

**Before the  
National Telecommunications and Information Administration  
United States Department of Commerce  
Washington, D.C. 20230**

In the Matter of: )  
Development of a National Spectrum ) NTIA Docket No. 230308-0068  
Strategy ) regulations.gov Docket No. NTIA-2023-0003  
)

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

The Society of Broadcast Engineers, Inc. (“SBE”)—the Association for Broadcast Engineers and Multimedia Technology Professionals with over 5,000 members worldwide—submits these comments in response to the NTIA’s request for comments (the “NTIA Request”)<sup>1</sup> in the above-captioned proceeding.

SBE appreciates NTIA’s proactive step to openly discuss and plan for the country’s future spectrum needs, and its dedication to bringing numerous stakeholders together to participate in developing a national strategy. Broadcasters provide vital public services, including local news, informational, educational, and entertainment programming, as well as life-saving emergency alerts and information, all delivered free every day. Access to spectrum is a vital part of these services, and not merely for the delivery of broadcasters’ free over-the-air signals to the public. Broadcasters, and therefore the public served by them, require various use of spectrum for multiple broadcast operational necessities, including to receive and distribute network programming, to engage in electronic newsgathering and cover live local events, to transmit the information gathered thereby back to broadcasters’ studios, and to deliver programming from broadcasters’

---

<sup>1</sup> *Development of a National Spectrum Strategy*, Request for Comments, Dept. of Commerce, Nat’l Telecomm. and Information Admin., NTIA Docket Number 230308-0068, regulations.gov docket NTIA-2023-0003, 88 Fed. Reg. 16244 (Mar. 16, 2023).

studios to their transmitter sites. Consequently, Broadcasters are important stakeholders in any national spectrum strategy discussion. In addition, SBE, through its membership of broadcast engineers, has unique knowledge and decades of real-world expertise in frequency coordination and spectrum sharing that will be extremely valuable to future discussions of specific spectrum bands that may be candidates for spectrum sharing strategies, and which frequency coordination technologies may be most appropriate in various circumstances.

**I.**  
**Broadcasters are Important Stakeholders and the National Spectrum Strategy  
Must Protect Incumbent Broadcast Activities.**

The NTIA Request notes that the Department of Commerce is “committed to developing a national spectrum strategy based upon collaboration with both federal and non-federal stakeholders,” and lists a number of important industries and groups with “spectrum reliant services and missions.”<sup>2</sup> While this list was not intended to be exhaustive, one industry was conspicuously absent: broadcasters.

Broadcasters provide essential public services to the American public every day, from free access to local news, informational, educational, and entertainment programming, to the nationwide emergency alert system; and identification and protection of these services must be part of the national spectrum strategy. Broadcasters’ over-the-air signals are one of the (if not *the*) best free one-to-many delivery mechanism accessible by all members of the public—regardless of location, be it urban or rural—with crucial localized, and at times life-saving, information. And the technical capabilities of broadcasters’ unique public service distribution only stand to expand over the coming years as the new ATSC 3.0 broadcast standard continues to grow in prevalence.<sup>3</sup>

---

<sup>2</sup> *Id.* at 16245.

<sup>3</sup> ATSC 3.0 services already reach half of all U.S. homes and continue to be deployed in more markets. *See, e.g., ATSC 3.0 Deployments: Where and When Will NextGen TV Be Available?*,

The increased technical capabilities and bandwidth enabled by ATSC 3.0 will enable even greater broadcast service to the public, including distance learning tools,<sup>4</sup> hyper-localized emergency alerts that provide even more targeted and meaningful alerting information,<sup>5</sup> and new ways to bridge the digital divide.<sup>6</sup>

To deliver all these services to the public, broadcasters make use of spectrum across a range of frequencies, both for primary delivery of content and for both fixed and mobile Broadcast Auxiliary Services (“BAS”) necessary for newsgathering activities and coverage of live events among other things. In spite of the importance of these services, broadcasters have regularly and frequently cooperated with efforts to free up spectrum for other uses, through relocation, repacking, or sharing of spectrum previously reserved exclusively for broadcast services. Similarly in this case, broadcasters wish to be eager participants in development of a spectrum strategy that will meet the country’s, needs now and in the future, so long as new and changing spectrum policy will not hinder the ability to continue providing the broadcast services relied on by so many. In this regard, SBE encourages NTIA to embrace a core principle to “do no harm” as part of its spectrum strategy. This principle extends not just to potential displacement of existing incumbent

---

TV Technology (Mar. 30, 2023), <https://www.tvtechnology.com/news/atsc-30-deployments-where-and-when-will-nextgen-tv-be-available>.

<sup>4</sup> See, e.g., ATSC, *ATSC Datacasting Paves Way for Flexibility of ATSC 3.0 in Distance Education* (Feb. 1, 2021), <https://www.atsc.org/news/atsc-datacasting-paves-way-for-flexibility-of-atsc-3-0-in-distance-education/>.

<sup>5</sup> See, e.g., Advanced Warning and Response Network, *About AWARN* (last visited Apr. 11, 2023) (discussing advanced alerting capabilities enabled by ATSC 3.0), <https://awarn.org/about-awarn/>.

<sup>6</sup> See, e.g., Deloitte Development LLC, *ATSC 3.0 White Paper* (2022), <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/consulting/atsc3.0-white-paper.pdf>.

services, but also to proposed new service deployments given that the RF noise floor has been, and continues to be ever increasing as the number and prevalence of RF emissions continues to grow.<sup>7</sup>

## **II. Prior Experience Demonstrates the Difficulty and Stakes of Changes to Spectrum Allotments.**

The past experience of SBE and the broadcast industry with spectrum relocation, repacking, and shared use demonstrates both the potential for increasing the efficiency of spectrum deployment, as well as the many difficulties and dangers of making changes without the proper protections in place for incumbent licensees. SBE has actively participated in numerous recent Federal Communications Commission (“FCC”) proceedings that either resulted in changes made to the spectrum available to broadcasters or proposes to do so.<sup>8</sup> In each instance, SBE highlighted the many and varied ways broadcasters utilize and rely on spectrum, and the difficulty inherent in (1) limiting or restricting many of these uses, and (2) adequately protecting such uses from harmful interference. As NTIA will see in SBE’s past comments, and in the experience of others, there will be no one-size-fits-all solution to implementing a national spectrum strategy. From differing

---

<sup>7</sup> See, e.g., *FCC Office of Engineering and Technology Announces Technological Advisory Council (TAC) Noise Floor Technical Inquiry*, Comments of the Nat’l Assoc. of Broadcasters, FCC ET Docket No. 16-191 (Aug. 11, 2016), <https://www.fcc.gov/ecfs/document/10811293386206/1>.

<sup>8</sup> E.g., Comments of the Society of Broadcast Engineers, GN Docket No. 22-352, (Dec. 12, 2022) (addressing proposal to expand use of 12.7-13.25 GHz band); Comments of the Society of Broadcast Engineers, ET Docket No. 18-295 & GN Docket No. 17-183 (May 25, 2022) (addressing issues remanded by D.C. Circuit Court of Appeals for expanded use of 6 GHz band) (“SBE 6 GHz Comments”); Comments of the Society of Broadcast Engineers, ET Docket No. 13-115 (Aug. 2, 2021) (addressing proposal for commercial space launch primary use in 2025-2110 MHz band); Comments of the Society of Broadcast Engineers, ET Docket No. 18-295 & GN Docket No 17-183 (Feb. 15, 2019) (addressing expanded use of mid-band spectrum & unlicensed use of 6 GHz band); Comments of the Society of Broadcast Engineers, GN Docket Nos. 18-122 & 17-183 (Oct. 29, 2018) (addressing repurposing of 3.7-4.2 GHz band). SBE respectfully requests that by this reference these prior comments be incorporated into this proceeding. In particular, NTIA may find these comments and others by SBE instructive in identifying and addressing the technical issues raised by efforts to expand use of spectrum.

propagation characteristics across frequencies, to the numerous methods that stakeholders make use of spectrum, there are myriad unique factors impacting the number and types of potentially viable uses (or lack thereof) in, and shared-use capability of, each band of spectrum. Developing a fulsome understanding of the interplay between these issues is crucial and best undertaken at this early stage in the proceeding. Thus, NTIA should carefully work to understand the practical ways spectrum is utilized across all frequencies, and seek the engineering expertise of SBE and others within the broadcast industry, in order to determine both the feasibility of altering or restricting incumbent uses as well as the best way to protect all users from interference.

### **III. SBE Offers Unique Expertise in Frequency Coordination and Spectrum Sharing.**

In addition to its longtime involvement in and contributions to shaping FCC policy regarding broadcasters' use of spectrum, SBE has particular expertise in the area of frequency coordination, both among broadcasters and across industries—including coordinating federal and non-federal users in the 2 GHz band. This experience makes SBE uniquely qualified to address specific spectrum sharing issues likely to be raised in developing a national spectrum strategy.

For more than forty years, SBE has facilitated frequency coordination of users in a number of spectrum bands, including BAS and other broadcast users as well as non-broadcast users. These coordination efforts are not mandatory, but have been an unqualified success in aiding users' efficient shared use of spectrum. Moreover, beginning in 2014, SBE was tasked with coordinating the shared use of the 2025-2110 MHz between BAS uses by broadcasters and military operations of the Department of Defense ("DoD").<sup>9</sup> The efforts of SBE, DoD, and the National Association

---

<sup>9</sup> See *Amendment of the Commission's Rules with Regard to Commercial Operations in the 1695-1710 MHz, 1755-1780 MHz, and 2155-2180 MHz Bands*, Report & Order, 29 FCC Rcd 4610, 4689 (Mar. 31, 2014).

of Broadcasters has led to the successful coexistence of federal and non-federal use of the band for a number of years.

As noted earlier in these Comments, each spectrum band poses unique challenges to be faced before considering any spectrum sharing regime. A number of technologies have been utilized to attempt to accommodate sharing, both static and dynamic, with the goal of minimizing resulting interference and other technical issues. But the most effective solution for each case will vary depending on specific circumstances. The type of spectrum user, propagation characteristics of the band, and other factors will necessitate a bespoke solution for each proposed sharing arrangement. Moreover, failure to adequately consider the unique technical challenges of each case can lead to the exact types of inefficiencies the spectrum strategy seeks to avoid.<sup>10</sup> For that reason, as this effort progresses, NTIA should rely on the expertise and practical experience of SBE and others to identify and address the technical needs of any proposed sharing arrangements or spectrum reassignment, before such implementation.

### **Conclusion**

As the first steps are taken to develop a national spectrum strategy, broadcasters must be recognized as the essential stakeholders they are. Further, as the spectrum strategy takes shape SBE's expertise will be valuable in identifying and addressing technical hurdles to any proposed spectrum sharing arrangements or other changes to spectrum allocation.

---

<sup>10</sup> See, e.g., SBE 6 GHz Comments, at 2, 6 (describing unaddressed interference with BAS caused by unlicensed devices in the 2.4 GHz band and failure of a contention-based protocol to prevent such interference).

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

April 17, 2023