

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Amendment of Part 101 of the Commission's)	WT Docket No. 10-153
Rules to Facilitate the Use of Microwave for)	
Wireless Backhaul and Other Uses and to Provide)	
Additional Flexibility to Broadcast Auxiliary)	
Service and Operational Fixed Microwave)	
Licenses)	
)	
Request for Interpretation of Section 101.141(a)(3))	WT Docket No. 09-106
of the Commission's Rules Filed by Alcatel-)	
Lucent, Inc., <i>et al.</i>)	
)	
Petition for Declaratory Ruling Filed by Wireless)	WT Docket No. 07-121
Strategies, Inc.)	
)	
Request for Temporary Waiver of Section)	
101.141(a)(3) of the Commission's Rules Filed by)	
Fixed Wireless Communications Coalition)	

To: The Commission

**EX PARTE REPLY COMMENTS OF THE SOCIETY OF BROADCAST
ENGINEERS, INCORPORATED**

Booth, Freret, Imlay & Tepper, P.C.
14356 Cape May Road
Silver Spring, Maryland 20904-6011
(301) 384-5525 telephone
(301) 384 6384 facsimile
cimlay@sbe.org

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1. The Society of Broadcast Engineers, Incorporated (“SBE”)¹ respectfully submits these *Ex Parte* Reply Comments in response to certain comments filed in response to the Commission’s *Notice of Proposed Rulemaking and Notice of Inquiry* in the above-captioned proceeding.² The Notice had proposed, among other things:

(1) to allow Fixed Service (FS) operations to have access to the bands 6875-7125 MHz and 12700-13200 MHz, currently allocated to the Broadcast Auxiliary Service (BAS) and the Cable TV Relay Service (CARS);

(2) to eliminate the “final link” rule, which currently prohibits broadcasters from using FS stations as the final radiofrequency (RF) link in the chain of distribution of program material to broadcast stations (thus allowing broadcasters to become licensed in FS bands); and

(3) to modify the Part 101 rules governing minimum payload capacity, so as to permit temporary operations below the minimum capacity under certain circumstances.

2. SBE’s comments had noted that the specific bands at issue in this proceeding, 6875-7125 MHz (the “7 GHz band”) and 12,700-13,200 MHz (the “13 GHz band”) are in active daily use for fixed, mobile, temporary fixed and aeronautical mobile applications in most television markets³, at all times of the day and night. Because news events are unpredictable in time and geography, and because the broadcast audiences need to be alerted to these events through electronic news gathering (ENG) operations must be done through real time frequency coordination, sharing with FS is extremely difficult. The FS links cannot, given the extent and nature of incumbent uses, have a substantial degree of reliability in this environment. SBE concluded, therefore, that: (1) Coordination of BAS

¹ SBE timely filed comments in this proceeding, and has since then had an opportunity to review all of the comments filed in this proceeding.

² *Notice of Proposed Rulemaking and Notice of Inquiry*, WT Docket Nos. 10-153, 09-106 and 07-121, FCC 10-146, 25 FCC Rcd. 11246, 75 Fed. Reg. 52186 (rel. August 5, 2010) (the “*Notice*”).

³ Real time frequency coordination is necessary for this use not only in major markets where spectrum congestion issues might be expected, but in smaller markets as well.

and FS operations on a co-channel basis is impractical and incompatible from both the FS and the BAS perspectives, and the Commission's technical rules should not contribute to the incompatibility; (2) The Part 101 prior coordination notice (PCN) frequency coordination process is flawed in certain respects as it pertains to Part 74 BAS facilities, and it is impractical for use in particular in the 7 and 13 GHz bands where there are mixed fixed and frequency-agile mobile uses; and (3) while elimination of the "final link rule" is of some potential value in increasing the efficient deployment of the FS allocations, it is of very limited value to BAS licensees and is not a sufficient *quid pro quo* for the creation of incompatible sharing in the 7 and 13 GHz BAS bands.

3. SBE is not alone in its conclusion that the Commission is overly optimistic about the chances of compatible FS and BAS/CARS sharing in the 7 and 13 GHz bands. Any effort to overlay fixed, point-to-point assignments on an inter-service basis in bands that are already in heavy use daily by incumbent licensees for mobile and temporary fixed operations is exceptionally difficult. The majority of the comments filed in this proceeding oppose the use of auxiliary operations. Notable among these are the comments of the National Spectrum Management Association (NSMA), an association of spectrum management professionals including service providers, manufacturers, frequency coordinators, engineers and consultants. NSMA agrees with SBE's conclusion that adding part 101 licenses to the 7 and 13 GHz BAS bands would add significant complexity to the time-sensitive coordination that is necessary in these bands due to ongoing, real-time, short-term mobile and temporary fixed BAS and LTTS operation. There would, says NSMA, be a potentially large increase in the number of fixed microwave paths as well as a large increase in the number of licensees with which to

coordinate in real time. Broadcasters currently license these frequencies for both fixed and mobile allocations, but have a number of fixed links to consider and can coordinate on short notice (in essence, in real time) with a small community of similar users. This is normally facilitated by a local coordinator who is assigned to a specific geographic area (i.e. a single television market or, in some cases, in two, adjacent television markets). NSMA concludes that the current coordination procedures for TV Pickup operations would be inadequate to protect FS users from interference. It also notes that there would be no adequate remedy for interference once it does occur, since it would be effectively impossible to locate the interfering party due to the temporary nature of the transmission. The allowance of short-term mobile transmission without any coordination as specified in Section 74.24 of the Commission's BAS rules further complicates the issue.

4. Comsearch came to a similar conclusion at Section 1 of its comments in this proceeding. BAS operations would exacerbate an already difficult coordination situation in these bands if sharing with FS services is allowed. Temporary fixed operation would be effectively precluded because there is no practical way to protect FS operations, and the level of FS link reliability would be subject to unpredictable interference with no practical remedy.

5. With respect to antenna standards, the comments vary. SBE's comments had urged that the Commission not allow the use of smaller (i.e. larger beamwidth) antennas in the 7 and 13 GHz band, as that would contribute to a higher interference potential to fixed BAS receive sites. Certainly, there is found in the comments a reasonable concern expressed about increased interference which could affect the number of links allowed. There are issues with mounting large antennas on buildings due to concerns about safety

and aesthetics, and there is mounting opposition by municipalities to larger-visibility antennas, which the Commission has unfortunately not addressed on a regulatory basis. The situation is something of a “Catch-22” however, because use of smaller antennas will increase spectrum pollution and severely decrease the capacity of the band to accommodate newcomers to the bands. Any review of this matter leads to the conclusion that effective spectrum management necessitates the use of narrow-beamwidth antennas. SBE stands by its position in this respect and urges the Commission to disallow wide-beamwidth antennas in these bands.

6. Most of the comments support the elimination of the “Final Link Rule”⁴ as proposed by the Commission, premised on the Commission’s allowing Part 101 FS licensees access to the 7 and 13 GHz BAS bands (something of a “*quid pro quo*”). The deletion of this rule would permit broadcasters to utilize Part 101 FS bands (where possible) for all fixed BAS purposes. SBE’s comments did not oppose this proposal. Indeed, it makes no sense to distinguish between one digital microwave link and another based exclusively on content. However, the practical utility of the proposed rule change would be minimal. The FS Part 101 bands are crowded and it is not a simple matter to engineer a new path for a BAS link. Many BAS fixed links, given their purposes, would not comply with minimum payload capacities or minimum path length requirements at all times because the purposes of the links are different for broadcasters than for other OFS licensees. Therefore, while this is an interesting proposal, it fails to resolve the major obstacle to the main proposal in this proceeding: the intermixture of mobile and temporary fixed operations and fixed link operations. SBE does not deny that there may

⁴ Section 101.603(a)(7) of the Commission’s rules prohibits broadcasters from using a Part 101-licensed station as the last RF link in the chain of distribution of program material for broadcast stations.

indeed be instances in highly congested areas where fixed BAS links could be implemented in Part 101 FS bands, but these instances are not expected to be plentiful.

7. Only a few of the commenters⁵ mentioned BAS use of mobile and portable links in the 7 and 13 GHz bands. Those that did acknowledge this admitted that mixing fixed facilities in one service and mobile and temporary fixed operations in another service is a bad idea and would be fraught with problems. Comsearch did mention as a potential solution the possibility of band segmentation, in which some channels would be reserved exclusively for mobile and temporary fixed link use, and any fixed facilities that choose to locate there would have to tolerate any interference received. SBE had argued that it is not feasible to attempt to reduce the inherent incompatibility between BAS operations at 7 and 13 GHz and FS operations in those same bands by segregating channels used for mobile operations from those that are used for fixed operations, creating in essence mobile and fixed subbands. It would result in a substantial reduction in the availability of both bands for TV pickup operation going forward. In many markets, and especially in the largest markets, the 7 GHz band is completely filled with mobile and coordinated fixed operations all of the time, in both large and small broadcast and cable markets. The comments of the National Association of Broadcasters and Maximum Service Television (NAB/MSTV) support this conclusion. Those comments, at Section III, note that short-notice time intervals are available when breaking news occurs. NSMA's comments at Section II noted that further study is needed of the 7 and 13 GHz bands to determine usage of these bands on a market-by-market basis. SBE suggests that such a study would reveal the difficulty in segregating mobile and fixed operations by subbands in these BAS allocations. As argued by NAB/MSTV at Section II

⁵ E.g. Motorola, NSMA and Comsearch.

of their comments, the 7 and 13 GHz bands are being used extensively and increasingly for real-time newsgathering. Band segmentation substantially decreases the availability of channels in regular, daily use for mobile and temporary fixed operation.

8. Some comments noted that if the sharing proposal goes forward, the channels would need to be “rebanding.” Currently, BAS and LTTS users deploy 25 MHz channel bandwidths. Part 101 FS operations do not necessarily line up with the channel plan that is in use in these shared bands now. This is a serious, additional complication, and necessitates some substantial modification in both BAS and FS operation if the 7 and 13 GHz sharing proposal should be adopted by the Commission. As Comsearch noted, if sharing of the 7 and 13 GHz bands goes forward, the Commission should consider the needs of both Part 101 and Part 74 users in selecting the channel plans. SBE suggests that this would be a large and complex task, and an expensive one for all concerned. Nevertheless, should the Commission proceed notwithstanding all of the difficulties with the Notice proposal, SBE would expect to be involved in the development of a channel plan.

9. The comments in this proceeding from knowledgeable, credible spectrum management professionals agree in the main with SBE: this proposal is not in the best interests of either FS or BAS/LTTS licensees of the Commission. While well-intentioned, the sharing proposal is not practical. If the Commission decides to proceed with this proposal notwithstanding these overwhelming challenges, SBE urges the Commission to avoid relying on the PCN coordination process that exists in the Part 101 rules and applies to BAS operations. It is, as SBE has previously argued, a process that is far inferior to SBE’s local market coordination procedure and it simply does not work in

bands in which mobile and fixed operations exist on a co-channel basis in the same market. Furthermore, the Commission should not allow the use of smaller (i.e. larger beamwidth) antennas in the 7 and 13 GHz band, as that will clearly contribute to a higher interference potential to fixed BAS receive sites.

10. The comments are, almost without exception, opposed to the proposal to permit multipoint auxiliary stations. It is indeed fraught with problems, as the comments of NSMA note. The Commission should flatly reject this proposal as unworkable in shared bands.

Therefore, for the reasons discussed herein, SBE again respectfully requests that the Commission determine whether or not the technical challenges presented by this proceeding are sufficiently challenging as to make the proposal unworkable. SBE also asks that, whether in this proceeding or in a near future proceeding, the Commission should remove the PCN coordination procedure as a requirement for BAS licensing of both fixed and mobile facilities, and instead substitute therefor the more efficient and

applicable, albeit less formal, local market coordination procedure for BAS and CARS facilities.

Respectfully submitted,

**THE SOCIETY OF BROADCAST ENGINEERS,
INC.**

Vincent Lopez

Vincent Lopez, CEV, CBNT
SBE President

Barry Thomas

Barry Thomas, CPBE, CBNT
Chairman, SBE Government Relations
Committee

Christopher D. Imlay

Christopher D. Imlay, CBT
General Counsel

Booth, Freret, Imlay & Tepper, P.C.
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Silver Spring, Maryland 20904-6011
(301) 384-5525 telephone
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cimlay@sbe.org

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