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March 18, 2013

Via e-mail and U.S. Mail

Honorable Julius Genachowski, Chairman
Honorable Robert McDowell, Commissioner
Honorable Mignon Clyburn, Commissioner
Honorable Jessica Rosenworcel, Commissioner
Honorable Ajit Pai, Commissioner
Federal Communications Commission
445-12th Street, S.W., 8th Floor
Washington, D.C. 20554

Re: Implementation of the Middle Class Tax Relief and Job Creation Act of 2012;
Identification of 15 Megahertz of Contiguous Spectrum for Mobile Broadband; a
National Broadband Plan for Our Future, GN Docket No. 09-51.

Greetings.

The Society of Broadcast Engineers, Incorporated (SBE), the national association of technical operating personnel at broadcast stations, for itself and its more than 5,000 members in the United States, would like to provide some information in response to the letter and attachment thereto dated March 13, 2013 addressed to each of you from CTIA, the Wireless Association. SBE urges the Commission in the strongest terms to reject the unsupported and, frankly, reckless suggestion of CTIA in that letter that the band 2095-2110 MHz, or any portion of the critically important and heavily occupied Broadcast Auxiliary Service (BAS) allocation at 2025-2110 MHz should be considered for reallocation. CTIA's proposal would preclude all local news coverage of events in large and medium television markets, the reporting of which is critical to the safety of the public and critical to localism in video delivery to viewers. In point of fact, CTIA could not have made a worse choice in terms of spectrum for future mobile broadband use below 5 GHz. CTIA would deprive television viewers, regardless of their chosen delivery method (over-the-air broadcast television, cable, fiber or satellite) of the ability to view events as they happen and to respond to them appropriately. It would also preclude virtually all televised sports and major events, which absolutely cannot be aired without access to the entire 2025-2110 MHz band in all markets.

In its March 13, 2013 letter, CTIA urges that the Commission promptly begin the implementation of Section 6401(b)(2)(E) of the Middle Class Tax Relief and Job Creation Act of 2012 (the Act) and to identify 15 megahertz of contiguous spectrum for reallocation to commercial broadband use. CTIA encloses a paper suggesting, among other things, that the 15 megahertz should come from the BAS allocation at 2025-2110 MHz, and that it could be paired with the 1695-1710 MHz band identified by NTIA as available for broadband reallocation. Specifically, CTIA proposes to use the 2095-2110 MHz band together with the 2110-2155 MHz band for base downlinks, to be paired with uplink band segments at 1695-1710 MHz and 1710-1755 MHz for mobile uplinks. The 2095-2110 MHz band is, says CTIA at page 12 of their letter attachment, the “clear choice for the Commission to identify and allocate.”

With due respect, CTIA’s paper lacks either candor, or a basic understanding of the current use of the 2025-2110 MHz band. The sum total of its explanation of the incumbent use of the 2095-2110 MHz band is as follows:

However...there are existing incumbents in the 2095-2110 MHz band. The Broadcast Auxiliary Service (BAS) currently uses the 2095-2110 MHz band to relay aural and television signals. BAS stations can be used to relay signals from the studio to the transmitter or between two points. BAS also includes mobile TV pickups and remote pickup stations which relay signals from a remote location back to the studio. The BAS band is divided into seven channels, each of which is 12 MHz wide.

By this skeletal summary, CTIA offers no assessment whatsoever of the impact of its proposed reallocation on television viewers throughout the United States, nor any analysis of alternative allocations. Instead, it merely puts on the table a proposed allocation that might work for CTIA’s members, disregarding the effect on incumbent licensees and the general public.

SBE is best suited to offer to you the information that CTIA either withheld or never investigated, and to explain the inevitable preclusion effect of the loss of any portion, much less 15 megahertz, of the 85 megahertz of spectrum that is used every day, all day and night, in all television markets, to bring live, breaking news, sports and live event coverage to viewers of cable, satellite, fiber and over-the-air television broadcasting. SBE has for the past 40 years conducted a very efficient program of frequency coordination of users of the 2 GHz BAS band in the broadcast and cable television services; and SBE has worked cooperatively with NASA, the Department of Defense and other cooperative sharing partners in this band. SBE’s coordination program has achieved the ultimate degree of spectrum efficiency and compatible sharing with literally huge volumes of users, both local and temporary itinerant uses. SBE coordinators know exactly who is using this band, and when, and where. The volume of mobile use by BAS licensees pursuant to Part 74 of the Commission’s rules is both extensive and intensive. There are far, far more mobile users of this band daily than there are shared 2 GHz channels available, and the ability of broadcasters to re-use the channels is limited by the long-distance propagation of this band that makes it uniquely suited for remote broadcast operations. But for time-division multiplexing and creative engineering, including directional antenna use and antenna polarization, (all of which is facilitated by SBE local volunteer frequency

coordinators at no cost to anyone), broadcasters, cablecasters and video production licensees in the Local Television Transmission Service would never be able to share the seven, 12 MHz bandwidth channels available in each market for digital electronic news gathering (ENG). There simply are not enough channels so that local television and cable facilities can have one. Instead, local BAS and Cable Television Relay Service (CARS) licensees have to share the seven channels with network broadcasters and the many video production companies that provide services for cable, network and satellite broadcasters. On-site coordination, engineering solutions and time-sharing is critical in order that all of the entities have a chance to do their jobs and to bring important events to the public that expects them and needs them. Removing two of those seven channels will make ENG, and all video production literally impossible in all but the most rural areas.

The 2 GHz BAS band formerly extended from 1990 to 2110 MHz. It has for many years been used very extensively and intensively by BAS licensees for mobile TV pickup (TVPU) operations, including ENG operations to cover breaking news events of interest.¹ That original 2 GHz BAS band divided the band into seven channels, each consisting of between 16.5 and 18 megahertz.² In a docket proceeding initiated for the purpose of providing spectrum for the mobile satellite service (MSS), the Commission reallocated the 1990-2025 MHz segment to the MSS and established a relocation plan for incumbent BAS, CARS and LTTS licensees.³ The Commission adopted a two-phase relocation plan with a cutover schedule, pursuant to which BAS, CARS and LTTS licensees would eventually have access to seven, 12 megahertz channels in the 2025-2110 MHz band at the end of the transition, effectively requiring replacement of incumbent licensee's equipment with new, narrowband, spectrum efficient equipment.⁴ The transition plan, which consolidated all BAS, CARS and LTTS licensees into the band segment at 2025-2110 MHz, was completed in 2010. Because the band reconfiguration was subject to the Commission's Emerging Technologies policy, all BAS, CARS and LTTS licensees nationwide were provided (by those who would ultimately use the 1990-2025 MHz band) new, digital equipment that would operate within the new 12 MHz channel bandwidths.

This transition to the new bandplan and the reduction of the band from 1990-2025 MHz to 2025-2110 MHz was done very effectively and seamlessly due to the cooperation of Sprint Nextel, which carried the entire burden of the relocation obligation and did so in

¹ A TVPU station is a land mobile station used for the transmission of TV program material and related communications from scenes of events back to the TV station or studio. *See* 47 C.F.R. § 74.601(a). The band is also used to a much lesser extent by fixed BAS operations such as studio-transmitter link (STL) stations, TV relay stations, and TV translator relay stations. The majority of those operations are in higher frequency bands allocated to BAS. *See* 47 C.F.R. §74.601(b). In addition, BAS spectrum in the 2 GHz band is authorized for use by the Cable Television Relay Service (CARS) and the Local Television Transmission Service (LTTS). *See* 47 C.F.R. §§ 74.602, 78.18(a)(6) and 101.801.

² The original 2 GHz BAS channel plan was as follows: Channel 1 (1990-2008 MHz), Channel 2 (2008-2025 MHz), Channel 3 (2025-2042 MHz), Channel 4 (2042-2059 MHz), Channel 5 (2059-2076 MHz), Channel 6 (2076-2093 MHz), and Channel 7 (2093-2110 MHz).

³ *See* Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for use by the Mobile-Satellite Service, ET Docket No. 95-18, *Second Report and Order and Second Memorandum Opinion and Order*, 15 FCC Rcd 12315 (2000).

⁴ The Phase I channel plan—an interim channel plan using 102 megahertz of spectrum at 2008-2110 MHz during the transition—consisted of seven channels (six 14.5-megahertz wide channels and one 15-megahertz wide channel). The Phase II channel plan consisted of seven channels (six 12.1-megahertz wide channels and one 12.4-megahertz wide channel) within the final 85 megahertz of spectrum at 2025-2110 MHz.

admirable fashion. Having just gone through that process, BAS, CARS and LTTS licensees are now effectively using the smaller 2 GHz band in a manner that is a model of spectrum re-use and efficiency. As mentioned above, NASA and the Department of Defense make shared use of this band, and all such use is carefully coordinated via SBE. There is no way at all that the loss of 15 megahertz of this band could be accommodated.

There are two channels available for BAS, LTTS and CARS licensees in the 2.5 GHz band (2450-2483.5 MHz)⁵ but those two channels are virtually unusable in most markets because the band is used by Part 18 ISM and Part 15 unlicensed devices (including Wi-Fi) systems. The high level of ambient noise in those two channels makes it necessary to rely on the 2 GHz band almost exclusively.

If fifteen megahertz of this band is removed, it will delete two channels in each broadcast market. This will deprive local broadcasters and nationwide networks of the opportunity to provide news coverage of pending natural and man-made disasters to the people who desperately need the information in real time. These events include hurricanes, tornadoes, wildfires, earthquakes, floods, man-made emergencies and other events that have to be brought to the people in the affected areas immediately. Cellular and broadband systems cannot be relied on in these circumstances and there is simply not enough residual spectrum available between 2025 MHz and 2095 MHz to permit ENG to continue. There is hardly enough as it is. There are other sources of fifteen megahertz of contiguous spectrum that should be studied and considered, such as portions of the 2360-2390 MHz band, which is far less intensively used than is the 2025-2110 MHz band now.

While SBE takes no issue with CTIA's urging that the Commission study on an expedited basis the best means of compliance with Section 6401(b)(2)(E) of the Middle Class Tax Relief and Job Creation Act of 2012, SBE takes strong issue with the reckless method of conducting spectrum allocation studies urged by CTIA. SBE stands ready to provide detailed information (as it has done several times in the past) by making presentations to the Commission detailing the means by which broadcasters, cablecasters and networks make important and very spectrum-efficient use of the 2025-2110 MHz band. This band is a model of spectrum efficiency, cooperation among government and non-government users, and it is literally the worst possible choice for reallocation for mobile broadband use.

Respectfully submitted,

THE SOCIETY OF BROADCAST ENGINEERS, INC.



By:
Ralph Hogan, CPBE, DRB, CBNE
President

⁵ There was a third 2.5 GHz, BAS/CARS/LTTS channel at 2483.5-2500 MHz but that channel was deleted, save for some grandfathered licensees, in order to make that spectrum available for advanced telecommunication systems, including mobile broadband.