably straightforward, the protection of earlier-in-time 13 GHz TV Pickup and CARS Pickup stations is more problematic. First, cable system operators sometimes employ high-elevation receive only sites so a 13 GHz CARS Pickup station can rely programming from a not-known-in-advance location to the cable operator's main studio. (Broadcasters use this same technique, but the majority of such operations occur at 2, 2.5 and 6.5 GHz, and so are not at risk from 13 GHz MSS Gateway uplinks.) Second, both broadcasters and cable operators often employ portable systems, and move those systems to different locations or venues as needed. Thus, SBE cannot see how a newcomer MSS Gateway uplink can ever demonstrate reliable protection to mobile TV Pickup or CARS Pickup operations that are already authorized to operate in the area where an MSS Gateway wants to locate.

10. Paragraph 24 of the NPRM states that "new FSS entrants in the 7 GHz and 13 GHz bands must consider typical deployments of TVPU operations within their authorized area to ensure that existing TVPU uses and operations are not adversely affected." This is an impossible burden for a new MSS Gateway uplink, because there no such thing as a "typical deployment" for a mobile station; if there was, a fixed link could instead be used. But, on the other hand, if SBE were to argue that a newcomer 13 GHz Gateway uplink has to protect TV or CARS Pickup stations on all possible frequencies those stations are authorized to use, and over the entire geographical area those stations are authorized to operate, SBE would be guilty of advocating the same spectrum warehousing that it believes the Commission is proposing. SBE notes that there is no spectrum warehousing problem for TV Pickups *vs.* fixed, point-to-point links, because fixed, point-to-point links are not required to protect TV Pickup operations (and, for this very reason the top 100 MHz of the 13 GHz TV BAS band is not available to fixed links; that is, four channels are reserved for "safe harbor" mobile operations).

11. SBE therefore proposes that rather than attempt to apply fixed link PCN protocols to mobile operations, which SBE sees as an impossible task, the Commission should instead apply a "growth zone" approach, where no new 13 GHz MSS Gateways would be allowed within 150

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km of the top-100 TV markets. SBE believes that this would be an equitable balancing of the need for broadcasters and cable operators not to have the effectiveness of their mobile TV and CARS Pickup operations restricted, while still allowing new MSS Gateways a reasonable portion of the country in which to locate new Gateway uplink stations. Of course, any new MSS Gateways would still have to protect all fixed links, but this is a far more achievable goal than the impossible task of protecting mobile operations. Should a news or other event requiring mobile operations in the 13 GHz TV BAS/CARS band occur near an MSS Gateway uplink, broadcasters and cable operators would just have to limit their mobile operations to the 2, 2.5 or 6.5 GHz bands. SBE sees this as an acceptable, reasonable and fair trade off.

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IV. Summary

12. SBE believes that the proposed rules are inconsistent with Section 309(j)(4)(B) of the Communications Act because it believes that protecting MSS downlinks on all possible frequencies and all possible look angles constitutes unfair "spectrum warehousing." SBE sees such a policy as also inconsistent with any reasonable interpretation of "co-equal." SBE hopes that the Commission will use this instant rulemaking as an opportunity to adopt rules that truly treat terrestrial BAS (and CARS and POFS) stations fairly as "co-equal" with MSS feeder downlink stations, MSS feeder uplink stations, and MSS Gateway uplink stations.

Respectfully submitted,

Society of Broadcast Engineers, Inc.

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