

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

In the Matter of)	
)	
Amendment of Part 101 of the Commission's)	WT Docket 10-153
Rules to Facilitate the Use of Microwave for)	
Wireless Backhaul and Other Uses and to Provide)	DA 11-1101, June 7, 2011
Additional Flexibility to Broadcast Auxiliary)	Further Notice of Inquiry
Services and Operational Fixed Microwave)	
Licensees)	

To: The Commission

Comments of EIBASS

Engineers for the Integrity of Broadcast Auxiliary Services Spectrum (EIBASS) hereby respectfully submits its comments in the above-captioned Further Notice of Inquiry (FNOI) relating to flexibility for Part 74 TV Broadcast Auxiliary Services (BAS) stations, and other issues.

I. EIBASS Agrees That POFS Sharing with BAS Is Feasible in ENG Class IV Areas

1. The FNOI concludes that sharing between fixed-link 7 and 13 TV BAS stations and fixed-link POFS stations entering those bands is practical, and should be allowed; EIBASS agrees.¹ The FNOI correctly identifies the problematic issue as how fixed-link POFS stations entering those bands can protect mobile TV Pickup, or electronic news gathering (ENG), operations.
2. The FNOI provided a series of maps, showing substantial areas of the central and western United States that are outside the operational areas of all 7 and 13 GHz TV Pickup stations; these would be ENG Class IV areas.² The FNOI accordingly asks if allowing POFS sharing in areas

¹ In its November 22, 2010, WT Docket 10-153 reply comments, EIBASS documented that many BAS records still have missing receive-end data. However, BAS licensees have had many years to have provided this missing data, and the Commission has urged BAS licensees to do so on multiple occasions. Thus, EIBASS urged that if POFS is allowed entry to the 7 or 13 GHz TV BAS bands, that incumbent TV BAS licensees be given one final opportunity to update their records before newcomer POFS stations start applying using Prior Coordination Notice (PCN) studies based solely on data in the Universal Licensing System (ULS).

² At Paragraph 19 of the July 6, 2000, ET Docket 95-18 *Second R&O and Second MO&O*, the Commission adopted verbatim the description submitted by the SBE for the classes of ENG markets. Those classifications are as follows:

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outside of the operational areas for all TV Pickup stations in the pertinent band would be feasible. EIBASS' answer is a qualified "yes."

3. EIBASS' qualification is that it would not necessarily be sufficient for a co-channel, newcomer, POFS fixed link to be located outside of a same-band TV Pickup station's operational area of record. By "outside" EIBASS is referring to the new link's transmit end; the new link's receive end could be inside the operational area of a same-band TV Pickup station, but if so would have to accept any interference that might be caused to that fixed-link receiver by an earlier-in-time TV Pickup station. However, given that fixed, point-to-point links must use transmitting and receiving antennas meeting at least FCC Category B criteria, it seems unlikely that a TV Pickup station would cause interference to a fixed-link path.

4. However, the reciprocal is not true: A co-channel fixed-link microwave path, even with its directional Category B or better transmitting antenna, is still an interference threat to TV Pickup operations. This is because the receiving location, or ENG receive-only (ENG-RO) site, is usually placed at a high-elevation site or near the top of a tall tower, uses either an omnidirectional or directional but remotely steerable receiving antenna, and is polarization-agile. Thus, no ENG-RO receiving antenna discrimination can be assumed, nor can cross-polarization isolation be assumed. Because of this, ENG operations have difficulty sharing spectrum with co-channel point-to-point links. It is for this precise reason that in the Class I and Class II ENG markets, broadcasters have voluntarily migrated their fixed-link operations out of the 2 and 2.5 GHz TV BAS bands, so as to free up those bands for ENG use.

5. Although some band sharing exists between mobile ENG and fixed TV BAS links at 7 and 13 GHz, this is only possible (and still difficult) because of the extensive real-time frequency coordination that broadcasters have voluntarily developed between stations in the same market--even competing stations. This familiarity would not exist for non-broadcast, POFS entities entering those until now TV BAS or CARS-only bands.

Category I. "Los Angeles" or "LA." Extremely heavy use, mostly split channel. There is lots of itinerant use and channel borrowing and sharing; even so, seven channels aren't enough.

Category II. "Metro." Spectrum is heavily used, especially during the news hours. There is some split channel use, not a lot, and some itinerant use. There is regular channel borrowing and sharing.

Category III. "Light." There is some electronic news gathering ("ENG"), some fixed link, maybe even some channels mostly vacant most of the time. Typically, a small-market, low-competition situation.

Category IV. "Rural." ENG is unheard of, the use is for fixed, long-haul relays to small-market TV stations, to TV translator stations, and to cable television headends. In some areas not all channels are even used.

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6. Thus, besides not allowing a newcomer POFS station to be located inside the operational areas of record of any existing TV Pickup station in the same band, there needs to be a second interference protection metric: Namely, that the newcomer POFS station cannot degrade the noise threshold of any existing ENG-RO site by more than 0.5 dB. This is the criteria adopted in the October 21, 2004, ET Docket 00-258 Seventh Report & Order (R&O),³ and is also officially recognized in the April 30, 2009, SBE-DoD Memorandum of Understanding (MOU) regarding Department of Defense (DoD) shared use of 2,025–2,110 MHz for Space-Ground Link System (SGLS) uplinks at up to eleven DoD sites (ten in the U.S., with the eleventh site in Guam).

7. To make things simple for newcomer POFS entrants, a "bright line" test can be created by assuming a 20 dBi gain ENG-RO receiving antenna and a receiver noise threshold of -95 dBm in a 12-MHz pedestal bandwidth, with no allowance for receiving antenna directivity or polarization discrimination. Thus, the undesired POFS signal cannot not have a calculated receive carrier level (RCL) of greater than -104 dBm in 12 MHz. Of course, full allowance for the directivity of the POFS transmitting antenna can be taken, and any terrain obstruction losses to the ENG-RO antenna can certainly be applied, where they exist.

8. These two protection criteria would ensure that newcomer POFS stations in the 7 or 13 GHz TV BAS bands would not restrict ENG operations. Of course, such stations would only be required to protect ENG-RO sites of record as of the time of their grant; there should be no requirement for retroactive protection of ENG-RO sites that get added later.

9. Although many TV Pickup station licensees have yet to avail themselves to the option to add their ENG-RO sites to their TV Pickup licenses, as proposed by SBE in RM-11308 and which the Commission adopted on April 16, 2008,⁴ EIBASS believes that those licensees have had sufficient time to do so. If they continue to elect to forego this important protection right, that should not preclude the Commission from allowing POFS licensees entry into the 7 and 13 GHz TV BAS bands.

II. Channelization Plans

10. EIBASS continues to oppose the creation of a channelization plan that would create greater than 25 MHz wide channels. Doing so would create an inevitable conflict and spectrum inefficiencies. The 28-MHz wide channels proposed at Paragraph 12 of the FNOI would overlap

³ At Page 15, Footnote 63.

⁴ DA 08-892, April 16, 2008, *Licensees of TV Pickup Stations Now Have the Option To Identify Their Stationary, Receive-Only Sites on ULS To Aid Coordination With Other Services.*

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at least two 25-MHz wide TV BAS channels, thus precluding re-use of two TV BAS channels in a given area, rather than just one.

11. Likewise, there is no need for channelization plans using smaller bandwidths, since as previously noted by EIBASS the Commission has already clarified, in the ET Docket 01-75 rulemaking, that it is permissible for applicants to request signal bandwidths that are less than the channel bandwidth.⁵

III. Capacity and Loading Requirements

12. At Paragraph 17, the FNOI clarifies that it was not the intent of the WT Docket 10-153 rulemaking to apply the current Part 101 capacity and loading criteria to Part 74 TV BAS or Part 78 CARS stations, but only to Part 101 POFS stations entering those bands. The FNOI notes that in any event, Section 101.141(a)(5) of the POFS rules provides an exemption for paths used for video motion material. If this same exemption were to be applied to Inter City Relay (ICR) links providing backhauls from ENG-RO sites, and to transmitter-to-studio (TSL) backhauls, then EIBASS would see no reason not to extend the current Part 101 digital efficiency requirements to Part 74 fixed-link stations in the 7 and 13 GHz TV BAS bands.

⁵ October 20, 2003, ET Docket 01-75 Memorandum, Opinion and Order (MO&O), at Paragraph 13.

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IV. Summary

13. EIBASS agrees most of the points raised in the FNOI, and urges that they be adopted in the Report and Order. All that is needed is to additionally adopt a no-greater-than 0.5 dB noise threshold degradation protection requirement for newcomer POFS stations to provide existing co-channel ENG-RO sites, to ensure protection of such 7 and 13 GHz ENG-RO sites. The channelization plans, though, should *not* be adopted.

Respectfully submitted,

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