

**Before the
Federal Communications Commission
Washington, D.C. 20554**

Expanding Use of the 12.7-13.25 GHz)	
Band for Mobile Broadband or)	
Other Expanded Use)	GN Docket No. 22-352
)	

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

Coe W. Ramsey
Patrick Cross
Noah L. Hock
BROOKS, PIERCE, McLENDON,
HUMPHREY & LEONARD, L.L.P.
Wells Fargo Capitol Center, Suite 1700
Raleigh, N.C. 27601
Telephone: (919) 839-0300
Facsimile: (919) 839-0304

*Counsel for The Society of Broadcast
Engineers, Inc.*

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SUMMARY

Freeing spectrum for new and expanded uses is of clear importance to both the broadcast and telecommunications industries, the Commission, and the public. However, when modifying any existing spectrum allocation the Commission must minimize disruption to incumbent licensees, who have engendered reliance interests in their incumbent authorizations and the concomitant ability afforded by those authorizations to serve the public. These comments, submitted by the Society of Broadcast Engineers, Inc. (“SBE”)—the national association of broadcast and multimedia technology professionals with over 5,000 members worldwide—therefore describe the steps that must be taken in the 12.7-13.25 GHz Band (the “Band”) to safeguard continued service to the public regularly served by current, incumbent broadcast operations in the Band.

Broadcasters and, consequently, the public currently rely on both fixed and mobile broadcast auxiliary services in the Band. Fixed uses include essential signal delivery paths—both primary and backup—without which critical information might not be delivered and broadcast to the public. Mobile uses include electronic newsgathering that enables on-the-spot reporting, ranging from coverage of a local parade to collecting and communicating time-sensitive emergency information. Given these current beneficial broadcast uses in the Band: (1) broadcasters should not bear any costs for relocating, repacking, or otherwise transitioning services from their current operations in the Band, including in the case of necessary technology upgrades; (2) the mobile repack band should span no less than 25 MHz at the top or bottom of the Band, be exclusive to mobile BAS and CARS operations, and continue to accommodate short-term mobile BAS operations; (3) adequate time must be afforded to identify and transition all incumbent broadcast operations in the Band; and (4) interference protection must be assured for incumbent BAS operations by both requiring successful coordination with new users and precluding unlicensed users.

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The Society of Broadcast Engineers, Inc. (“SBE”)—the national association of broadcast and multimedia technology professionals with over 5,000 members worldwide—submits these comments in response to the Notice of Proposed Rulemaking (the “NPRM”)¹ in the above-captioned proceeding. SBE previously filed comments in response to the underlying Notice of Inquiry issued in this proceeding regarding the same issues—namely, whether and how to open the 12.7-13.25 GHz band (the “12.7 GHz Band” or the “Band”) for mobile broadband and other expanded uses.²

Broadcasters are cognizant of the FCC’s desire to make efficient use of spectrum resources, and are prepared to make operational changes to help facilitate that goal. But the Commission must be diligent in protecting the vital and varied public services broadcasters provide. To that end, any action to relocate or repack incumbent broadcast operations in the 12.7 GHz Band must be

¹ *Expanding Use of the 12.7-13.25 GHz Band for Mobile Broadband or Other Expanded Use*, Notice of Proposed Rulemaking and Order, GN Docket No. 22-352, FCC 23-36 (rel. May 19, 2023). SBE previously filed comments on the underlying Notice of Inquiry. *Expanding Use of the 12.7-13.25 GHz Band for Mobile Broadband or Other Expanded Use*, Notice of Inquiry and Order, GN Docket No. 22-352, FCC 22-58 (rel. July 13, 2022) (“12.7 GHz NOI”).

² Comments of the Society of Broadcast Engineers, GN Docket 22-352 (Dec. 12, 2022) (“SBE NOI Comments”).

carefully crafted to preserve those operations, protect them from harmful interference post-transition, and ensure broadcasters do not shoulder any financial burden.

I.
**Fixed BAS Operations Should Be Accommodated or
Relocated at No Cost to Broadcasters**

As SBE noted in previous comments, broadcasters utilize the 12.7 GHz Band in a number of ways, including via more than 2000 authorizations for broadcast auxiliary services (“BAS”)—both fixed and mobile—and local television transmission services.³ Broadcast uses of fixed BAS in the Band are spread out across the country, with particularly heavy use in metropolitan areas, and are often comprised of critical transmission links between studio and transmission facilities, including studio transmitter links (“STLs”), transmitter studio links (“TSLs”), intercity relays (“ICRs”), and other such uses.⁴ If *fixed* BAS operations are to be relocated out of the 12.7 GHz Band as proposed,⁵ any relocation procedure should be designed to place minimal strain on incumbent operators, including by completely covering any relocation costs. That said, wholesale relocation of fixed point-to-point operation in the 12.7 GHz Band may be impractical in some situations. To that end, incumbents and new entrants should be given the greatest possible flexibility to establish the solution most appropriate to each circumstance, including relocation, frequency coordination, and fully reimbursed transition to other, replacement mechanisms for transmission. Moreover, any remaining fixed BAS operations in the Band should be grandfathered and protected over new entrants.

³ SBE NOI Comments at 1.

⁴ *Id.* at 3.

⁵ NPRM at ¶ 69.

The goal when modifying any existing spectrum allocation should be minimizing disruption to incumbent licensees, who have engendered reliance interests in their incumbent authorizations and are unexpectedly being asked to make wholesale changes to their operations in order to accommodate new users. When applied to incumbent fixed point-to-point operations in the 12.7 GHz Band, this means ensuring fixed BAS operations are given sufficient time and flexibility to transition smoothly, and without cost. The FCC should set a period of ten years after new licenses are granted in the Band to complete any relocation (and without any “sunset” point at which incumbent broadcast operations in the Band would lose primary status).⁶ Past relocation efforts, including in the 2 GHz band, support a ten year timeframe here,⁷ though accommodations could be made for new entrants to negotiate for early access to the Band in exchange for various incentives.⁸ Additionally, the greatest possible flexibility should be afforded to participants to negotiate the most effective path toward expanded use of the 12.7 GHz Band. While relocation of some incumbent fixed BAS operations outside of the Band may be optimal, for others, transition to different forms of media may be preferred, and some may have no options other than to continue operations within the Band.⁹

⁶ See NPRM at ¶ 71.

⁷ See, e.g., *Serv. Rules for Advanced Wireless Servs. in the 2000-2020 Mhz & 2180-2200 Mhz Bands*, Report & Order, 27 FCC Rcd 16102, 16211-12 (2012) (relying on prior 10-year relocation periods in again establishing a 10-year relocation time period where licensing records showed “approximately 700 active” fixed service licenses in the relevant band).

⁸ *Id.* at ¶ 68.

⁹ See Comments of Scripps Broadcasting Holdings LLC, GN Docket No. 22-352, at 4 (Dec. 12, 2022) (suggesting fiber optic cable may be “a potential replacement for fixed point-to-point service,” though inappropriate for mobile BAS).

SBE disagrees with the NPRM's suggestion that "most" incumbent broadcaster authorizations in the 12.7 GHz Band can be adequately replaced by other services such as fiber.¹⁰ SBE is aware of many broadcasters who use authorizations in the 12.7 GHz Band, in part, to protect against outages from alternate media (such as fiber). Those authorizations must continue to reflect their current form of media signal delivery so that broadcast licensees can deploy in the Band when other media fail, and thereby continue to serve the public in the event of an emergency (i.e., when delivery of the reporting made possible by BAS operations in the Band is often the most critical).

Further, in spite of the best efforts of incumbent operators and new entrants, it will be impractical if not impossible to relocate all fixed point-to-point operations out of the 12.7 GHz Band. The FCC's rules should maintain flexibility in such cases to allow for other solutions that foster efficient shared use of the Band, including manual (or automatic, if possible)¹¹ frequency coordination as appropriate. The proper solution to relocation in a given situation will be a fact-specific inquiry, and is best left to the incumbents and new entrants to determine in good faith. However, regardless what solution is reached, any remaining incumbent fixed operations in the Band should not be made secondary after a sunset period, as the NPRM proposes.¹² Instead, incumbent operations should retain primary status and remain protected to facilitate any sharing solution that may have been established.

¹⁰ See NPRM at ¶ 69.

¹¹ SBE has previously discussed its concerns with the potential use of AFC systems in the Band, in light of the documented ineffectiveness of such systems in the 2.4 GHz band and the lack of real-world evidence of effectiveness in the 6 GHz band. See, e.g., SBE NOI Comments at 5 & n.8. Those concerns persist, especially in light of the fact that database-driven systems will be unable to effectively capture mobile ENG BAS operations, which by definition do not have a fixed location found on any database.

¹² NPRM at ¶ 69.

Finally, to the extent existing BAS operations are ultimately relocated to other bands, careful consideration must be afforded to any disharmony between existing rules governing 12.7 GHz Band deployments and potential bands into which BAS operations would be relocated. By way of example, many broadcasters' 12.7 GHz fixed links operate with path links under 17 km, which, although permissible in the 12.7 GHz Band, would currently be impermissible (absent waiver or rule change) in lower-frequency BAS bands.¹³ The FCC should take any regulatory steps necessary to allow for the relocation of these short path links to lower-frequency BAS bands.

II. Care Must Be Taken to Repack Mobile BAS Operations Without Disruption

If the 12.7 GHz Band is opened to expanded use, the only viable way to preserve and protect mobile BAS operations in the Band will be to repack such services into a portion of the Band, as the NPRM proposes.¹⁴ A significant portion of mobile BAS are used for electronic news gathering (“ENG”), which is an essential aspect of broadcast operations, enabling broadcasters to inform the public of critical and developing emergencies, events, and other newsworthy happenings in the community to the indisputable advancement of the public interest and benefit. In particular, SBE has conducted outreach with its members and has determined that much of current mobile ENG BAS use in the Band is related to special events, such as breaking news, parade, or community-event coverage, in markets where the rest of the BAS bands are already in heavy use, thus necessitating broadcasters to deploy BAS operations in the 12.7 GHz Band in order to be able to adequately inform the public of those unique newsworthy circumstances. Bearing the importance of those operations in mind, SBE generally supports the repack proposal, subject to

¹³ See 47 C.F.R. § 74.644; see also *id.* § 101.143.

¹⁴ NPRM at ¶ 65.

the necessity that any adopted repack procedure preserve incumbent operations with minimal disruption and no cost to incumbent operators.

The NPRM proposes repacking mobile BAS and CARS into a 25 MHz portion of the 12.7 GHz Band, and seeks comment on several related questions—whether 25 MHz is sufficient, where in the Band the repacked operations should be located, what process should be used to facilitate the transition, and what types of operations should be permitted in the mobile repack band post-transition.¹⁵ These comments treat each of those issues in turn.

A. The Mobile Repack Band Should Span No Less than 25 Megahertz, and Broadcasters Must Be Reimbursed for Any Upgrades Necessary to Fit Within the Narrower Mobile Repack Band.

Based on current BAS operations, SBE is concerned the proposed 25 MHz mobile repack band will be insufficient absent technological upgrades in many markets and/or additional technological developments. At present, most mobile BAS operations in the 12.7 GHz Band operate using a 25 MHz channel, with simultaneous operations separated by some amount of buffer or guard band to prevent adjacent channel interference. As a technical matter, it is possible that channel widths could be narrowed to accommodate a narrower mobile repack band or greater flexibility within the mobile repack band, but not without the deployment of new equipment in many markets, the costs of which should not be borne by broadcasters. The FCC must account for these circumstances when establishing the mobile repack band; in no event should the mobile repack band be less than 25 MHz, and, if 25 MHz is chosen, broadcasters must be afforded reimbursement necessary to recalibrate current mobile BAS operations—including the purchase

¹⁵ *Id.* at ¶¶ 72-78.

of necessary technological upgrades—to enable those incumbent operations to squeeze into the mobile repack band.

B. The Mobile Repack Band Should Be Placed at the Top or Bottom of the 12.7 GHz Band.

Based on current spectrum allocation and forward-looking logistical considerations, the most logical placement for the mobile repack band is either at the top or bottom of the 12.7 GHz Band. Either location would have the benefit of providing a single, clear division in the Band, rather than mid-Band placement that would effectively create three separate sections within the Band (i.e., a mobile repack band in the middle portion, and a lower *and* upper portion for new entrants).

The top of the Band may also be desirable as a mobile repack band given that existing FCC rules reserve a portion of the top of the Band for mobile BAS and CARS operation in close proximity to some television markets, and the mobile repack band may serve as a buffer to avoid interference with federal operations in the upper adjacent band. In particular, existing spectrum allocations reserve the 13.15-13.25 GHz band for mobile BAS and CARS inside a 50 km radius of 100 major television markets.¹⁶ Thus, placing the mobile repack band in the upper portion of the 12.7 GHz Band would leave a portion of these reservations intact and potentially avoid impacts to BAS operations already active in the 13.15-13.25 GHz band. Further, as the NPRM suggests, repacking mobile BAS and CARS operations to the top of the 12.7 GHz Band could alleviate interference concerns with federal operations in the upper adjacent band, though effective out-of-band emission (“OOBE”) protections would be essential to protect both federal operations and

¹⁶ NPRM at ¶ 75; *see also* 47 C.F.R. §§ 2.106, note NG53; 74.602(a), note 2; 78.18(l).

repacked BAS and CARS licensees.¹⁷ Further study is needed to confirm this, and the effectiveness of any buffer will depend on adopted interference protections, among other factors.

C. Repacked Mobile BAS and CARS Operations Should Be Transitioned on a Market-by-Market Basis, Be Afforded Exclusivity in the Mobile Repack Band, and Continue to Be Authorized for Short-Term Operations.

The need for ENG deployments—such as in the case of breaking news—often develops on short notice and could necessitate transmission from across a broadcaster’s home market. Mobile BAS licenses are therefore generally granted over a large geographic area, and may overlap with several other BAS operations in the same or adjoining areas. Consequently, it would be infeasible to facilitate new entrants in the 12.7 GHz Band without first clearing and repacking all mobile BAS operations on a market-by-market basis, as the NPRM proposes.¹⁸ Moreover, a market-by-market approach would likely help ease coordination issues by consolidating both time and resources necessary to relocate geographically similar incumbents, as well as lessen problems that may be caused due to limitations on resources, such as equipment delays (supply-chain issues) and the limited number of available tower crews with the expertise necessary to successfully relocate incumbent antennas and equipment.

Further, and for similar reasons, after the repack is complete mobile BAS operations should be the exclusive operations permitted in the mobile repack band in order to allow local broadcasters to maintain the necessary flexibility to continue providing vital ENG services to their communities.¹⁹ In particular, and as previously discussed,²⁰ mobile ENG deployments by

¹⁷ See NPRM at ¶ 141.

¹⁸ See *id.* at ¶ 77.

¹⁹ See *id.* at ¶ 78.

²⁰ See *supra* note 10; SBE NOI Comments at 5 & n.8.

definition do not have a fixed location, making prior coordination between mobile and fixed operations in a shared repack band infeasible.

Additionally, any repack of mobile ENG in the Band must contemplate not only expressly licensed operations, but also BAS operations in the Band pursuant to authorization afforded by the short-term operation rule.²¹ As explained above, ENG operations in the Band are many times required in order for broadcasters to effectively respond to unanticipated and/or unique (i.e., one-off) newsworthy or emergency circumstances, the geographic location of which often cannot be known in advance. Accordingly, the short-term operation rule provides a critical method for Part 73 or BAS license holders to conduct mobile ENG operations to deliver critical information to the public that might not otherwise be made available but for the rule permitting short-term operations. Any repack of mobile ENG in the Band must therefore account—both for purposes of determining current overall use of the Band and in classifying and planning for relocation of incumbent broadcast services in the Band—for operations authorized by the short-term operations rule.

III. Repack and Relocation Should Allow Time to Identify BAS Operations and Cover All Transition Costs

Any repack plan should be carefully crafted to allow time for identification of all affected mobile BAS operations, and thereafter proceed with minimal disruption of operations and with full reimbursement of costs incurred by displaced licensees.

The Commission has proposed limiting relocation and repack protections for BAS and CARS operators to current licensees in the 12.7 GHz Band who complete a certification as called

²¹ 47 C.F.R. § 74.24.

for in the Order accompanying the NPRM.²² With the understanding that reasonably and clearly defining incumbent status is important to an orderly transition, sufficient time and notice must be provided to broadcasters so that they may all be made aware of and plan to dedicate the resources necessary to satisfy these certification requirements. Particularly in the case of small stations, it is vital that the FCC clearly communicate the need to confirm and update license information in ULS and complete the certification when made available. Otherwise, many broadcasters may be left behind and penalized due to a lack of resources available to immediately locate, review, and complete (or more likely obtain a consulting engineer's assistance to complete) the requisite certification. SBE therefore respectfully submits that one-to-one outreach from the FCC (or third-party contractors) directly not only to current holders of 12.7 GHz authorizations but to all television broadcasters *prior to the certification deadline* would be extremely valuable in helping to preserve the public interest service provided by current incumbent authorizations in the Band.

It also bears repeating that any and all costs borne by broadcasters for relocation or repack should be promptly reimbursed. More specifically, any transition plan should plainly identify the full extent of costs to be covered by new entrants, including but not limited to engineering studies necessary to identify viable spectrum or alternate technology to accommodate relocation of broadcasters' incumbent services, permitting and construction costs, new or upgraded equipment costs, any subscription or transition costs for new media, and filters to protect against interference, to name only some of what are likely to be the most critical components to a successful transition.

²² NPRM at ¶¶ 83, 143-47.

IV. Interference Protections Require Successful Coordination and Should Preclude Unlicensed Users

The NPRM proposes establishing certain power and other technical limits to protect all authorized operators in the 12.7 GHz Band and adjacent bands.²³ Of particular concern to SBE are the proposed OOB limits²⁴ and field strength limits at market boundaries,²⁵ as they provide the greatest opportunity to prevent—or allow—harmful interference to BAS receivers from outside sources. In either case, successful frequency coordination is necessary to ensure any proposed limits will effectively protect actual operations in the Band, and to meaningfully account for installed filters or other protective equipment that may also be necessary to prevent interference under the adopted limits. Consequently, the Commission should expressly require coordination, testing, and filtering (both for receive and transmit facilities, incumbent or newly authorized) sufficient to ensure that all remaining incumbent operations are protected and afforded recourse in the event newly authorized services in the Band fail to prevent interference, and/or fail to engage in necessary coordination efforts prior to deployment.

Additionally, the Commission should not authorize any unlicensed users in the Band, given the foregoing existing concerns regarding interference and a lack of objective data as to the viability of unlicensed use in the Band. In particular, SBE's experience has been that unlicensed users tend to be less responsive than licensed users regarding interference concerns, both in coordination efforts prior to deployment and in resolving any interference issues that might arise once deployment has occurred. Given the critical need to protect remaining incumbent operations

²³ *Id.* at ¶¶ 117-29.

²⁴ *Id.* at ¶¶ 122, 125.

²⁵ *Id.* at ¶ 129.

in order to secure timely and effective delivery of developing, on-the-spot newsworthy information, unlicensed users should therefore not be authorized.²⁶

Conclusion

Freeing spectrum for new and expanded uses is of clear importance to both the broadcast and telecommunications industries, the Commission, and the public. Broadcasters are prepared to do their part to support those ongoing spectrum reallocation needs, including in the 12.7 GHz Band. But any relocation or repack of broadcast operations in the Band should be undertaken carefully so as to minimize disruption to incumbent operations and ensure no cost is borne by those who currently rely on the Band for critical aspects of their public interest service offerings and who are nonetheless making accommodations for new entrants in to the Band.

²⁶ For the avoidance of doubt, this issue is distinct from BAS operations undertaken pursuant to the short-term operation rule (which provides authorization pursuant to a Part 73 or BAS license). As discussed above in Section II.C of these comments, operations pursuant to the short-term operation rule must both be accounted for in calculating the current overall use of the Band and in classifying and planning for relocation of incumbent broadcast services in the Band.

Respectfully submitted,

The Society of Broadcast Engineers, Inc.

/s/

Andrea Cummis, CBT, CTO
SBE President

/s/

Charles (Ched) Keiler, CPBE, 8-VSB, CBNE
Chair, SBE Government Relations Committee

/s/

Coe W. Ramsey
Patrick Cross
Noah L. Hock
Regulatory Counsel

Brooks, Pierce, McLendon,
Humphrey & Leonard, L.L.P.
Wells Fargo Capitol Center, Suite 1700
Raleigh, N.C. 27601
Telephone: (919) 839-0300

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