**FCC FACT SHEET**[*]

**Transforming the 2.5 GHz Band**
Report and Order
WT Docket No. 18-120

## Background:

Establishing American leadership in the fifth generation of wireless services, or 5G, is critical to our economy, security, and quality of life. An essential part of enabling 5G services is making more spectrum available for the commercial marketplace. The reforms in this *Report and Order (R&O)* would make valuable mid-band spectrum available for 5G. Specifically, the *R&O* would transform the regulatory framework governing the 2.5 GHz band (2496-2690 MHz), the single largest band of contiguous spectrum below 3 gigahertz. Much of this band, which is prime spectrum for 5G, has lain fallow for more than twenty years, particularly in rural areas. The *R&O* would replace an outdated regulatory regime, developed in the days when educational TV was the only use envisioned for this spectrum, with one that not only gives incumbent users more flexibility in how they use the spectrum, but also provides opportunities for Tribal Nations and additional entities to obtain access to unused 2.5 GHz spectrum.

## What the Report and Order Would Do:

- Establish a priority filing window for rural Tribal Nations to provide them with an opportunity to obtain unassigned 2.5 GHz spectrum to address the needs of their communities.
- Make any remaining unassigned 2.5 GHz spectrum available for commercial use via competitive bidding immediately following the completion of the Tribal priority filing window.
- Adopt counties as the appropriate geographic area size for new overlay licenses and a band plan with two sizes of licenses: a 100 megahertz block and a 16.5 megahertz block.
- Adopt construction deadlines so that new licensees build out this midband spectrum.
- Eliminate outdated rules preventing this spectrum from being put to its highest and best use, including restrictions on who may be a licensee, restrictions on how licensees must use the spectrum, and restrictions on how licensees may lease spectrum to other entities.
- Leave unaffected the terms of any private contractual arrangement or any provisions in existing leases that provide a licensee with airtime, equipment, or capacity—incumbent licensees are simply given more flexibility to put existing licenses to their best use.

[*] This document is being released as part of a "permit-but-disclose" proceeding. Any presentations or views on the subject expressed to the Commission or its staff, including by email, must be filed in WT Docket No. 18-120, which may be accessed via the Electronic Comment Filing System (https://www.fcc.gov/ecfs/). Before filing, participants should familiarize themselves with the Commission's ex parte rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission's meeting. *See* 47 CFR § 1.1200 et seq.

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

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| In the Matter of | ) | |
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| Transforming the 2.5 GHz Band | ) | WT Docket No. 18-120 |

# REPORT AND ORDER*

**Adopted: [ ]** **Released: [ ]**

By the Commission:

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* This document has been circulated for tentative consideration by the Commission at its July 2019 open meeting. The issues referenced in this document and the Commission's ultimate resolution of those issues remain under consideration and subject to change. This document does not constitute any official action by the Commission. However, the Chairman has determined that, in the interest of promoting the public's ability to understand the nature and scope of issues under consideration, the public interest would be served by making this document publicly available. The FCC's ex parte rules apply and presentations are subject to "permit-but-disclose" ex parte rules. *See, e.g.*, 47 C.F.R. §§ 1.1206, 1.1200(a). Participants in this proceeding should familiarize themselves with the Commission's ex parte rules, including the general prohibition on presentations (written and oral) on matters listed on the Sunshine Agenda, which is typically released a week prior to the Commission's meeting. *See* 47 CFR §§ 1.1200(a), 1.1203.

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## I. INTRODUCTION

1. Establishing American leadership in the fifth generation of wireless services, or 5G, is critical to our economy, security, and quality of life. 5G networks will be much faster and carry more data than current wireless networks, enabling numerous potential applications, such as telemedicine, smart transportation, and the Internet of Things (IoT). Fostering the development of these applications, as well as innovations that are yet to be imagined, will be critical to future national competitiveness in a multitude of industries. Indeed, according to one study, 5G has the potential to create three million new jobs, $275 billion in private investment, and $500 billion in new economic growth.[1] Additionally, 5G applications that are useful in rural areas, such as precision agriculture, may help us to close the digital divide.

2. An essential part of enabling 5G services is making more spectrum available for the commercial marketplace. Spectrum is a critical input for all wireless services, and making additional spectrum available will ensure that wireless providers are able to deploy 5G networks as soon as the technology is ready. With that in mind, the Commission has a comprehensive strategy to make additional high-band,[2] mid-band,[3] and low-band[4] spectrum available. The demand for mid-band spectrum for 5G networks has especially increased in recent years, as more countries have recognized that mid-band spectrum offers favorable characteristics for enabling wireless networks to achieve coverage and capacity.

3. In this *Report and Order*, we take another step towards implementing the Commission's strategy by making more mid-band spectrum available. Specifically, we transform the regulatory framework governing the 2.5 GHz band (2496-2690 MHz), which is the single largest band of contiguous spectrum below 3 gigahertz. Too much of this spectrum, which is prime spectrum for next generation mobile operations, including 5G,[5] has lain fallow for more than twenty years. That ends today. In order to move this spectrum into the hands of those who will provide service, including 5G, to Americans across the country, and particularly in rural and Tribal areas, we are replacing an outdated regulatory regime, developed in the days when educational TV was the only use envisioned for this spectrum, with one that not only gives incumbent users more flexibility in how they use the spectrum, but also provides opportunities for additional entities to obtain access to unused 2.5 GHz spectrum. Importantly, the reforms we adopt in this *Report and Order* will make valuable mid-band spectrum available for the mobile services on which consumers increasingly rely and which is critical to maintaining American leadership in the next generation of wireless connectivity.

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[1] *See* Accenture Strategy, *Smart Cities How 5G Can Help Municipalities Become Vibrant Smart Cities*, https://newsroom.accenture.com/content/1101/files/Accenture_5G-Municipalities-Become-Smart-Cities.pdf (last visited May 13, 2019).

[2] *See, e.g., Use of Spectrum Bands Above 24 GHz For Mobile Radio Services, et al.*, Fourth Report and Order, 33 FCC Rcd 12168 (2018), Fifth Report and Order, FCC 19-30 (rel. Apr. 15, 2019).

[3] *See, e.g.*, *Expanding Flexible Use of the 3.7 to 4.2 GHz Band et al.*, Notice of Proposed Rulemaking and Order, 33 FCC Rcd 6915 (2018).

[4] *See, e.g., Review of the Commission's Rules Governing the 896-901/935-940 MHz Band*, Notice of Proposed Rulemaking, FCC 19-18 (Mar. 14, 2019).

[5] *See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands; Transforming the 2.5 GHz Band*, Notice of Proposed Rulemaking, 33 FCC Rcd 4687, 4687-88, para. 1 (2018) (*NPRM*).

## II. BACKGROUND

4. The 2.5 GHz band, which extends from 2496 to 2690 MHz, is comprised of 20 channels allocated for Educational Broadband Service (EBS),[6] 13 channels allocated for commercial Broadband Radio Service (BRS), and a number of small guard band channels.[7] EBS licensees are authorized to operate on the A, B, C, D, and G channel groups,[8] with each group comprised of three 5.5 megahertz-wide channels in the lower or upper band segment and one 6 megahertz-wide channel in the middle band segment.[9] Currently, there are 1,300 EBS licensees holding 2,193 licenses.[10]

5. Only specified entities are eligible to hold an EBS license, specifically (1) accredited public and private educational institutions, (2) governmental organizations engaged in the formal education of enrolled students, and (3) nonprofit organizations whose purpose is educational and include providing educational and instructional television materials to accredited institutions and governmental organizations.[11]

6. Our rules permit EBS licensees to lease their excess capacity to non-educational entities to use for non-educational purposes.[12] And most EBS licensees do so. There are 2,087 active leases of EBS spectrum, compared with 2,193 licenses.[13]

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[6] *See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 14165, 14169-70, para. 6 (2004) (*BRS/EBS R&O* or *BRS/EBS FNPRM*). The Instructional Television Fixed Service (ITFS) was an analog television-like service, while EBS is a broadband service.

[7] EBS licensees operate in 112.5 megahertz of the 2.5 GHz band, 73.5 megahertz is assigned to BRS, and eight megahertz is assigned to guard band channels.

[8] BRS is assigned the E, F, and H channel groups and BRS 1 and BRS 2. *Id.*

[9] 47 CFR § 27.5(i). In addition, a few grandfathered ITFS licensees, whose licenses were issued before 1983, are authorized to operate on the E and F channel groups, but these licensees may not apply for major modifications to their licenses. In 1983, the Commission reallocated the E and F channel groups for use by the Multichannel Distribution Service (MDS). *Amendment of Parts 2, 21, 74 and 94 of the Commission's Rules and Regulations in regard to frequency allocation to the Instructional Television Fixed Service, the Multipoint Distribution Service, and the Private Operational Fixed Microwave Service*, Report and Order, 94 FCC 2d 1203, 1206-07, para. 4 (1983) (*First Leasing Decision*). MDS was renamed BRS, and currently the E, F, and H channel groups are assigned to BRS. *See BRS/EBS R&O*, 19 FCC Rcd at 14183-84, paras. 37-38; s*ee also Amendment of Parts 21, 43, 74, 78, and 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands Affecting: Private Operational-Fixed Microwave Service, Multipoint Distribution Service, Multichannel Multipoint Distribution Service, Instructional Television Fixed Service, & Cable Television Relay Service*, Order on Reconsideration, 6 FCC Rcd 6792, 6794, para. 9 (1991), *recon. denied*, 7 FCC Rcd 5648 (1992) (*OFS Order)*.

[10] These numbers are based on a review of the Universal Licensing System conducted on May 13, 2019.

[11] 47 CFR § 27.1201(a). The entity also must be "otherwise qualified under the statutory provisions of the Communications Act of 1934, as amended." *Id.* EBS licenses are held by state government agencies, state universities and university systems, public community and technical colleges, private universities and colleges, public elementary and secondary school districts, private schools (including Catholic school systems and other religious schools), public television and radio stations, hospitals and hospital associations, and other non-profit educational entities. The listed entities we identified are based on a review of the Universal Licensing System conducted on May 13, 2019.

[12] 47 CFR § 27.1214.

[13] Based on a review of the Universal Licensing System conducted on May 13, 2019. A station may have multiple leases associated with it, so the number of licenses that are leased out is slightly smaller.

7. There are special requirements applicable to EBS excess capacity leases that do not apply in other services. Because the Commission's rules require EBS licensees to use their spectrum to further their educational missions,[14] any excess capacity lease entered into by an EBS licensee must reserve a minimum of 5% of its spectrum capacity for the licensee/lessor and the licensee must use that capacity to provide 20 hours of educational usage per channel per week.[15] Under existing rules, the Commission generally prohibits EBS licensees from leasing their facilities for a term longer than 30 years.[16] Also, lessees are required to provide EBS lessors with the opportunity to revisit their lease terms at years 15, 20, and 25 to review their "educational use requirements in light of changes in educational needs, technology, and other relevant factors and to obtain access to such additional services, capacity, support, and/or equipment as the parties shall agree upon in the spectrum leasing arrangement to advance the EBS licensee's educational mission."[17] Those rules do not apply to leases that were entered into before January 10, 2005; such leases were grandfathered under the previous ITFS rules, which allowed a term of no more than fifteen years.

8. EBS presents two special challenges which are largely not present in other bands: a long-standing failure to make spectrum available, particularly in rural areas, and an unusual licensing scheme. Incumbent EBS licenses cover only about one half of the geographic area of the United States in any given channel.[18] The 2.5 GHz spectrum remains largely unassigned in much of the rest of the country, especially in rural areas west of the Mississippi River.[19]

9. The Commission suspended the processing of applications for new EBS licenses (and for major changes to existing EBS licenses) in 1993.[20] Since then, the Commission has only opened two filing windows for EBS applications—in 1995, for new construction permits and major changes to existing EBS facilities, and in 1996, to allow for the filing of EBS modification applications and amendments to pending EBS applications proposing to co-locate with an authorized wireless cable facility.[21] Thus, the last regular opportunity to apply for a new EBS license was in 1995.

10. In general, each EBS license is based on a circular Geographic Service Area (GSA) with a 35-mile radius (with an area of approximately 3,850 square miles). Due to a historical license modification process the Commission adopted in 2005, however, many EBS licenses have much smaller, irregular GSAs. Specifically, many EBS licenses had their 35-mile radius circles reduced when the

[14] 47 CFR § 27.1203.

[15] 47 CFR § 27.1214.

[16] *BRS/EBS R&O*, 19 FCC Rcd at 14233-34, paras. 177-181.

[17] 47 CFR § 27.1214(e). With respect to pre-2005 grandfathered leases, which have a maximum term of 15 years, the Commission has given guidance on how to interpret the 15-year limitation to leases which have a start date after the date the lease is signed. *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Fifth Memorandum Opinion and Order and Third Further Notice of Proposed Rulemaking, 24 FCC Rcd 12258, 12259-65 paras. 4-16 (2009) (*BRS/EBS Fifth MO&O*).

[18] This estimate is based on a review of the Universal Licensing System conducted on May 13, 2019.

[19] *Id.*

[20] *See Amendment of Part 74 of the Commission's Rules with Regard to the Instructional Television Fixed Service*, Notice of Proposed Rulemaking, 8 FCC Rcd 1275, 1277, para. 9 (1993).

[21] *See Notice of Instructional Television Fixed Service Filing Window from October 16, 1995, through October 20, 1995*, Public Notice, Report No. 23565A (rel. Aug. 4, 1995); *see also Mass Media Bureau Announces Commencement of Sixty (60) Day Period for Filing ITFS Modifications and Amendments Seeking to Co-Locate Facilities with Wireless Cable Operations*, Public Notice, 11 FCC Rcd 22422, 22422-23 (1996).

Commission converted their Protected Service Areas (PSAs) to GSAs through the "splitting-the-football" process.[22]

11. On May 10, 2018, the Commission released the *NPRM* in this proceeding that explored ways to make this unused spectrum available for more flexible use to facilitate the deployment of next generation wireless services, including 5G, to all Americans.[23] The *NPRM* proposed to rationalize the geographic service areas of EBS licenses and to provide additional flexibility to current EBS licensees in the use of the spectrum. It also sought comment on opening up priority windows for access to the spectrum by certain groups, such as Tribal Nations; and it proposed to assign the remaining white space through geographic area licenses for commercial use subject to competitive bidding; and sought comment on regulatory requirements for new EBS licensees.

12. The Commission received 304 comments (including express comments) and 29 reply comments on the *NPRM*.[24]

## III. DISCUSSION

13. To further our goal of ensuring that this fallow spectrum is used to provide high-speed broadband service, particularly in rural areas, we move quickly to assign the remaining spectrum in this band to those who will use it to provide service.[25] Specifically, we will hold a Tribal priority window to enable Tribal nations an opportunity to obtain 2.5 GHz licenses to provide service on rural Tribal lands. This window will be followed immediately by a system of competitive bidding for the remaining white spaces. In conjunction with our effort to quickly license the remaining spectrum in this band to entities that will use it, we also will replace the outdated regulatory regime for EBS with one of flexible use, thus making this valuable mid-band spectrum more available for advanced wireless services, including 5G.

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[22] *BRS/EBS R&O*, 19 FCC Rcd at 14192-94, paras. 60-65. "Splitting-the-football" refers to a process initially used informally by licensees in the MDS and ITFS industry to handle interference issues in GSAs that overlap. *Id*; 47 CFR § 27.1206(a) ("The area for incumbent site-based licensees that is bounded by a circle having a 35 mile radius and centered at the station's reference coordinates, which was the previous PSA entitled to incumbent licensees prior to January 10, 2005, and is bounded by the chord(s) drawn between intersection points of the licensee's previous 35-mile PSA and those of respective adjacent market, co-channel licensees."); *see also BRS/EBS R&O*, 19 FCC Rcd at 14192-94, paras. 60-65; *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, Order on Reconsideration and Fifth Memorandum Opinion and Order and Third Memorandum Opinion and Order and Second Report and Order, 21 FCC Rcd 5606, 5612, para. 5 n.7 (2006), recon. in part, 23 FCC Rcd 5992 (2008) (*BRS/EBS Second R&O*).

[23] *NPRM*, 33 FCC Rcd 4687.

[24] A list of commenters, reply commenters, and *ex parte* filings in this proceeding is contained in Appendix C. When citing comments, we will use the short name of the commenter contained in Appendix C, followed by the words "Comments" or "Reply." Similarly, for *ex parte* filings, we will use the name of the commenter along with the date the *ex parte* was filed as listed in ECFS (this date may be different from the date on the actual *ex parte* letter).

[25] On May 13, 2019, SHLB, NACEPF, Mobile Beacon, Voqal, National Digital Inclusion Alliance and Public Knowledge filed a request that the Commission seek further comment and delay a decision in this proceeding. *See* SHLB, NACEPF, Mobile Beacon, Voqal, National Digital Inclusion Alliance and Public Knowledge May 13 *Ex Parte*, *see also* Dept. of Ed. June 7 *Ex Parte* at 8. Further delay in this proceeding is not warranted. All parties have had ample opportunity to provide information through comments, reply comments, and *ex parte* presentations. Indeed, SHLB and its partners were free to provide economic analysis and information on educational use at the comment or reply comment stage. The actions we take today were clearly identified in the *NPRM*. Given the critical need to make additional mid-band spectrum available, it is entirely appropriate to act now.

### A. Rationalizing Incumbent 2.5 GHz Band Holdings

14. We take a series of steps to provide existing EBS licensees with additional flexibility. First, in order to provide EBS licensees with additional flexibility and to facilitate the most efficient use of the EBS spectrum through a market-based mechanism, we adopt the *NPRM*'s proposal to eliminate the EBS eligibility requirements, including for licenses granted via waiver of the filing freeze.[26] Second, as part of our efforts to remove unnecessary regulatory barriers and align the EBS licenses with the flexible use policies used in similar spectrum bands, we adopt our proposal in the *NPRM* to eliminate the educational use requirements for EBS licenses.[27] Third, we adopt the *NPRM's* proposal to eliminate restrictions on EBS leases entered into under our Secondary Markets policies on a going forward basis. We clarify that nothing in our decisions is intended to affect or change the terms of any private contractual arrangement or any provisions in existing leases. Finally, we decline to adopt the *NPRM*'s proposal to rationalize incumbent licenses to align with pre-existing geographic areas.

#### 1. Eliminating Eligibility Restrictions

15. As noted by commenters that support elimination of the eligibility restrictions,[28] eliminating eligibility restrictions will promote more efficient use of the spectrum,[29] improve the industry's ability to attract capital,[30] and make this spectrum more appealing for commercial operators to include in their long term service plans.[31] Therefore, once the rules become effective, both incumbent EBS licenses and new EBS licenses once issued will be free of the eligibility restrictions, and EBS licensees may assign or transfer their licenses freely. In taking this step, we better align these licenses with the flexible use licensing policies used in similar spectrum bands, which generally feature open eligibility.[32] Moreover, taking this step is also consistent with the Commission's historical progression of granting increasing flexibility to EBS licensees, which has been an effective means of promoting more efficient use of the 2.5 GHz band.[33]

16. The circumstances that led to the creation of a dedicated educational service no longer exist. Substantial technological changes over the last 30 years enable any educator with a broadband connection to access a myriad of educational resources—a content distribution model that does not require dedicated educational spectrum licensed to educational institutions.[34] Only a handful of EBS

[26] *NPRM*, 33 FCC Rcd at 4694, paras. 20-21.

[27] Specifically, we remove section 27.1203 from our rules.

[28] Bridge the Divide Comments at 5; CCA Comments at 3; Colville Comments at 3; Gallatin Comments at 4; NTCA Comments at 4; NTTA Comments at 3; R Street Institute Comments at 5; Sprint Comments at 9-10 (with a one-year delay); TPI Comments at 1-2; VIYA Comments at 4; WCAI Comments at 15-16; WISPA Comments at 12-13; AT&T Reply at 4.

[29] Bridge the Divide Comments at 5; CCA Comments at 3; Gallatin Reply at 4-6.

[30] Bridge the Divide Comments at 5; Gallatin Comments at 5-6; WCAI Comments at 16.

[31] Bridge the Divide Reply at 2-3.

[32] *See, e.g., Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Order and Notice of Proposed Rulemaking, 33 FCC Rcd 6915, 6963, para. 145, n.256 (2018); *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd 16102, 16193, paras. 241-42 (2012); *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Report and Order, 22 FCC Rcd 15289, 15381, 15383-84 paras. 253, 256 (2007); *Allocations and Service Rules for the 71-76 GHz, 81-86 GHz and 92-95 GHz Bands*, Report and Order, 18 FCC Rcd 23318, 23346-47, para. 70 (2003).

[33] *NPRM*, 33 FCC Rcd at 4693, para. 19.

[34] Bridge the Divide Reply at 2-3; WCAI Comments at 7-8; WISPA Reply at 3-5.

licensees have deployed their own networks or use their EBS licenses in a way that requires dedicated spectrum.[35] Instead, most licensees rely on lessees to deploy and operate broadband networks and use the leases as a source for revenues or devices.[36] Moreover, as noted below, today there are a multiplicity of other sources of educational programming available to institutions with broadband connections. All of these factors support eliminating the eligibility restrictions at this time.

17. We do not believe that eliminating EBS eligibility restrictions will result in negative consequences for the educational community.[37] Despite some claims to the contrary, eliminating eligibility requirements will not disrupt existing arrangements.[38] Granting incumbent licensees additional flexibility to transfer or assign their licenses will not affect existing leases because: (1) the decision about whether to lease or transfer or assign a license remains with the EBS licensee,[39] and (2) our actions in this *Report and Order* do not affect the validity of existing leases and other contractual arrangements. The services currently provided by EBS licensees will continue uninterrupted, including those provided by Mobile Beacon and Mobile Citizen pursuant to their leases with Sprint,[40] unless the parties themselves decide otherwise. We are not persuaded that eliminating the eligibility restrictions will jeopardize the public-private partnerships promoted by the Commission's leasing rules that have facilitated the construction of networks,[41] which have benefitted both the educational institutions and their network

[35] WCAI Comments at 16, n.37; WCAI Reply at 15, n.29.

[36] Gallatin Comments at 2-3; Gallatin Reply at 1-3.

[37] AASA/AESA Comments at 4-6; Adam Miller Comments at 1; AIHEC Comments at 2; APTS-CPB Comments at 5; CA K-12 HSN Comments at 20-21; Chester County Comments at 1; Digital Wish Comments at 3; EBPARC Comments at 9; EBC Comments at 2; Friday Institute Comments at 7; HITN Comments at 5-7; Lawrence County Comments at 1-2; Mural Net Comments at 4; NDIA Comments at 3; NACEPF Comments at 6-10; Nebraska Comments at 10-11; NEBSA/CTN Comments at 16-18; North Carolina Comments at 6; NAUF Comments at 8-9; NMU Comments at 9-10, PCs for People Comments at 4; Rural EBS Coalition Comments at 4-5; SHLB Comments at 9; South Florida EBS Comments at 3-5; SETDA Comments at 4; TechSoup Global Comments at 3; Utah Comments at 5-6; Voqal Comments at 8-15; EBS Parties Reply at 4; SFL Reply at 1; VOL Reply at 1; Dept. of Ed. June 7 *Ex Parte* at 3-4.

[38] NEBSA/CTN Reply at 8 (raising concerns that existing leases will be negatively impacted).

[39] Sprint Comments at 9; Bridge the Divide Reply at 4.

[40] Several educational and non-profit entities filed comments describing the importance of the inexpensive, unlimited broadband services provided by Mobile Citizen and Mobile Beacon to their mission. Mobile Beacon and Mobile Citizen are comprised of various incumbent EBS licensees that lease spectrum to Sprint. As part of their lease agreements, Mobile Beacon and Mobile Citizen obtain low-cost, unlimited broadband service, which they provide to educational institutions and other non-profit entities. NACEPF Comments at 15; Voqal Comments at 7. Braswell Memorial Library in Nash County, North Carolina describes the hotspot lending program that it started with assistance from Mobile Beacon, which now makes broadband access available 24/7 to the library's patrons. Phillip Whitford, Braswell Memorial Library Comments*; see also, e.g.*, Jamie Brambley, Fulton County Library Comments; Jolene Franciskovich Comments; Enoch Kindseth, Normal Public Library Comments; Barbara Laub, Maplewood Public Library Comments; Samantha Milsap, Roselle Public Library District Comments; Victoria Sandin Comments; Ted Stark, Menomonie Public Library Comments Ann Stovall, Indian Prairie Public Library Comments; Stephanie R. Sullivan, Reddick Public Library Comments; Phillip Whitford, Braswell Memorial Library Comments. Teachers also described their reliance on these services. *See, e.g.*, David Asbury Comments (describing reliance of Gadsden City Schools in Gadsden, Alabama on Mobile Beacon's service); Akiba Byrd Comments (describing reliance on Mobile Citizen to provide affordable high speed internet to its members); Davida Elsbree Comments (describing the reliance of Pathways Charter School on Mobile Beacon's service); Louise Lee Comments (describing the reliance of Butte College in Northern California on Mobile Beacon's service); Rebecca Evans Comments (describing the reliance of Sanislo Elementary School, in Seattle, Washington on Mobile Beacon's service).

[41] NEBSA/CTN Comments at 3-8; CTNI/METL Reply at 7.

partners.[42] Providing additional flexibility to incumbent EBS licensees by eliminating the eligibility restrictions will help ensure that the licensee retains control of decisions about how the license is to be used, including decisions about whether, under what terms, and to whom to transfer or assign the license.[43] Incumbent EBS licensees that wish to retain their licenses and continue participating in public-private partnerships may do so; incumbent EBS licensees that wish to transfer or assign their licenses will now have greater ability to do so.

18. We therefore reject as speculative and unpersuasive the assertions of some commenters that eliminating eligibility restrictions will lead to existing EBS licensees' losing negotiating leverage and will give commercial entities the incentive and ability to offer licensees unfavorable sale terms rather than new or renewed leases.[44] For the same reasons, we reject allegations that permitting transfer or assignment of incumbent EBS licensees will hurt education generally, even if it benefits individual licensees.[45] Providing licensees with additional flexibility to transfer or assign their licenses gives them greater power to put the licenses to use in the manner that suits their educational objectives. We expect that incumbent licensees will make decisions about assigning or transferring their licenses based on the best interests of their educational institution.

19. Contrary to the concerns of some commenters,[46] we do not believe that continuing to apply EBS eligibility restrictions is necessary to ensure that commercial entities meet the needs of underserved communities. Appropriate performance requirements, such as those adopted herein, can ensure that licensees actually use their spectrum to offer service. Moreover, nothing in this proceeding affects the ability of commercial entities to provide broadband to entities eligible for E-Rate funding,[47] which is another way to ensure that schools and libraries in underserved communities are provided with broadband access. In addition, those incumbent EBS licensees that retain their licenses can continue to meet the educational and other needs of their communities. Finally, the priority window and competitive bidding mechanisms adopted herein will provide additional opportunities for the deployment of broadband service to rural unserved market areas using 2.5 GHz spectrum.

20. We reject claims that the Commission's prior decisions to establish ITFS in 1963 and to maintain the eligibility restrictions in 2004 support continuation of the EBS eligibility restriction.[48] When the 2.5 GHz band originally was allocated for educational use in 1963, there was a demonstrated need for dedicated spectrum for educational television services.[49] When, in 2004—three years before the

[42] HITN Comments at 2-3; EBPARC Reply at 12. For example, CTNI asserts that the ability to lease excess capacity was essential to deployment of a 2.5 GHz network covering 4 million people in the Metropolitan Detroit area, as CTNI's member institutions did not have the wherewithal to deploy the network on their own. According to CTNI, commercial services are being provided across the area on EBS spectrum, and CTNI and its member institutions have been able to bridge the digital divide and the homework gap, providing broadband access to students at home, for thousands of low-income households. CTNI/METL Reply at 7.

[43] Bridge the Divide Reply at 4; WISPA Comments at 12-13.

[44] NEBSA/CTN Oct. 5 *Ex Parte* at 2-3.

[45] NEBSA/CTN Comments at 16-18.

[46] CoSN Comments at 2-4; NEBSA/CTN Comments at 17; Friday Institute Reply at 14; CA K-12 HSN Reply at 14; EBPARC Reply at 7-8; NEBSA/CTN Oct. 5 *Ex Parte* at 2-3.

[47] Midco Comments at 13-14; WCAI Reply at 18.

[48] *See, e.g.*, NACEPF Comments at 7-8; Voqal Reply at 8. Both NACPEF and Voqal cite the 2004 decision, which is a decade-and-a-half old, in *BRS/EBS R&O* (19 FCC Rcd at 14222, para. 152) as justification to not eliminate the eligibility requirements now.

[49] *MDS R&O*, 39 FCC at 846-847, paras. 1-2.

introduction of the smartphone—the Commission decided against revising the eligibility restrictions, the 2.5 GHz band was just beginning a major transition, as it moved from an analog television service to a broadband service accompanied by substantial technical changes.[50] In that context, the Commission concluded that it was premature to eliminate the restrictions at that time.[51] In contrast, this band now is used primarily for broadband, and it resembles flexible use bands such as the PCS or AWS bands more than it resembles the ITFS band of old.[52] Indeed, even the current educational use requirements—to retain 5% of capacity for educational use and to use each channel at least 20 hours per week for educational purposes—have little relevance to the way this band is being used today. In the exercise of our spectrum management responsibilities, we believe that it is more appropriate in these circumstances to address the critical shortage of flexible use mid-band spectrum necessary to promote the deployment of wireless broadband devoted to the wide range of 5G uses.

21. Further, we are not persuaded by the economic study submitted on behalf of SHLB in support of maintaining the eligibility requirements, which we find to be premised on an unrealistic deployment model.[53] The SHLB Economic Study discusses the services offered by Mobile Citizen and Mobile Beacon pursuant to their agreement with Sprint, as well as those offered by self-deployed EBS networks, and it constructs a framework to measure the economic benefit of retaining eligibility restrictions assuming that educational licensees offer broadband service at $15/month.[54] However, as noted previously, most educational licensees have chosen not to deploy their own networks. Indeed, none of the self-deployed educational networks identified by SHLB offer service on a regular basis to the general public at $15/month.[55] While economic and social benefits would flow from increased broadband adoption, SHLB has not shown that educators could sustain a broadband system at the $15/month price point they studied.[56] Finally, the study in our view does not adequately address the problem of the digital

[50] *See generally*, *BRS/EBS R&O*, 19 FCC Rcd at 14224-25, paras. 156-157.

[51] *Id*.

[52] AASA/AESA requests that the Commission issue a further notice of proposed rulemaking stating what the Commission's EBS policy is and maps showing the unassigned EBS white space. AASA/AESA Comments at 6,7-8, 13, 15, and 16. The Commission sees no need to take either action. The *NPRM* gave clear notice of our contemplated actions, and unassigned EBS white space can be determined based on existing information available in our databases. In addition, no other commenter argues that such additional actions are necessary. Finally, any value in this (unnecessary) additional administrative process is significantly outweighed by the cost of the resulting delay in putting this critical mid-band spectrum to use for the benefit of the public.

[53] The Economic Benefit of Keeping the "E" in EBS: A Comparison of Licensing Unassigned EBS to Educators and Nonprofits Vs. Commercial Auctions (filed June 3, 2019) (SHLB Economic Study).

[54] *See* SHLB Economic Study at 42 (Table 4-5).at 22 (Table 2-3).

[55] SHLB identifies seven "infrastructure-based" EBS networks. SHLB Economic Study at 22 (Table 2-3). Two of the networks (Havasupai Tribal Council and Nisqually Indian Tribe) are tribal networks that are not relevant here. NMU charges $34.95/month to the general public, $24.95/month for alumni and veterans, and $19.95/month for students. *See* https://www.nmu.edu/ean/. Kings County charges $30/month for fixed access and $40/month for mobile access, with 50 percent discounts for students. *See* https://www.kingscoe.org/domain/45 (Internet Fees, Prepaid Service). Imperial County, California's network is still in the pilot phase and is seeking donations to support its operations. *See* https://www.icoe.org/about-icoe/borderlink. It is unclear that the Louisa County, Virginia network is in fact operating. In its most recent filing concerning its special temporary authority, Louisa County reported that it was working to construct its system. *See* File No. 0008360114, Extension Request (filed Sep. 7, 2018). Finally, based on press reports, Albemarle County's system is only available to students. *See* Alison DeNisco, *High speed internet and free internet meet* (July 25, 2017), https://districtadministration.com/high-speed-internet-and-free-internet-meet/**.**

[56] We note that the SHLB Economic Study itself questions the nationwide applicability of the $15/month price point. SHLB Economic Study at 37-38. Further, the SHLB Economic Study assumes an educational use

(continued….)

divide. Specifically, while Mobile Citizen and Mobile Beacon offer access at $10/month pursuant to their agreement with Sprint, their associated companies hold EBS spectrum licenses in major and more densely populated markets. We cannot infer from this that new EBS licenses in rural areas would be able to negotiate similar agreements with Sprint or another provider, particularly given the higher cost of deploying mid-band spectrum in rural areas.

22. Further, the SHLB Economic Study claims that the economic and social benefits from assigning the 2.5 GHz spectrum via an overlay auction are less than if the licenses were assigned to educational institutions and/or Tribal nations.[57] We disagree. We find that auctioning overlay licenses for remaining white spaces will be a more efficient and effective means of addressing the digital divide, as new EBS licensees will have both the market incentives and flexibility to pursue the most efficient deployment of this spectrum. We note that the Commission for over a quarter-century has successfully assigned spectrum via auction. It has recognized that spectrum auctions allow market forces to determine the highest and best use of scarce spectrum and the highest value user. The SHLB Economic Study not only fails to recognize the efficiency of spectrum auctions, but it also understates the potential benefits of an overlay auction because its commercial deployment model only considers deployment to entire counties, and it precludes deployment to parts of counties, which would greatly expand the potential scope of commercial deployment after an auction.[58] The SHLB Economic Study also fails to consider complementarities that EBS spectrum may have with other spectrum bands. As noted above, the Commission has a comprehensive strategy to make additional high-band, mid-band, and low-band spectrum available, and wireless providers can combine these different bands to better achieve the best 5G coverage and capacity possible. Finally, the SHLB Economic Study is mistaken in concluding that there is no "economic surplus" from an overlay auction because it "would not allow commercial carriers to launch more affordable offerings."[59] Additional spectrum may lower network costs for service providers (*e.g.*, by eliminating the need for cell-splitting), thus leading to more affordable plans for American consumers.

23. In addition, to the extent that SHLB suggests that the Commission impose some sort of rate regulation on new EBS licensees, it fails to consider the disincentive that such a requirement would create to using these licenses to provide broadband service, especially in conjunction with similar bands used for broadband.[60] That disincentive would be particularly significant given the fact that today's networks use a mixture of spectrum bands, and the 2.5 GHz band represents key mid-band spectrum for the deployment of 5G. Indeed, while CTN and NEBSA support the existing eligibility requirements, they do not see the proposal around which the SHLB Economic Study is based as workable.[61] To be clear, nothing we adopt today prevents existing EBS licensees from pursuing opportunities with commercial service providers to provide broadband to the public; in fact, our action today allows current EBS licensees flexible use of the full amount of spectrum they hold. Finally, the desire of entities such as Mobile Citizen and Mobile Beacon to expand their broadband service offerings to the general public

(Continued from previous page)
requirement of 20%, as well as a local-priority window for educational entities. *Id*. at 38. We note that the Commission is today eliminating the educational use which further increase the unreliability of the SHLB Economic Study results.

[57] *See* SHLB Economic Study at 8-10.

[58] *Id.* at 32-34. The SHLB Economic Study also precludes any commercial buildout of EBS spectrum in counties with partial coverage, but the SHLB Economic Study itself estimates that these counties have a population of almost 14 million. *Id.* at 25, Table 3-1.

[59] *Id.* at 9, 51.

[60] SHLB Comments at 5.

[61] CTN/NEBSA Reply at 8-9.

using 2.5 GHz spectrum underscores the importance of making this spectrum available as quickly as possible.

24. There is no reason why those who hold licenses granted pursuant to waiver of the filing freeze should not have the same rights to transfer or assign or lease their licenses as other incumbent EBS licensees,[62] and thus we will permit those who hold licenses granted pursuant to waiver to freely assign or transfer their licenses. The existence of the filing freeze justified treating these licenses differently at the time they were granted, including subjecting the licenses to significant conditions such as prompt build-out and a prohibition on leasing. Now that these licensees have been operating and providing service in compliance with these conditions, and the filing freeze is being lifted with the upcoming Tribal priority window and competitive bidding opportunity, we see no reason to continue to apply different rules to them.[63]

25. To effectuate our decision to eliminate the EBS eligibility restriction, we will eliminate existing section 27.1201 of the Commission's rules. In addition, we will amend our secondary market leasing rules to eliminate the EBS-specific exception to the rule that a lessee must be eligible to hold a license in the service in which it is leasing spectrum.[64] Since EBS will now be a service with open eligibility, the exception will no longer be necessary.

### 2. Educational Use Requirements

26. We find it in the public interest to give licensees flexibility to put 2.5 GHz spectrum to its most efficient use, rather than maintaining or updating outmoded educational use requirements that have not been changed since 1998. Licensees holding licenses in the 2.5 GHz band, whether obtained before or after the adoption of this *Report and Order*, will not be required to use these licenses to fulfill an educational mission, although they are still permitted to do so.

27. This decision is consistent with our other decisions in this item to increase flexibility and eliminate outdated EBS requirements. The primary purpose of the educational use requirements was to ensure that educational licensees were using the spectrum for educational purposes, in order to "safeguard[] the primary educational purpose of the ITFS spectrum allocation."[65] If we are allowing non-educators to hold licenses directly, it makes little sense to retain these restrictions on spectrum use. Furthermore, we believe that eliminating these requirements is the best means of promoting flexibility, which ultimately will promote the deployment of broadband and allow markets to direct spectrum to its

[62] *See, e.g.*, Colville Comments at 3; Sprint Comments at 9; VIYA Comments at 14. Some Commenters do suggest that licenses granted via waiver should not have the same rights. EBS Comments at 2; Nez Perce Comments at 3. As discussed above, we disagree.

[63] Some commenters assert that the EBS application filing freeze, and not EBS eligibility restrictions, is the main cause of the inefficient use of EBS spectrum. CoSN Comments at 2-4; EBPARC Comments at 9-10; NEBSA/CTN Comments at 3-8. Without question, the EBS filing freeze contributed to underuse of the EBS band in some locations. By our actions in this item, including eliminating eligibility restrictions and education use requirements, establishing a priority filing window for new licenses for rural Tribal lands, and determining to assign the remaining unassigned frequencies through competitive bidding, we are providing a path forward to remedy this longstanding situation. However, the fact remains that with limited exception, most EBS licensees lease their spectrum to commercial operators, and meet their educational requirements providing services that do not require dedicated EBS spectrum.

[64] *See* 47 CFR §§ 1.9020(d)(2), 1.9030(d)(2).

[65] *See Amendment of Parts 21 and 74 to Enable Multipoint Distribution Service and Instructional Television Fixed Service Licensees to Engage in Fixed Two-Way Transmissions*, Report and Order, 13 FCC Rcd 19112, 19158, para. 89 (1998), *modified by* Report and Order on Reconsideration, 14 FCC Rcd 12764 (1999) (*Two-Way Order).*

most productive use, for the benefit of educational institutions and all Americans.[66]

28. As the Commission stated in the *NPRM*, the educational use requirements have not been updated since 1998 and were based on the use of analog video.[67] Circumstances have changed radically since the Commission established ITFS. In 1963, there were very limited means of distributing educational programming to students, and a dedicated means of distributing such programming made sense. Now, as WCAI notes, "broadband gives all educators—not just those lucky enough to be EBS licensees—the ability to provide access to educational materials to whomever they choose."[68] The Internet is a far more prevalent and efficient mechanism for distributing content. T-Mobile compares the efficiency of Internet video streaming (for live events) or the downloading of compressed video files (for recorded material) over generic broadband digital connections versus using dedicated video transmissions.[69] Furthermore, educators also use broadband to communicate with peers, collaborate across platforms, and research.[70] Moreover, most current EBS licensees have abandoned use of EBS as a closed, dedicated means of distributing educational content. Today, the educational use of the 2.5 GHz band has become indistinguishable from the commercial broadband service offered by the commercial lessee,[71] with most EBS licensees or their commercial lessees providing digital broadband service, offered 24/7, at the school itself, at home, or anywhere within the licensee's GSA.[72] Even if there were a rationale for maintaining the educational use requirements in the absence of eligibility restrictions, we see no workable set of requirements in this record. Commenters recommend that the Commission adopt a large and diverse set of potential requirements, ranging from new metrics differentiated by institution size to certification requirements to price mandates.[73]

29. But the alternative educational use requirements proposed by commenters would neither facilitate broadband deployment nor be workable for licensees or commercial operators. Requiring a commercial operator to designate a fixed percentage of capacity for educational use is not an appropriate requirement when it is not clear how much capacity future networks will have or how much capacity most educational institutions will need or be able to use.[74] Similarly, imposing rate regulation on new EBS licensees offering broadband service to consumers likely would create a disincentive to providing broadband service and would establish a regulatory requirement that would make it more difficult to use the band in conjunction with similar bands used for broadband.[75] There is a large difference between the voluntary partnership entities such as Mobile Citizen and Mobile Beacon have negotiated to facilitate discounted broadband access and a regulatory mandate that would be a form of price control. We also agree with NEBSA/CTN that it is difficult to see how such a requirement would be defined and enforced.[76]

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[66] *See* R Street Institute Comments at 5-6.

[67] *NPRM*, 33 FCC Rcd at 4694, para. 22.

[68] WCAI Comments at 8.

[69] T-Mobile Comments at 3.

[70] *Id*.

[71] WISPA Comments at 13.

[72] *NPRM*, 33 FCC Rcd at 4694, para. 22.

[73] *See, e.g.*, HITN Reply at 5-6; Sprint Reply at 7-8; SHLB Comments at 5; NACEPF Comments at 4, 28-34; Voqal Comments at 15; Dept. of Ed. June 7 *Ex Parte* at 4-5.

[74] NACEPF Comments at 4, 28-34; s*ee also* Voqal Comments at 16.

[75] SHLB Comments at 5.

[76] NEBSA/CTN Reply at 9.

30. We are sensitive to the concerns raised by Sprint and NEBSA/CTN that any changes we make not disrupt any existing leases. We clarify that nothing in our decision to remove the educational use requirement is intended to affect or change the terms of any private contractual arrangement or any provisions in existing leases that may provide a licensee with airtime, equipment, or capacity. In other words, if a lease negotiated under the old rules provides that a licensee shall receive services or equipment from a lessee, our decision does not change or nullify the provisions of that lease.

31. Finally, we disagree with NACEPF that the educational use requirements are one of the few tools the Commission has that can address the homework gap.[77] There are many other spectrum bands that educators may use if they do not have access to 2.5 GHz spectrum, such as 5 GHz Wi-Fi or General Authorized Access in the 3.5 GHz CBRS band, and as mentioned above, commercial services developed using licensed spectrum are broadly deployed (certainly more so than services relying on current EBS spectrum).[78] In addition, the Commission has for years focused on providing connectivity to millions of students and library patrons through its E-Rate program.

### 3. Eliminating Leasing Restrictions

32. Given our decision to eliminate eligibility requirements, and the fact that broadband is the predominant use of the EBS band, we see no value in maintaining special lease restrictions that only apply to EBS. Eliminating the leasing restrictions that only apply to EBS licenses will make the rules for the 2.5 GHz band consistent with other Wireless Radio Services,[79] incentivize build-out in rural areas and provide additional flexibility to both EBS licensees and lessees to enter into mutually beneficial arrangements.

33. We agree with commenters[80] that argue that these lease restrictions are unique to EBS[81] and that they constrain commercial operations and deter investment, particularly in rural areas.[82] We concur with VIYA that, if eligibility restrictions are eliminated, the restrictions on lease terms serve no purpose.[83]

34. We acknowledge that many educational institutions oppose eliminating restrictions on lease terms, with a split between educational institutions that support the current leasing rules and those that want to impose additional restrictions on leasing. Supporters of the current leasing rules argue that the lease term limitations allow educational institutions to review their leases periodically in light of changing needs and technology.[84] In contrast, Educational Broadband Corp. (EBC) urges the Commission to eliminate lease terms that transfer too much control to the lessee,[85] while Havasupai and

[77] NACEPF Comments at 3-4.

[78] *See* WCAI Reply at 19-20. We decline to consider WCAI's recommendation that we consider ways to reform or clarify rules outside the scope of this proceeding. *See* WCAI Reply at 18-19.

[79] *See* 47 CFR §§ 1.9020, 1.9030.

[80] Colville Comments at 4; Gallatin Comments at 6; Nez Perce Comments at 3 (supports elimination of leasing restrictions only if tied to build-out requirements); Sprint Comments at 8; VIYA Comments at 13; WCAI Comments at 21-22; WISPA Comments at 13; NTTA Reply at 3.

[81] WISPA Comments at 13.

[82] WCAI Comments at 21-22. *See also* Gallatin Comments at 5-6 (lease restrictions "restrain or chill the ability of commercial lessees to plan for, develop and implement business plans that depend on long term full availability of the spectrum").

[83] VIYA Comments at 13.

[84] EBPARC Comments at 6; NEBSA/CTN Comments at 19-20; Voqal Reply at 16-18.

[85] EBC Comments at 2.

Utah would prohibit leasing to commercial providers so that use of the spectrum can be focused on education.[86] We agree with those commenters arguing that our actions should not harm or invalidate existing leases, and we emphasize that nothing in this *Report and Order* is intended to invalidate existing lease provisions. Leases are a form of contract, and the parties retain the ability to exercise their rights under state contract law. Indeed, there is broad agreement among both educational institutions and commercial providers that the Commission should not take any action to invalidate or harm existing leases. As HITN writes, "[b]oth commercial lessees and educational lessors, have invested in services and equipment, in substantial reliance on the negotiated terms of their existing leases, and the Commission should make no rule changes that would interfere with or substantially alter such contractual rights and obligations."[87] WCAI and Sprint take a similar view.[88] To the extent some argue for additional restrictions on leasing, we find that such additional restrictions would be inconsistent with our goals of promoting broadband deployment using EBS spectrum and maximizing flexibility for EBS licensees.

35. We therefore eliminate section 27.1214 of the Commission's rules, except for subsection (d).[89] In addition, we will eliminate section 1.9047, which is a cross-reference in the secondary market rules to section 27.1214.

#### 4. Modifying Existing License Areas

36. To ensure that the fallow spectrum in this band is made available for use quickly, we have decided to leave existing license boundaries for incumbent 2.5 GHz licenses intact, rather than imposing a complex and protracted rationalization process on incumbents. In the *NPRM*, the Commission proposed to rationalize the current point-and-radius license areas held by incumbents to a defined geographic area and sought comment on a number of issues related to this proposal.[90] Upon review of the record, however, and in light of the unique circumstances posed by licensing of this 2.5 GHz band as discussed below, we find that engaging in the complex, and potentially confusing process of rationalizing current licenses to a geographic area (such as counties or census tracts) would delay making the white spaces available in this band and would not likely result in the potential benefits explored in the *NPRM*.

37. With regard to the *NPRM*'s proposal to modify each existing license to include all of the census tracts covered by each current geographic service area,[91] we are persuaded by opponents' argument that census tract-based rationalization would not necessarily result in more easily-determined license boundaries and therefore would not facilitate service by either existing licensees or new entrants.[92] As the EBC and other commenters point out, any method of assigning census tracts to incumbents is

[86] Havasupai Comments at 3; Utah Comments at 9.

[87] HITN Comments at 4. *See also* NAUF Comments at 8; NEBSA/CTN Reply at 7; NMU Comments at 9-10; South Florida EBS Comments at 8; University of Cincinnati Reply at 1 (expressing concern that rule changes could nullify its lease agreement with Sprint); Voqal Comments at 6; VOL Reply at 1.

[88] *See* WCAI Comments at 30 ("The Commission should very clearly state that leases entered into prior to the effective date of any new rules pursuant to this proceeding should continue to be enforceable in the courts according to their terms for the duration of the lease (including any renewal terms."); Sprint Reply at 6-7.

[89] We will retain current section (d) concerning grandfathering of pre-2005 leases.

[90] *NPRM*, 33 FCC Rcd at 4692, paras. 10-11.

[91] *Id.* at 4692, para. 11.

[92] *See* AASA/AESA Comments at 12-13; Bridge the Divide Comments at 3-4; EBC Comments at 1-2; Havasupai Comments at 4; HITN Comments at 4-5; NCTA Comments at 2-3; South Florida EBS Comments at 9-10; Sprint Comments at 4-5; Voqal Comments at 17-18; WISPA Comments at 8-9; EBPARC Reply at 10-11; WCAI Reply at 10.

likely to leave license areas with edges like "saw teeth"—irregular zig-zagging lines with frequent, small protrusions.[93] Given the propagation characteristics of the 2.5 GHz band, it would be difficult to provide services to these areas as a technical matter,[94] and this difficulty may result in significant degradation of service near market boundaries, as each licensee decreased power in order to remain within power limits, resulting in lower signal strength and lower service quality in the area.[95] This issue does not arise to the same degree with the current license areas, as their smooth, circular contours are more consistent with signal propagation patterns.[96] In addition, any problems caused by these irregular boundaries necessarily also would affect the white space available for licensing subject to competitive bidding, at the borders between incumbents and new entrants. Because the potential for operational problems far outweighs the small potential for improvement in the regularity of the resulting white space, we therefore decline to adopt a census tract-based rationalization scheme.

38. We also reject the proposal by commenters to expand existing GSAs to include the counties covered by or that intersect the geographic service area, based on a coverage threshold determined by the percentage of the geographic area of the county covered by the licensee.[97] While the Commission has recognized the benefits of adopting county-based licensing in other bands,[98] we decline to adopt a county boundary-based rationalization scheme for incumbents in the 2.5 GHz band for several reasons. First, we are concerned about the potential for some licensees to receive a much larger GSA, with no corresponding requirement to provide service in the expanded area. For example, San Bernardino County, the largest county in the United States, covers over 20,000 square miles, compared to the maximum incumbent license area of approximately 3,850 square miles.[99] Since we are not applying updated performance requirements to existing EBS licenses, there is no guarantee that existing licensees would use the expanded area.[100] Alternatively, were we to adopt NACEPF's suggestion to expand incumbents' licenses to county boundaries subject to additional build-out requirements, incumbents with no interest in serving additional geographic areas, especially in very large counties, could ultimately lose

[93] EBC Comments at 1-2; HITN Comments at 4-5; South Florida EBS Comments at 9-10; Sprint Comments at 4-5; WCAI Reply at 10; WISPA Reply at 8.

[94] *See* AASA/AESA Comments at 9-11; Bridge the Divide Comments at 3-4; Havasupai Comments at 4; WCAI Comments at 13-14; EBPARC Reply at 10-11.

[95] *See* South Florida EBS Comments at 9-10.

[96] *See* AASA/AESA Comments at 12-13.

[97] APTS-CPB Comments at 5-6; AT&T Comments at 6; Bridge the Divide Comments at 3-4; CA K-12 HSN Comments at 20; CCA Comments at 2-3; Chickasaw Nation Comments at 7; EBC Comments at 1-2; Gallatin Comments at 3-4; HITN Comments at 4-5; Maria Hadden Comments at 1; Midco Comments at 9; NACEPF Comments at 34-35; NMU Comments at 6; NCTA Comments at 2-3; South Florida EBS Comments at 9-10; Sprint Comments at 4-5; Voqal Comments at 17-18; WCAI Comments at 10; WISPA Comments at 8-9; EBPARC Reply at 8; EBS Parties Reply at 2-3; Friday Institute Reply at 7-8; CTNI/MTEL Reply at 8-9; NEBSA/CTN Reply at 4; NTUA/Mescalero Reply at 3; Views on Learning Reply at 1.

[98] *See, e.g., Promoting Investment in the 3550-3700 MHz Band;* Report and Order; GN Docket No. 17-258, at paras.19-41 (rel. Oct. 24, 2018); *Use of Spectrum Bands Above 24 GHz For Mobile Radio Services et al.*, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 8014, 8029, para. 35 (2016).

[99] 2018 U.S. Gazetteer Files, census.gov, last accessed February 28, 2019. The area of a circle with a 35-mile radius, the basis for incumbent GSAs, is approximately 3,848 square miles.

[100] *See* part III.D.6 *infra*.

their entire license based on a failure to expand service.[101]

39. Second, implementing county-based expansion in situations with multiple incumbent licenses in the same county raises complex issues that likely reduce significantly the benefits of county expansion. To handle such situations, several commenters suggest "splitting the football,"[102] the methodology that the Commission previously employed in this band to address the issue of overlapping circular GSAs[103] or alternative methods to deal with multiple incumbents expanding into the same county.[104] While "splitting the football," or using a similar method to establish a border between multiple incumbents expanding into the same county, might be equitable for current licensees, it would not result in regular, mappable license areas based on geographic boundaries. The resulting borders would not correspond to any official boundaries or natural features; instead, they could only be calculated by referencing the previous license areas—either the "point" of the point-and-radius GSA, or the edge of the previously-calculated circle—neither of which would be immediately visible after rationalization. All of the problems cited by commenters, including the difficulty of administering these arbitrary license areas in ULS, would persist. CA K-12 HSN's suggestion of splitting counties by spectrum is also problematic.[105] Wider channel width is important for many advanced wireless applications, including 5G, and dividing spectrum among multiple incumbents may reduce its usefulness significantly.

40. Third, using a percentage threshold based on existing geographic area coverage of a county relative to the total area of the county limits the amount of rationalization that actually takes place. Commenters originally proposed a wide array of threshold levels of geographic coverage within a county that an incumbent licensee would be required to meet to qualify for expansion to the county's boundaries, including 10%,[106] 20%,[107] 30%,[108] 35%,[109] or 80%[110] of the geographic area of the license. Sprint, WISPA, MidCo, WCAI, CTN, NEBSA, Voqal, and NACEPF subsequently agreed on using a 25% threshold.[111] To the extent the Commission adopted any threshold for county-based expansion, however, many incumbent licenses would remain at least partially "un-rationalized," because if the GSA is in more than one county (as many are), some sections of the license would expand to county borders and some sections of the license would not expand to county borders, but rather would remain bounded by the circle

[101] *See* NACEPF April 25, 1019 *Ex Parte* at 15-16. Incumbents would have the option to partition their license and return the undesired portion to the Commission, but this would leave the county with irregular license boundaries, destroying the claimed benefit of county expansion in the first place.

[102] Bridge the Divide Comments at 3-4; EBC Comments at 1; South Florida EBS Comments at 9-10; WISPA Comments at 9; EBS Parties Reply at 2-3.

[103] *See supra* n. 22.

[104] Gallatin suggests setting the border along census tract lines. Gallatin Comments at 3-4. CA K-12 HSN advocates for giving all incumbents the full geographic area of the county but dividing the spectrum. CA K-12 HSN Comments at 20. The Nez Perce proposed dividing overly large counties along natural features, such as rivers (Nez Perce Comments at 7-8), while the Friday Institute advocates capping expansion of any incumbent at 1,0000 square miles to limit windfall situations. Friday Institute Reply at 7-8.

[105] *See* CA K-12 HSN Comments at 20.

[106] Gallatin Comments at 3-4; Sprint Comments at 5; NEBSA/CTN Reply at 4-5; Voqal Reply at 23-24.

[107] EBPARC Reply at 8.

[108] Friday Institute Reply at 7-8.

[109] WISPA Comments at 9.

[110] Midco Comments at 10.

[111] *See* Sprint/MidCo/WISPA/WCAI/CTN/NEBSA/Voqal/NACEPF/Mobile Beacon June 14 *Ex Parte*.

arc.[112] Counties with un-rationalized license sections still would be subject to all the problems and continuing coverage gaps cited in the record. In addition, as WCAI notes, expanding licenses to county boundaries in some cases, while leaving vestigial circle arcs in other counties, *with respect to the same GSA license*, would result in "significant confusion as to what areas are white space," as well as "exacerbat[ing] the [current] problem by adding a second, geographic area-based approach."[113]

41. Although some commenters point to certain alleged advantages of county-based rationalization, including eliminating coverage gaps between current license areas[114] better aligning licenses with typical school districts,[115] and other claimed advantages,[116] we conclude that the problems associated with county-based rationalization outlined above outweigh any of these potential benefits. NACEPF also mentions faster 5G deployment in the 2.5 GHz band as a benefit of county expansion, primarily due to the resulting increase in the license areas available to Sprint.[117] While Sprint supports county-based rationalization,[118] it does not make any commitments to deploy in expanded license areas.

42. We also reject other alternative rationalization schemes suggested by commenters, such as self-defined GSAs,[119] GSAs based on granular population data,[120] or GSAs that vary from state to state based on local school district size.[121] Those methods of rationalizing licenses would be both unpredictable and difficult to implement. We also reject rationalization of existing EBS licenses to "correspond with the geographic areas where existing licensees currently provide service,"[122] because such an approach: (1) would take years to implement, as it would require an extensive analysis of where service was being provided, (2) would be prone to litigation, and (3) would be inconsistent with the goal of quickly getting unused spectrum into the hands of those who will provide service, including 5G, to Americans across the country.

43. Similarly, any of the rationalization schemes described in the *NPRM* or suggested by

[112] As an example, the license for Station WND283 covers all or portions of 14 different counties. The GSA completely covers three of those 14 counties. Depending on the threshold established, the GSA could remain as an irregular area in up to nine of the counties.

[113] WCAI Reply at 12-13. *See also* Bridge the Divide Reply at 2.

[114] APTS-CPB Comments at 5-6; HITN Comments at 4-5; NMU Comments at 6; WCAI Comments at 12; Voqal Reply at 22.

[115] Bridge the Divide Comments at 3-4; CA K-12 HSN Comments at 20; South Florida EBS Comments at 9-10; Dept. of Ed. June 7 *Ex Parte* at 5.

[116] The other claimed advantages include increase the regularity of remaining white space (EBC Comments at 1-2), promoting easier market entry for prospective new licensees (APTS-CPB Comments at 5-6), clarifying coverage areas for consumers (CCA Comments at 2-3; WCAI Comments at 10; Bridge the Divide Reply at 1-2), reducing time to auction and speeding deployment (CCA Comments at 2-3; Maria Hadden Comments at 1; NACEPF Comments at 53), providing consistency with newly auctioned licenses (Midco Comments at 7; NCTA Comments at 2-3; South Florida EBS Comments at 9-10; WCAI Comments at 13-14), and better fitting the technical realities of providing service in the 2.5 GHz band (NCTA Comments at 2-3; WCAI Comments at 13-14; Bridge the Divide Reply at 1-2).

[117] NACEPF April 25 *Ex Parte* at 6-7, 11, 13.

[118] Sprint Comments at 4-8; Sprint Reply at 6.

[119] Havasupai Comments at 4.

[120] Nez Perce Comments at 2.

[121] Dept. of Ed. June 7 *Ex Parte* at 5.

[122] Charter Comments at 2.

commenters would require considerable time to implement and would have to be completed before any auction of remaining spectrum could take place. In addition to the necessary changes to the licensing system, the process of resolving whether the required threshold had been met and dealing with situations where multiple incumbents met the threshold would be complex. Adding a complicated and lengthy rationalization process before the auction could delay the deployment of 2.5 GHz services in currently unlicensed areas. In the interest of expeditiously moving this important mid-band spectrum into the hands of those best able to develop it, we conclude that the likelihood of considerable delay for such a limited result is not in the public interest.

44. Given the complications and drawbacks inherent in all the rationalization schemes proposed in the record with respect to licensing of this band, we decline to adopt any of the proposals. Instead, we conclude that the best mechanism of putting unassigned spectrum to use as quickly and efficiently as possible is to offer overlay licenses subject to competitive bidding. Such an overlay license approach also addresses any concerns regarding irregular gaps between license areas, allowing overlay licensees to take existing EBS license contours into account when bidding for such license.[123]

### B. Local Priority Filing Windows

45. In the *NPRM*, the Commission proposed to use geographic area licensing to assign the remaining unassigned portions of the 2.5 GHz band.[124] Envisioning that these geographic licenses would be assigned by auction,[125] the Commission also sought comment on whether it first should open up to three priority filing windows to give Tribal Nations, other non-licensee educational institutions, and existing licensees an opportunity to file applications for 2.5 GHz licenses to serve their local communities, in advance of any auction for these frequencies.[126] The Commission explained that, in each filing window, qualifying applicants would have the opportunity to apply for one or more vacant channels of EBS spectrum in areas where the applicant can demonstrate that it has a local presence.[127]

46. In this *Report and Order*, we adopt a priority window for Tribal Nations to obtain access to the 2.5 GHz band on rural Tribal lands. The priority window will operate as an overlay license, with Tribal priority window applicants obtaining geographic area licenses subject to protecting incumbent operations within the relevant geographic area.[128] We decline to adopt priority windows for non-incumbent educational institutions or incumbent licensees.

#### 1. Tribal Priority Window

47. We find that adoption of a Tribal priority window for Tribal entities to obtain EBS licenses on Tribal lands that are located in rural areas is in the public interest. Consistent with the Commission's suggestion in the NPRM, we conclude that opening a priority filing window for rural Tribal Nations will provide Tribal Nations with an opportunity to obtain unassigned EBS spectrum to address the educational and communications needs of their communities and of residents on rural Tribal lands, including the deployment of advanced wireless services to unserved or underserved areas.[129] The Commission has recognized that "members of federally-recognized American Indian Tribes and Alaska

[123] APTS-CPB Comments at 5-6; NMU Comments at 6.

[124] *NPRM*, 33 FCC Rcd at 4695, para. 25.

[125] *Id*.

[126] *Id*.

[127] *Id.* at 4696, para. 27.

[128] *See* section III.C.1, *infra*.

[129] *NPRM*, 33 FCC Rcd at 4698, para. 35.

Native Villages and other residents of Tribal lands have lacked meaningful access to wired and wireless communications services."[130] The EBS spectrum offers sufficient bandwidth to give rural Tribal entities an opportunity to provide broadband wireless service.[131] As proposed in the *NPRM*, applicants in the Tribal priority window will be able to acquire all available EBS spectrum on their rural Tribal lands.[132]

48. Our decision to adopt a Tribal priority window finds broad support in the record, including from many Tribal and Tribal-related commenters, who argue that opening a priority filing window for Tribal Nations would provide rural Tribal Nations with a way to obtain spectrum that could be used to provide needed advanced wireless and broadband services.[133] In addition, those commenters who support local priority filing windows in general also support a Tribal priority window.[134] Even among commenters who oppose local priority windows in general, only MidCo specifically opposes a Tribal priority window,[135] while WCAI, which generally opposes local priority filing windows, acknowledges a need for a Tribal priority window.[136] We disagree with MidCo's assertion that a Tribal priority window would "not further any national policy objectives"[137] because, as explained above, such a window would facilitate access to high-speed broadband, including 5G, on rural Tribal lands.

49. *Eligibility.* As proposed in the *NPRM*, eligibility for the Tribal priority window will be limited to federally-recognized American Indian Tribes and Alaska Native Villages on rural Tribal lands.[138] As of September 24, 2018, there were 573 federally-recognized Indian tribes.[139] Federally-recognized Tribes have a government-to-government relationship with the United States and are eligible

[130] *Id.* (*citing Improving Communications Services for Tribal Nations by Promoting Greater Utilization of Spectrum over Tribal Lands*, Notice of Proposed Rulemaking, 26 FCC Rcd 2623, 2624, para. 1 (2011)); *see also Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans In a Reasonable and Timely Fashion*, 2018 Broadband Deployment Report, 33 FCC Rcd 1660, 1662, 1687-88, paras. 6, 57-58 (2018) (*2018 Broadband Deployment Report*) (noting that Tribal lands continue to lag behind with respect to broadband deployment).

[131] Mural Net suggests Tribal licensees will need channels to cover 20 megahertz of contiguous bandwidth. Mural Net Reply at 2. Several Tribal entities express support for making all EBS channels available on Tribal lands available to Tribal applicants. *See* Ak-Chin Comments at 1; Chemehuevi Comments at 1; Colville Comments at 9; Pueblo de Cochiti Reply at 2; Santa Fe Indian School Reply at 2.

[132] *NPRM*, 33 FCC Rcd at 4699, para. 38.

[133] Bad River Comments at 1 (arguing that the Commission should "ensure that this mechanism will provide Tribes and their members with the meaningful access to spectrum that has long been lacking in Tribal areas, and take steps to facilitate access to 2.5 GHz spectrum for Tribes whose lands are covered, but not served by existing licensees."); NTTA Reply at 3 (asserting that "the Tribal nation priority window could help certain Tribal Nations obtain access to spectrum for the purposes of serving their members.").

[134] *See, e.g.*, APT-CPB Comments at 6; Bridge the Divide Comments at 7-8; CA K12 HSN Comments at 24; CTNI/METC Comments at 7; EBPARC Comments at 10-11; NTCA Comments at 4, n.7; SHLB Comments at 7; South Florida EBS Comments at 10; University of Cincinnati Comments at 1; NACEPF Reply at 21; Rural EBS Coalition Reply at 7; Voqal Reply at 26-27; NEBSA/CTN Oct. 5 *Ex Parte* at 2.

[135] *See* MidCo March 5 *Ex Parte* at 5.

[136] WCAI Comments at 18, n.42, 25, n.61 (suggesting limiting Tribal windows to Tribal Nations on Tribal Lands and limiting use to purely non-commercial purposes).

[137] MidCo March 5 *Ex Parte* at 5.

[138] *NPRM*, 33 FCC Rcd at 4695-96, para. 36.

[139] U.S. General Accountability Office, Tribal Broadband: FCC Should Undertake Effort to Better Promote Tribal Access to Spectrum, GAO-19-75, at 1, n.1 (Nov. 2018).

to receive certain protections, services, and benefits by virtue of their federally-recognized status.[140] While the Commission's rules with respect to Tribal eligibility in various contexts vary somewhat, they universally limit eligibility to those Tribes that are "federally-recognized,"[141] so we will do so with respect to the Tribal priority window.

50. We will extend eligibility in the Tribal priority window to communications providers and other entities that provide communications and other services, provided that that they are owned and controlled by federally-recognized Tribes or a consortium of such Tribes.[142] To permit these entities to be eligible to hold EBS licenses and use those licenses to provide broadband service on rural Tribal lands, we will permit those entities and others that are owned and controlled by a federally-recognized Tribe or a consortium of federally-recognized Tribes to participate in the Tribal filing window and to hold EBS licensees.[143] AIHEC requests that the 38 Tribal Colleges and Universities (TCUs) be classified as eligible to apply for available EBS spectrum.[144] To the extent TCUs or other educational entities[145] are owned and controlled by a federally-recognized Tribe or a consortium of federally-recognized Tribes as well as the other requirements we establish for participation, they would also qualify as applicants in the Tribal priority window.

51. *Tribal Lands*. For purposes of the Tribal filing window, we adopt the broad definition of Tribal lands contained in our Part 54 rules.[146] We do so because, in both the Universal Service and EBS contexts, the Commission is assisting Tribes in obtaining necessary communications services. We decline to adopt the part 73 definitions proposed by some commenters[147] because broadcast definitions were adopted to permit comparison between non-commercial educators applying for broadcast stations, while the Part 54 definition has a similar purpose to the Tribal priority window, to encourage provision of broadband service on rural lands.

52. We will include in the Tribal priority window Tribal lands on-reservation in all situations and off-reservation lands in certain situations. Consistent with the Commission's ongoing effort to close the digital divide on rural Tribal lands, the purpose of this filing window is to provide broadband access to Tribal lands that historically have been unserved or underserved. It is important to ensure that entities acquiring spectrum in this window will use it to meet the needs of Tribal members.

53. In the *NPRM*, the Commission requested comment on the appropriate geographic area for such licenses and whether county-based or census tract based license areas might be appropriate.[148] While some commenters support county-based or census tract-based licensing for Tribal entities,[149] most

[140] *Id.*

[141] *See, e.g.*, 47 CFR § 54.5 (definition of Tribal Lands); *id.* § 73.7000 (definition of tribe); *id.*§ 1.2110(f)(3)(i) (definition of Qualifying tribal land).

[142] Bad River Comments at 5, n.9; Chickasaw Nation Comments at 2; Coeur D'Alene Tribe Comments at 1; NTUA/Mescalero Reply at 6-7; NTTA Reply at 1.

[143] Specifically, the provider must be more than 50% owned by one or more federally recognized Tribal Nations or Tribal consortia and actually controlled by one or more federally recognized Tribal Nations or Tribal consortia.

[144] AIHEC Comments at 1-2.

[145] Ak-Chin Comments at 2; Chemehuevi Comments at 2.

[146] *See* 47 CFR § 54.5.

[147] NCAI Comments at 3.

[148] *NPRM*, 33 FCC Rcd at 4699, para. 37.

[149] NTUA/Mescalero Comments at 3-4, n.3.

Tribal entities favor a geographic license area that tracks reservation boundaries.[150] In addition, some Tribal entities have members who don't reside on a reservation, but live beyond the boundaries of Tribal lands on off-reservation lands.[151] In addition, some federally-recognized tribes do not have reservations at all.[152] These commenters ask that we include in this priority window licenses that cover "counties bordering the licensees' reservations"[153] or counties in which Tribal lands cover some minimum percentage of a county (such as 10%).[154]

54. We agree with commenters that including off-reservation lands in the Tribal priority window can help promote our goal of facilitating access to wireless service to underserved Tribal populations, and that the Commission must define eligible off-reservation lands in a way that promotes this goal. With respect to including off-reservation land in the Tribal priority window, the Havasupai propose that Tribal entities be licensed on an "ad hoc" basis using a variety of criteria such as: the services to be provided, the location of the target recipients, the amount of EBS spectrum that will be used to provide the service, the broadcast or distribution capabilities of the applicant, and the percentage of the target population that will be served by the proposed size of the service area.[155] The Chickasaw Nation suggest that the service area should be based on whether a "portion of the Tribe's population will be served by licensing that proposed" service area.[156] Instead of relying on the "ad-hoc" processes proposed by Tribes, we will rely on an existing Commission process and designate off-reservation Tribal lands as eligible for the Tribal priority window if they have already been designated (as of the adoption date of this *Report and Order*) as Tribal lands pursuant to the designation process contained in section 54.412 of the universal service rules.[157] We find that using the existing process would be efficient and facilitate prompt processing of Tribal priority applications. We find that limiting eligible off-reservation lands as of the adoption date of this *Report and Order* will provide certainty to Tribal applicants and facilitate administration of the Tribal priority window.

55. While Midco may be correct that, in some cases, "irregularly shaped" reservation-based Tribal lands will complicate the geographic landscape for EBS licenses awarded through competitive bidding,[158] we do not see this potential complication as a reason not to make all reservation lands available for the Tribal priority window. EBS licensees that acquire their licenses through competitive bidding will have to protect existing EBS licensees, many of which already have irregularly shaped geographic service areas. More importantly, we find that the need to provide Tribal lands with broadband service outweighs this additional complexity.

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[150] Ak-Chin Comments at 1; AIHEC Comments at 2; Chemehuevi Comments at 1; Coeur D'Alene Tribe Comments at 1; Mural Net Comments at 2; Pueblo de Cochiti Reply at 2.

[151] Bad River Comments at 6 (describing that many of their Tribal members live in and attend schools in communities outside of the boundaries of the Tribal lands); Colville Comments at 8.

[152] Chickasaw Nation/Trace Fiber Networks Oct. 5 *Ex Parte* at 2 (explaining that the Chickasaw Nation does not have a reservation).

[153] Bad River Comments at 6; NTUA/Mescalero Reply at 3-4, n.3; Pueblo de Cochiti Reply at 2.

[154] NTUA/Mescalero Reply at 5-6.

[155] Havasupai Comments at 4.

[156] Chickasaw Nation Comments at 7. The Chickasaw Nation also suggests that the Commission should not put "unnecessary restrictions" on the definition of Tribal lands and should include lands that are not inhabited by Tribal members or lands held by private citizens. Chickasaw Nation Reply at 2, n.6.

[157] 47 CFR § 54.412.

[158] Midco March 5 *Ex Parte* at 5.

56. *Rural.* To be included in the Tribal priority window, we adopt the proposal from the *NPRM* that, in addition to being designated as Tribal Lands, an area must also be rural.[159] We understand that not all Tribes are located in areas that are considered rural and that by limiting eligibility to rural Tribal lands, some tribes may be excluded from the window.[160] However, as the Commission has previously made clear, bringing broadband access to rural Americans is critical to providing them with the same economic, employment, education and civic opportunities that people in urban areas enjoy.[161] Because the problem of access to wireless communications services is most acute in rural areas, and because the purpose of the Tribal priority window should be to promote service to areas that are currently unserved or underserved,[162] we believe that limiting this priority window to rural Tribal lands will provide the most effective and targeted way to achieve the Commission's goal of closing the digital divide in Tribal lands.

57. First, we are not persuaded by the objections raised to limiting the Tribal priority window to rural areas. For example, we disagree with the assertion that such a limitation is inconsistent with the "federal government's trust relationship with Indian tribes," as that relationship is not limited to rural areas.[163] The Commission is committed to honoring its trust relationship with Tribal Nations through, among other things, policies facilitating broadband deployment on Tribal lands. Individual policies tailored to specific deployment issues, such as increasing access to spectrum over unserved rural areas, positively contribute to this overall effort. Nor are we persuaded that limiting access to rural areas will reduce flexibility for Tribal Nations to use this spectrum, create definitional uncertainty for Tribal Nations, or create separate classes of Tribal governments, which is inconsistent with the intent of Congress.[164] Priority window applicants seeking access to 2.5 GHz spectrum on rural Tribal lands will not be limited in how they use the spectrum; rather they will have the same flexibility as other licensees. Since we are adopting an objective definition of what land will be considered rural, Tribes will be able to determine whether the lands for which they seek licenses are eligible for this window and make the appropriate demonstration.

58. We are, however, persuaded that, in establishing what constitutes rural Tribal lands for purposes of a Tribal priority window, we should set a population limit that is higher than the one we proposed in the *NPRM*. Although in the *NPRM* we proposed using the definition of rural Tribal lands from the E-rate and Lifeline programs: *i.e.*, Tribal Lands that are not part of "an urbanized area or urban cluster area with a population equal to or greater than 25,000,"[165] we note that, as the Chickasaw Nation asserts, some clusters within historically rural Tribal lands have populations very close to or perhaps just over 25,000.[166] We therefore adopt the proposed definition but modify the population threshold for an

[159] *NPRM*, 33 FCC Rcd at 4698-99, para. 36.

[160] NCAI Comments at 3; NTUA/Mescalero Reply at 4-5; Pueblo de Cochiti Reply at 2; Santa Fe Indian School Reply at 2. While NTUA/Mescalero supports the proposed definition of rural, they do not support limiting eligibility to rural Tribal lands. NTUA/Mescalero Reply at 4-5.

[161] *Connect America Fund ETC Annual Reports and Certifications Establishing Just and Reasonable Rates for Local Exchange Carriers Developing a Unified Intercarrier Compensation Regime*, Report and Order, Further Notice of Proposed Rulemaking, Order on Reconsideration, FCC 18-176, at 2, para. 2 (rel. Dec. 13, 2018).

[162] Havasupai Comments at 3 (suggesting that the window only be "available to tribal governments that are not already served by broadband).

[163] NCAI Comments at 3; NPM Comments at 2; Pueblo de Cochiti Reply at 2; Santa Fe Indian School Reply at 2.

[164] NCAI Comments at 3; Pueblo de Cochiti Reply at 2; Santa Fe Indian School Reply at 2.

[165] *NPRM*, 33 FCC Rcd at 4698-99, para. 36; *see* 47 CFR § 54.505(b)(3).

[166] Chickasaw Nation March 26 *Ex Parte* at 3-4.

urbanized area or urban cluster from 25,000 to 50,000. Therefore, Tribal lands will be considered rural if they are not part of an urbanized area or urban cluster area with a population equal to or greater than 50,000. In this specific instance, we find that using the population threshold of 50,000 will provide certainty to Tribes in *bona fide* rural areas that they can take advantage of the Tribal priority window while ensuring that the Tribal priority window is appropriately targeted and limited. Some commenters suggest other definitions of rural for the Tribal priority window.[167] We find that by focusing on areas that are not part of urbanized clusters, as the Commission does in the E-rate and Lifeline programs, we will best target those areas that are most difficult to serve and are therefore likely in greatest need of high-speed broadband service. We find that using this population limit is consistent with our goal of targeting underserved and unserved Tribal areas.

59. *Local Presence.* We adopt the *NPRM's* proposal to require that all applicants for the Tribal priority window have a local presence in any area for which they apply.[168] We believe Tribal entities with a local presence better understand the needs of their communities and are better able to serve those needs. Further, there is no opposition to this proposal with respect to Tribal entities, and thus, we will require applicants for the Tribal priority window to demonstrate that they have a local presence in the Tribal land area for which they seek licenses.

60. *Timing.* To ensure that federally-recognized Tribes have access to the maximum amount of unassigned EBS spectrum available on rural Tribal lands, we will open the Tribal priority window before we make unassigned EBS spectrum generally available to all entities through competitive bidding.[169]

61. *Procedures.* While few commenters address the application process for the Tribal window, several Tribal entities propose a 90-day notice period prior to the opening of the priority filing window with a 60-day window for the filing of applications.[170] In accordance with the process we use for competitive bidding[171] and with our notice and comment requirements, we direct the Wireless Telecommunications Bureau to announce procedures for the Tribal priority window through one or more Public Notices and other appropriate outreach to potentially eligible Tribal applicants.

62. We reject Colville's suggestion that the Commission rank applicants eligible for the Tribal window based on a "tribe's reservation size and location, with the largest, most sparsely populated,

[167] Havasupai Comments at 3 (arguing that rural places should be defined by their distance from urban centers and not by population density because some Reservation communities are small and densely populated).

[168] *NPRM*, 33 FCC Rcd at 4696-97, paras. 29-31; *see* section III.C.2, *infra*.

[169] Ak-Chin Comments at 1; Bad River Comments at 5-6; Chemehuevi Comments at 1; Chickasaw Nation Comments at 5-7; Colville Comments at 4-5; Havasupai Comments at 3; Mural Net Comments at 2; NCAI Comments at 3; Nez Perce Comments at 1; NPM Comments at 1; NTTA Reply at 5; Pueblo de Cochiti Reply at 2; Santa Fe Indian School Reply at 2.

[170] Ak-Chin Comments at 2; Chemehuevi Indian Tribe Comments at 2; Colville Comments at 10 (also suggesting that notice period be extended for 60 days based upon Tribal request); Mural Net Comments at 4; Nez Perce Comments at 6; Pueblo de Cochiti Reply at 3; Santa Fe Indian School Reply at 3. *But see* MuralNet May 24 *Ex Parte* at 2 (proposing a twelve month rolling window).

[171] *See, e.g., Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Fourth Report and Order, FCC 18-180, at 4, para. 10 (Dec. 12, 2018). "As in the prior broadcast television spectrum incentive auction, and in all Commission auctions, we will develop and detail all the procedures necessary to implement our decisions in a pre-auction process framed by an Auction Comment Public Notice and Auction Procedures Public Notice;" *Creation of Interstitial 12.5 Kilohertz Channels in the 800 MHz Band Between 809-817/854-862 MHz,* Report and Order, FCC 18-143, at 15, paras. 59-60 (Oct. 22, 2018).

and currently least 'wired' reservations receiving top priority."[172] We do not believe it necessary to rank Tribal eligibility. We find it unlikely that applications filed in the Tribal priority window will be mutually exclusive in light of our criteria requiring that: (1) Tribal applicants be federally-recognized; (2) the area to be licensed be based on a Tribe's reservation or qualified off-reservation lands; (3) the area be rural; and (4) the Tribe have a local presence. To the extent that we do receive mutually exclusive applications, we are required by statute to subject such applications to competitive bidding.[173]

63. *Other Issues*. Because we are eliminating the educational use requirements for EBS spectrum generally, [174] we find that it would make little sense to apply those requirements to new Tribal licensees. To that end, we will not impose educational use requirements on the EBS spectrum available in the Tribal filing window.

64. Consistent with our general decision to eliminate leasing restrictions generally for EBS licenses, we will not impose such restrictions on Tribal licensees' ability to lease spectrum to third parties. According to certain Tribal commenters, doing otherwise might "impede the Commission's goal of timely and efficient build out in rural areas."[175] Tribal entities may not have the "know-how or resources to build out a broadband network" and leasing will increase the likelihood that the spectrum is "used for its highest and best use."[176] In addition, the Tribes should be able to lease unused spectrum to "bring in much needed revenue."[177] Although we are generally eliminating restrictions on assignment and transfer of existing EBS licenses,[178] we believe it necessary to impose some restrictions on assignment and transfers of licenses acquired in the Tribal priority window.[179] Because proponents of the Tribal priority window have indicated an urgent need for the spectrum to provide service to underserved tribal communities, we believe it is appropriate to limit, and will accordingly restrict, Tribal licensees' ability to assign or transfer their licenses until after they have met the build-out requirements applicable to these licenses.[180]

65. The Tribal window will include only unassigned EBS spectrum. We reject suggestions from several Tribal commenters that we permit Tribal entities to apply for already-licensed spectrum.[181]

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[172] Colville Comments at 4-5.

[173] *See* para. 75, *infra*.

[174] *See* section III.A.2III.A.2, *supra*.

[175] Chickasaw Nation Comments at 7-8.

[176] *Id.* at 8.

[177] NTTA Reply at 6.

[178] *See* section III.A.3III.A.3, *supra*.

[179] *NPRM*, 33 FCC Rcd at 4701-02, para. 47 (asking "Should we require the licensee to demonstrate completion of certain buildout requirements before allowing a transfer of control?").

[180] Nez Perce Comments at 6 (proposing that tribal entities not be permitted to assign their licenses).

[181] Several Tribal commenters suggest that we should revoke licenses or mandate disaggregation of spectrum from incumbent EBS licensees with spectrum covering Tribal lands, or that we otherwise should force them to provide service to the Tribal lands or give their spectrum to the Tribal entity. Bad River asks us for a clarification that EBS licenses can be disaggregated. Bad River Comments at 7, n.12. As section 27.15 permits disaggregation for EBS licenses, such clarification is not necessary. However, nothing in that rule mandates such disaggregation. Bad River Comments at 6-7; Chickasaw Nation Reply at 3; Mural Net Comments at 4; Nez Perce Comments at 3, 5; Pueblo de Cochiti Reply at 2; Santa Fe Indian School Reply at 2. Colville asks that the Commission reassign incumbent EBS licenses that are not being used by the incumbent licensee and make them available for application during the filing window. Colville Comments at 5.

Not only would such an action be beyond the scope of the *NPRM*, but it also would have a substantial effect on existing licenses that are in compliance with our rules. However, since licenses granted to Tribal entities will be overlay licenses, if an incumbent license that covers rural Tribal lands is cancelled or terminated, any spectrum that becomes available over time will revert to the Tribal licensee. Similarly, Tribal licensees are authorized to lease, partition, or disaggregate their spectrum, including in areas in or near rural Tribal lands. We do not require that incumbent licensees do so, but we encourage those who have holdings covering, or adjacent to, rural Tribal lands to work cooperatively with new Tribal licensees to facilitate deployment of needed service to these areas.

### 2. Educational Institution Priority Windows

66. We decline to establish a priority filing window for educational institutions, either for educational institutions that do not currently hold EBS licenses or for existing licensees.[182] Adopting a priority window restricted to educational institutions would be at odds with our other decisions to provide greater flexibility for more providers to make use of the 2.5 GHz band to offer high-speed broadband service to the public. Given our experience with service deployment to date in EBS, with the vast majority of licensees leasing their spectrum to commercial providers, we believe that making the unassigned EBS spectrum available for flexible use is the best way of getting broadband service deployed to the public more quickly and extensively. While we understand the desire of certain educational institutions to gain additional access to spectrum, our decision is guided by the goal of facilitating broadband deployment and spectrum use, and perpetuating an outdated regulatory regime in this band will not further this goal.[183]

67. If we adopted a priority window open to all educational institutions, it is highly likely that the Commission will receive mutually exclusive applications.[184] Commenters have identified circumstances that raise substantial doubts about the legal authority of certain EBS licensees, particularly public school districts and local governments, to participate in a spectrum auction.[185] Specifically, commenters claim that a number of states (approximately 36) have adopted Dillon's Rule,[186] which provides that a municipality may exercise only those powers expressly conferred by statute, necessarily or fairly implied by the expressed power in the statute, or essential and not merely convenient.[187] Applied to the auction situation, Dillon's Rule may limit the ability of many municipal educational entities, including counties and school districts that hold EBS licenses, from participating in an auction. We note that no commenter has attempted to show that Dillon's Rule is not an impediment to auction participation.

68. Those problems become important because, under section 309(j) of the Communications Act of 1934, as amended, if mutually exclusive EBS applications are accepted for filing, we must use competitive bidding to resolve the mutual exclusivity.[188] Educational institutions propose various

[182] Although we refer to educational institutions, in this section, the term can also include other entities that are described in current 47 CFR § 27.1201.

[183] NEBSA/CTN Comments at 8; EBPARC Comments at 4; NAUF Comments at 3; Voqal Comments at 5; Dept. of Ed. June 7 *Ex Parte* at 6-7.

[184] NEBSA/CTN Comments at 11-12; WCAI Comments at 27-29.

[185] *See* AASA/AESA Comments at 15. *See also* discussion at para. 84, *infra*.

[186] AASA/AESA Comments at 15*; see also* Comments of AASA, Docket 03-66 at 10 (filed Sep.22, 2008).

[187] *See* Matthew Sellers, County Authority: A State by State Report (Dec. 2010), http://www.nvnaco.org/wp-content/uploads/County-Authority-a-State-by-State-Report.pdf) at 6, 204-5.

[188] *See NPRM*, 33 FCC Rcd at 4701, para. 45.

workarounds to address that issue, including using a first-come, first-served filing system,[189] placing strict limits on the number of channels an applicant can apply for,[190] forcing applicants to form consortia,[191] or basing license grants on the number of enrolled students in a service area.[192] These proposals are inconsistent either with the Communications Act's requirement that the Commission use competitive bidding to resolve mutually exclusive applications[193] or with the public interest test applicable to alternatives that avoid mutual exclusivity.[194] Placing strict limits on the number of channels for which an educational institution could apply could constrain severely the capacity any individual educational institution could provide.[195] Finally, choosing between mutually exclusive applicants on a basis other than competitive bidding or requiring applicants that have applied individually to form a joint venture or consortium is plainly inconsistent with the requirement to use competitive bidding.[196]

69. Although EBPARC argues that the use of priority filing windows would quickly put EBS spectrum in the hands of schools and local operator partners that are eager and ready to build out, we do not see a way to avoid the receipt of mutually exclusive applications.[197] And even though SETDA touts the ability of certain educational institutions to provide broadband to unserved and underserved areas, these limited identified examples, among the thousands of EBS licensees, do not persuade us to establish a priority window for all educational institutions. Given the time and effort and delay that would be involved in establishing and running the priority window, and the likelihood that such a window for all educational institutions would result in having to auction the spectrum anyway, we find that moving directly to flexible use and open eligibility would be the most expeditious method of making spectrum available to provide broadband service in rural and underserved areas, consistent with our statutory objective to ensure "the development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas, without administrative or judicial delays. . . ."[198] We find that the advantages to the public of making critical mid-band spectrum available for flexible commercial use on a prompt basis far outweigh the detriment to those educational institutions.

70. We recognize that some institutions have a desire to provide broadband service to rural, underserved areas. In establishing a priority window for Tribal entities—sovereign nations seeking to bring broadband service to the members of their Tribal Nations but which historically have not had access

[189] Amelia Academy Comments at 2; CSN Comments at 6; EBS Parties Comments at 3; Hackett School District Comments at 2; Lawrence County Comments at 2; NEBSA/CTN Comments at 13-14; South Florida EBS Comments at 10-11, n.16; Voqal Comments at 21.

[190] NEBSA/CTN Comments at 12.

[191] AASA/AESA Comments at 17; SHLB Comments at 10.

[192] AASA/AESA Comments at 17.

[193] 47 U.S.C. § 309(j)(1).

[194] 47 U.S.C. § 309(j)(6)(e).

[195] For example, while NEBSA and CTN propose that applicants apply for only two channel groups (NEBSA/CTN Comments at 12), it has been the experience of NMU and Kings County that they need access to all EBS channels to meet demand for robust broadband service. *See* Kings County Comments at 6-8; NMU Comments at 8.

[196] We note that API has requested that the Commission provide a filing window for critical infrastructure and allow preemptory use of the 2.5 GHz spectrum in certain emergency situations related to oil and gas disasters. API Comments at 3-4. As we determine herein, open eligibility is the best option for assigning unassigned EBS spectrum. API has not demonstrated a critical need for this spectrum and API's members are free to participate in the auction of overlay licenses that we will conduct. *See* section III.C, *infra*.

[197] EBPARC April 30 *Ex Parte*.

[198] 47 U.S.C. § 309(j)(3)(A).

to such spectrum—but declining to establish a new priority window for educational institutions, we are exercising our considered judgment about which proposals will most effectively and expeditiously achieve our statutory obligations and objectives.[199] We believe the Tribal priority window will be a more focused solution than an educational window, since Tribal entities will have a clear incentive to target areas lacking broadband, and Tribes must already work with providers that want to deploy broadband on rural Tribal lands.

71. The Commission has noted that Tribal lands, in comparison to comparable non-Tribal lands (including in rural areas), frequently have characteristics that increase the cost of entry and reduce the profitability of providing service, including cultural and language barriers, a lack of existing infrastructure, and a predominance of low-income residential customers rather than business subscribers.[200] A recent report to Congress on broadband coverage on Tribal lands recognized that there is a considerable gap between Tribal lands and non-Tribal areas in terms of population covered by mobile LTE service.[201] Further, the report noted that people residing on Tribal lands currently have access to fewer providers that offer 4G LTE coverage.[202] In contrast, the fact that a small fraction of educational institutions might be positioned to provide broadband service in rural areas is not a sufficient basis for establishing a general priority window for all eligible educational institutions.

72. Thus, in the context of the federally-recognized Tribes' unique status, their relationship of trust with the Commission, and their right to set their own communications policies, as well as the unique and significant obstacles to offering service in Tribal areas and the fact that they have not previously had access to this spectrum, we conclude that they have an interest in obtaining additional 2.5 GHz spectrum that is greater than and distinguishable from the interests of educational entities. Beyond Tribal areas, we believe that auctioning overlay licenses for remaining white spaces will be a more effective means of addressing the digital divide. Specifically, new EBS licensees will have market incentives to provide service and will also be required to meet new performance requirements.

73. We also note most rural Tribal lands areas will likely be associated with a single Tribal entity, whereas many localities have a wide variety of educational institutions that could have a local presence. Accordingly, a Tribal priority window is less likely to trigger mutual exclusivity in a significant number of license areas than a priority window for educational institutions (or a priority window that includes Tribal entities and educational institutions).

74. We also do not adopt a priority window for existing licensees. We decline to open a priority window for existing licensees to expand to county boundaries for many of the same reasons that we decline to expand those licensees' footprints to census tract or county boundaries; we expect that such a window would be needlessly complicated and delay the deployment of critical mid-band spectrum. Existing licensees have already had the opportunity to avail themselves of the benefits of EBS spectrum. For this reason, we reject the recommendations of Bridge the Divide and EBC to open a window for incumbent EBS licensees.[203]

[199] *See*, e.g., 47 U.S.C. 309(j)(3).

[200] *Connect American Fund*, Report and Order, WC Docket 10-90, paras. 2-3 (2018);

[201] Report on Broadband Deployment in Indian Country, Pursuant to the Repack Airwaves Yielding Better Access for Users of Modern Services Act of 2018, at 2 (May 2019).

[202] *Id.*

[203] Bridge the Divide Comments at 5 (permit existing licenses to add channel blocks); EBC Comments at 3 (permit existing licensees to expand into adjacent counties).

### C. Licensing White Spaces

#### 1. Auction of EBS White Space Licenses

75. As proposed in the *NPRM*, any remaining unassigned EBS spectrum will be made available for commercial use via competitive bidding immediately following the completion of the Tribal priority filing window.[204] Section 309(j) generally requires the Commission to employ competitive bidding to award licenses when mutually exclusive applications have been accepted for filing.[205] With the elimination of the eligibility and educational use requirements, the potential for mutually exclusive applications for unassigned EBS spectrum should increase dramatically. While commenters have suggested various ways to avoid mutual exclusivity, in this case, we find that accepting mutually exclusive applications and using competitive bidding to resolve the mutual exclusivity is the best way to assign spectrum quickly and efficiently for its highest-valued use.[206] Commercial operators strongly support competitive bidding for unassigned EBS spectrum.[207]

76. We are not persuaded by the educational community's concerns about the use of competitive bidding for unassigned EBS spectrum.[208] First, we reject claims that assigning licenses by auction will lead to the abandonment of educational services and a worsening of the digital divide.[209] To the contrary, we believe this approach is far more likely to deliver value to educational institutions and to help close the digital divide than the status quo, in which EBS spectrum either has lain fallow or has generally not been used for the purpose of providing educational services. We find that assigning licenses

[204] *NPRM*, 33 FCC Rcd at 4702, 4705, paras. 49, 61.

[205] 47 U.S.C. § 309(j)(1).

[206] *See, e.g.*, FCC National Broadband Plan, at 5 (Mar. 17, 2010), https://www.fcc.gov/general/national-broadband-plan ("Auctions for public spectrum promoted competitive wireless markets, prompting continual upgrades that first delivered mobile phones and, now, mobile broadband."); *id.* at 81 ("Congress enabled the FCC to develop procedures for assigning hundreds of megahertz more quickly and efficiently by providing the Commission with auction authority in 1993."); *Expanding the Economic and Innovation Opportunities of Spectrum Though Incentive Auctions*, Report and Order, 29 FCC Rcd 6567, 6570, para. 2 (2014) ("Our central objective in designing this incentive auction is to harness the economics of demand for spectrum in order to allow market forces to determine its highest and best use.").

[207] AT&T Comments at 5-6; CCA Comments at 4; Gallatin Comments at 9 (suggesting unassigned white space be reallocated as BRS and put into an "ordinary" auction); Midco Comments at 17; NTCA Comments at 5-6; R Street Comments at 11; Sprint Comments at 10-12; Verizon Comments at 5; WCAI Comments at 18-25; WISPA Comments at iv, 14-17.

[208] *See, e.g.*, AASA/AESA Comments at 15; CA K-12 HSN Comments at 21; Colville Comments at 1; CoSN Comments at 6; NACEPF Comments at 49-53; NAUF Comments at 8; Nebraska Comments at 13; NEBSA/CTN Comments at 12; North Carolina Comments at 5; SETDA Comments at 9; SHLB Comments at 3; Voqal Comments at 25-26; Chickasaw Nation Reply at 2-4 (opposing an auction but stating that if the Commission must auction the spectrum, it should provide "heightened deference" to Tribal entities on Tribal lands); EBS Parties Reply at 3-4; Friday Institute Reply at 7; Rural EBS Coalition Reply at 2-3. Some educational commenters do not oppose competitive bidding, provided that it occurs after any priority filing window(s). EBPARC Reply at 3-5; Select Spectrum Comments at 4; South Florida EBS Comments at 11.

[209] CoSN Comments at 6 (if market forces were sufficient, this connectivity problem would not exist in so many rural and other hard to serve areas"); CTNI/METL Comments at 8 (if the spectrum is auctioned to commercial entities, they will not build where service is needed most); NACEPF Comments at 50-51 ("an incentive auction would also reduce educational use by drawing licenses away from existing educational licensees to commercial users that are less invested in the educational mission"); South Florida EBS Comments at 12 (an "incentive auction would actively promote the abandonment of educational services on this band as well as the bridging of the digital divide achieved from such services"); Voqal Reply at 33.

by auction will not displace or impair existing incumbent licenses or leases, nor will the assignment of overlay licenses impair existing services, since new 2.5 GHz licensees will be required to protect existing incumbent operators from harmful interference. Nothing in this *Report and Order* requires incumbent licensees to abandon their current educational use or to change how they use their spectrum. Finally, we find that entities that acquire their licenses by auction will have an incentive to provide services to address the digital divide because all new EBS licensees will have to meet the performance requirements that we establish in this *Report and Order* in markets that they acquire. Licensees, whether incumbent or new, can provide any services the market requires, without limitation.

77. *Auction of Overlay Licenses.* To make the available vacant and available EBS spectrum as attractive as possible to potential entrants, while protecting the rights of incumbent EBS licensees and their lessees, we conclude that offering geographic overlay licenses that are subject to competitive bidding is the best mechanism for assigning this spectrum. With overlay licenses, the licensees obtain the rights to geographic area licenses "overlaid" on top of the existing incumbent licenses. As with an ordinary flexible use license, the overlay licensee may operate anywhere within its geographic area, subject to protecting the operations of incumbent licensees and their lessees (if any). If an incumbent licensee in a county cancels or terminates its license, the overlay licensee obtains the rights to operate in the geographic area and on the channel of the cancelled license.[210] Put another way, an overlay licensee purchases primary rights to the vacant and available white space in the geographic area and secondary rights to all incumbent licenses. It may clear its geographic area by purchasing the incumbent licenses.[211] An auction of overlay licenses would make the unassigned EBS spectrum available expeditiously to potential bidders and would provide a mechanism for those bidders to acquire additional spectrum usage rights within their geographic area when and if an incumbent licensee desires to make its spectrum available. For these reasons, we believe that assigning overlay licenses for vacant and available EBS spectrum by competitive bidding is the best method for assigning such spectrum, because it will maximize the potential for expansion, without disrupting existing licensees and lessees.[212]

78. It does not make sense to limit the auction to licenses covering only vacant and available EBS spectrum. Given the large number of existing incumbent EBS geographic service areas, that is 35-mile radius circles, there may not be enough vacant and available EBS spectrum in many markets to encourage competition for those markets in an auction limited to these white space areas. As noted in the *NPRM*, in many markets all that is available are "small, irregularly shaped areas between GSAs."[213] Another factor that may affect interest in licenses that are not overlay licenses, but rather cover vacant and available spectrum only is that, although the total available geographic area of the EBS vacant and

[210] Sprint Comments at 12*; see also Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band; Implementation of Sections 3(n) and 322 of the Communications Act Regulatory Treatment of Mobile Services; Implementation of Section 309(j) of the Communications Act – Competitive Bidding, First Report and Order*, Eighth Report and Order, and Second Further Notice of Proposed Rulemaking, 11 FCC Rcd 1463, 1469, para. 3 (1995) (giving EA licensees the right to use any spectrum within the EA block that is recovered by the Commission from an incumbent SMR licensee in the event of termination of the incumbent's license); TPI Comments at 4.

[211] TPI Comments at 4.

[212] AT&T suggests that the Commission hold two separate auctions for EBS spectrum: an incentive auction for licensed spectrum and a regular auction for unassigned white space licenses; this would allow bidders to "assemble spectrum from the *combined* pool of assigned and unassigned EBS licenses (via coincident and coordinated regular and incentive auctions), which would induce greater carrier participation and more vigorous bidding." AT&T Comments at 5-6 (emphasis original). For the reasons discussed in this item, we do not believe that an incentive auction would be a viable alternative for the EBS spectrum.

[213] *NPRM*, 33 FCC Rcd at 4689-90, para. 5.

available spectrum might be substantial (50%), the percentage of population covered by the vacant and available (slightly over 15%)[214] may not be.

79. Another distinguishing characteristic of the EBS band is the preponderance of leasing by existing EBS incumbent licensees. While there are 2,193 active, regular EBS licenses, there are 2,046 long-term *de facto* control leases involving EBS licenses.[215] The majority of those leases are with Sprint, but there are other lessees in the 2.5 GHz band.[216] These leases are authorized to have terms of up to 30 years[217] and often contain rights of first refusal or purchase options.[218] While one commenter appears to suggest that we consider terminating EBS leases to facilitate transition of the band,[219] we continue to believe that such an action would serve as an undue deterrent to the negotiation of spectrum leasing, in this as well as other bands, "thus creating uncertainty among all parties that have entered into or are contemplating agreements under our Secondary Markets rules and policies."[220] Thus, we must consider the impact of those leases on a potential auction.

80. We are not persuaded by the objections raised in the record to offering overlay licenses at auction. For example, there is no evidence in the record supporting the allegation that the winning bidders would be motivated "to undermine existing EBS licenses serving the area, in order to obtain access to that EBS spectrum under the overlay license without having to lease it."[221] Moreover, incumbent EBS licensees will retain control over their licenses and the right to protection from interference from the operations of overlay licensees, their lessees, and other successors in interest.

81. Nor are we persuaded by alleged disadvantages of overlay licensees. For example, Voqal asserts that in many, particularly urban and suburban, markets, only slivers of areas are available for new licensing, and that, as a result, there will be "significant technical complexity engineering a network to operate without impacting adjacent licensees."[222] The technical complexities that may result from an auction of overlay licenses are a by-product of its most important advantage, namely the protection of the rights and interests of incumbent licensees. As such, potential bidders will need to consider carefully these technical issues as they decide whether to participate in the auction. Voqal further argues that "allowing a new buyer to purchase this spectrum would foreclose opportunities for existing providers to cover these areas just outside the current GSAs, and that this could lead to very different levels of service in the two adjacent GSAs, which could include residents of the same county."[223] We note that overlay licensees will have an incentive to put to use licenses they acquired at auction and also will be required to provide service in order to meet their performance requirements. Proceeding to auction of the vacant and

[214] This information is based on a review of the Universal Licensing System conducted on May 13, 2019.

[215] This information is based on a review of the Universal Licensing System conducted on May 13, 2019.

[216] This information is based on a review of the Universal Licensing System conducted on May 13, 2019. Sprint indicates that it has leases covering approximately 1,600 call signs in the 2.5 GHz band. Sprint Comments at 14.

[217] 47 CFR § 27.1214(e).

[218] Sprint Comments at 14; WCAI Comments at 33.

[219] AT&T Comments at 8.

[220] *BRS/EBS Fourth MO&O*, 23 FCC Rcd at 6044, para. 137.

[221] EBS Parties Reply at 3-4; NACEPF Comments at 51-52; South Florida EBS Comments at 11-12 (stating that overlay licenses would likely be purchased by the current lessees giving them an incentive to terminate leases and work toward the failure of educational services on current licenses where they would hold an exclusive right to licensing of the spectrum in the event of such failure).

[222] Voqal Comments at 26.

[223] *Id.*

available EBS spectrum will permit market forces to determine the highest and best use of this spectrum.[224]

82. *Incentive Auction.* We find that conducting an incentive auction[225] could be particularly challenging for purposes of assigning flexible use licenses for EBS white spaces because: (1) the majority of the licensed EBS spectrum is already leased, (2) incumbent EBS licensees and potential bidders have demonstrated little interest in participating in an incentive auction, and (3) many EBS licensees do not have authorization under state law to participate in any kind of auction.[226] Commenters note that such "[t]wo-sided auctions are complicated, costly to the government as well as to participants, and take a long time to complete;"[227] moreover, any repacking process would be disruptive for incumbent EBS licensees that wish to continue to provide educational services.[228] We therefore conclude that our policy objectives are better served by assigning overlay licenses subject to auction as described above.

83. Most commenters oppose an incentive auction because the vast majority of EBS spectrum is subject to long-term leases that would preclude most EBS licensees from participating in the reverse auction.[229] They note that an incentive auction would not work from a legal or practical

[224] *See, e.g., Promoting Investment in the 3550-3700 MHz Band*, Report and Order, 33 FCC Rcd 10598, 10652, para. 102 (2018).

[225] An incentive auction is an auction in which an incumbent license holder is encouraged to "relinquish voluntarily some or all of its spectrum usage rights" to permit the assignment of new flexible use licenses and in return to receive a portion of auction proceeds from an FCC-conducted auction. 47 U.S.C. § 309(j)(8)(G). The statute requires that a portion of proceeds to be shared with the incumbent be based on the value of the relinquished spectrum rights, as determined in a reverse auction. *Id.*

[226] HITN Comments at 2; NACEPF Comments at 49-51; Sprint Comments at 13-15; TPI Comments at 4 ("[A]rgument for a two-sided auction is stronger for something like the recent TV band auction, which involved significant repacking and band coordination issues. These issues are less important with the EBS licenses, most of which are already leased for non-educational purposes. This suggests that participation in a reverse auction might be minimal. Participation might also be complicated by the licensee-lessee relationship, which would have to be resolved before a licensee could participate"); Voqal Comments at 25-26; WCAI Comments at 32 ("an incentive auction would be wholly inappropriate in the EBS context"); EBPARC Reply at 4 ("Clearly if a license holder or licensee has constructed its own system and is using it, then they cannot expect to sell the license and keep operating. Additionally, demand from buyers for spectrum that is already leased to Sprint, or another party would also be limited, since the lease would prevent construction of another system by the buyer. Finally, the EBS licensing rules have encouraged an environment where EBS spectrum leases can occur easily, which obviates the need for an incentive auction").

[227] TPI Comments at 4 ("[S]pectrum from the recent TV band incentive auction, proposed in the 2010 National Broadband Plan, will only become available in 2020 and less than 60% of the amount targeted will actually become available"); *see also* NACEPF Comments at 50; Voqal Comments at 25-26 (describing that the Broadcast Incentive Auction was authorized in 2012, completed in 2018, and that it is likely that the repack will not be completed until 2025).

[228] NACEPF Comments at 51; TPI Comments at 4.

[229] Sprint Comments at 14 (an "incentive auction at 2.5 GHz is not feasible from a commercial or regulatory perspective given that most existing EBS spectrum is subject to long-term leases that would legally prohibit licensee participation in the reverse auction. Sprint in particular has long-term lease arrangements involving approximately 1600 call signs in the 2.5 GHz band, which covers over 60% of the current EBS licenses. These licensees cannot return this spectrum to the Commission without implicating Sprint's contractual rights. Notably, EBS leases typically include provisions such as rights of first refusal on the sale of the license and the lease of the spectrum following expiration of the lease and exclusivity terms, which preclude any negotiations regarding alternative spectrum uses"); Voqal Comments at 26 (noting that "roughly 90% of all EBS licenses are leased to a commercial provider. On average, these lease agreements do not expire for approximately two decades. Were the Commission to pursue an incentive auction, very few licensees would participate because of their contracts with commercial

(continued….)

perspective because it would require participation from both existing licensees and their lessees.[230] Further, commenters note that even if the terms of leases permitted licensees to participate in an incentive auction to relinquish their spectrum usage rights, and forward auction participants bid on licenses subject to the existing leases,[231] the prevalence of long-term leases could severely limit bidders' interest in the new licenses offered. Commenters contend that the existence of the leases lessens the likelihood that entities other than the current lessee would bid,[232] and that it would "badly distort a potential forward auction."[233]

84. AT&T claims that EBS licensees would be able to participate in an incentive auction, despite existing leases, because they could negotiate a price at which lessees would give up their rights.[234] We expect that it likely would be difficult or impossible for many EBS licensees to pay commercial lessees to break their leases, as most EBS licensees are educational, non-profit entities. Although TechKnowledge suggests that the Commission could invalidate lease provisions that would prevent EBS licensees from participating in an incentive auction,[235] unilaterally modifying contractual provisions agreed to as part of an agreement between a licensee and lessee raises serious questions of fairness and legality. Moreover, even if such lease provisions were invalidated, many EBS licensees may still be unable to participate in an incentive auction because they lack the legal authority under state law to do so.[236]

85. AT&T contends that the majority of entities opposing incentive auctions "have a powerful self-interest" in doing so because keeping EBS licensees confined to the secondary market prevents interested parties from knowing the value of the licenses, especially after eligibility and use restrictions are eliminated.[237] While AT&T likely is correct that lessors and lessees have an interest in protecting existing leases, we find that such an interest is legitimate where they have relied on those leases to build their networks and where such leases have long been permitted under our rules.

86. While there is limited support in the record for an incentive auction as a way to "encourage incumbents to relinquish voluntarily some or all of their spectrum usage rights,"[238] we

(Continued from previous page)
providers"); WCAI Comments at 33 (EBS leases often contain rights of first refusal and other provisions that govern situations when an the EBS licensee wants to assign its license).

[230] EBS Parties Reply at 3.

[231] AT&T Reply at 8-9.

[232] Voqal Comments at 26.

[233] NACEPF Comments at 51*; see also* Sprint Reply at 10; Voqal Reply at 33; TechKnowledge March 27 *Ex Parte*, White Paper at 29-30 (noting that, if the Commission does not invalidate lease terms, there would be an impact on the auction process).

[234] AT&T Reply at 8.

[235] TechKnowledge March 27 *Ex Parte*, White Paper at 20-28.

[236] *See* para. 67, *supra* for a discussion of Dillon's Rule and the alleged inability of many local government entities to participate in a spectrum auction. *See also* University of Cincinnati Comments at 1; *see also* Comments of North Carolina Association of Community College Presidents, Docket 03-66 at 2 (filed Aug. 8, 2008); Reply Comments of North Carolina Association of Community College Presidents, Docket 03-66 at 2 (filed Oct. 14, 2008).

[237] AT&T Reply at 7-8.

[238] Midco Comments at 17; AT&T Reply at 6-10; TechKnowledge March 27 *Ex Parte*, White Paper at 15-18. TechKnowledge suggests that licenses not offered in an incentive auction could remain subject to the existing educational use and eligibility restrictions as a way to encourage licensees to participate. TechKnowledge March 27 *Ex Parte*, White Paper at 20. Maintaining such restrictions would be inconsistent with our goal of increasing the use and flexibility of EBS licenses.

conclude that we can achieve much the same result with less disruption to existing licensees and lessees through an auction of overlay licenses.[239] For example, commenters allege that, if we act on our proposals to eliminate eligibility restrictions and make EBS licenses readily transferable, an incentive auction will not be necessary to promote the transition of the band to commercial use, since the use of the spectrum is not changing.[240] As WCAI notes, EBS licensees that wish to sell their licenses and have the ability to do so will be able to sell quickly and efficiently, and without administrative costs, via secondary markets, due to the lifting of the eligibility restrictions.[241] In addition, as WCAI explains, not all EBS spectrum is fungible.[242] In these circumstances, given our decision to eliminate eligibility restrictions, an auction of overlay licenses will quickly assign licenses for EBS white spaces and promote the transition of the band with little disruption to existing users of the spectrum.

87. *Applicability of Part 1 Competitive Bidding Rules.* Except as explained below, we adopt our proposal to conduct any auction of EBS licenses in conformity with the general competitive bidding rules in part 1, Subpart Q, including any modifications that the Commission may adopt for its part 1 general competitive bidding rules in the future.[243] We believe that the Commission's general competitive bidding rules are suitable to conduct an auction of EBS licenses. The limited comment we received on these issues generally supports use of the general part 1 competitive bidding rules.[244] We believe our part 1 rules will allow market forces to determine its highest and best use, and thus will enable the Commission to meet its goal of spurring more efficient and effective use of the 2.5 GHz band.[245] These rules have proven successful in numerous spectrum auctions and establish an auction process that promotes "efficient and intensive use" of this spectrum and the "development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas," and that "recover[s] for the public . . . a portion of the value of the public spectrum resource made available for commercial use.[246]

88. We will not offer designated entity preferences in any auction of EBS licenses, consistent with the Commission's proposal in the *NPRM*.[247] In authorizing the Commission to use competitive

[239] While Midco suggests that the Commission consider using auction proceeds to fund programs to close the homework gap, Midco Comments at 17, Voqal correctly notes that the Commission lacks the authority to disburse auction funds in this way. Voqal Comments at 20 n.55. Although we agree that closing the homework gap is a laudable goal, our current auction authority does not permit us to use auction revenues this way. *See* 47 U.S.C. § 309(j)(8).

[240] WCAI contends that an "incentive auction is best utilized where there is a need for the Commission to organize the market and match the demand of buyers with the supply from sellers . . . In the case of EBS spectrum, the market has worked efficiently since the Commission's 1983 decision permitting leasing . . ." WCAI Comments at 34-35. T-Mobile agrees with WCAI and suggests that an incentive auction works well when the use of spectrum is changing substantially, and that it is unlikely to be the case here-most EBS spectrum is already being used for mobile broadband. T-Mobile Reply at 3-4. According to T-Mobile, incentive auctions are "invaluable to resolve situations where secondary markets do not function well" but that the due to the amount of leasing of EBS spectrum, that is clearly not the case here. T-Mobile Reply at 2.

[241] WCAI Comments at 35.

[242] *Id.* at 33-34 (depending on what licenses a commercial operator already owns and/or leases, certain EBS channel groups may be more or less valuable to them).

[243] *NPRM,* 33 FCC Rcd at 4702, para. 49.

[244] *See* Sprint Comments at 11; WCAI Comments at 18.

[245] *See e.g., Incentive Auction Report and Order,* 29 FCC Rcd at 6570, para. 2.

[246] 47 U.S.C. §§ 309(j)(3)(A), (C), (D).

[247] *NPRM,* 33 FCC Rcd at 4702, para. 49.

bidding, the Communications Act sets forth a number of requirements that the Commission must take into account, including "that small businesses, rural telephone companies, and businesses owned by members of minority groups and women are given the opportunity to participate in the provision of spectrum-based services."[248] Additionally, we are required to seek to promote "efficient and intensive use" of spectrum, allow for the "development and rapid deployment of new technologies, products, and services for the benefit of the public, including those residing in rural areas," and "recover[] for the public . . . a portion of the value of the public spectrum resource made available for commercial use.[249] In designing auction rules and procedures, the Commission must "balance a number of competing policy objectives."[250] In finding this balance, the Commission takes into account both the nature of the service and the nature of the parties most likely to be interested in using the spectrum.[251] We conclude that the unique characteristics of EBS licenses, especially the widespread prevalence of leasing and the existence of small, irregular areas of white space, along with the updates to the 2.5 GHz band that we adopt in this *Report and Order*, strike the appropriate balance and best satisfy our congressional objectives.

89. We disagree with commenters who express support for the use of bidding credits in an EBS auction.[252] While bidding credits have been successful in other auctions, we find that given the small license size, overlay licensing scheme, and prevalence of incumbent licensees with long-term leases, bidding credits are not necessary for small businesses and rural service providers to provide spectrum-based services in the 2.5 GHz band.[253] The removal of the eligibility restriction and educational use requirements will attract more commercial operators to EBS.[254] The unique license terms for overlay licenses with potentially only small portions of unencumbered spectrum for a license, and the use of counties as the license size, will allow small and rural businesses to closely target specific areas, allowing them to avoid having to acquire large license areas that include areas they may not want.[255] The secondary market—in particular, the prevalence of leasing in the 2.5 GHz band—continues to offer small, rural, and minority-owned businesses with opportunities to provide spectrum-based services in the 2.5 GHz band. Since 2004, small businesses, rural telephone companies, and businesses owned by members of minority groups and woman have had, and continue to have, the ability to lease EBS spectrum to provide spectrum-based services.[256] Nothing we adopt in this *Report and Order* limits that ability.

[248] 47 U.S.C. § 309(j)(4)(D).

[249] 47 U.S.C. §§ 309(j)(3)(A), (C), (D); *see also* NTCA Comments at 7-8 (explaining alternatives the Commission may choose to facilitate rural competitors in the absence of bidding credits).

[250] *Fresno Mobile Radio, Inc. v. FCC*, 165 F.3d 965, 971 (D.C. Cir. 1999).

[251] *See Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band*, Further Notice of Proposed Rulemaking, 29 FCC Rcd 4273, 4313, para. 131 (2014).

[252] *See* Select Spectrum Comments at 4 ("the Commission should use the designated entity rules that have been successful in attracting smaller companies to bid and win in past auctions including the 700 MHz Auction and the 600 MHz Auction"); EBPARC Reply at 3 ("[d]uring the auctions, the Commission should use its recent approaches giving bidding preference to legitimate small businesses.").

[253] *See* Select Spectrum Comments at 4; EBPARC Reply at 3.

[254] *See* WCAI Comments at 16 ("Eliminating the eligibility requirements in Section 27.1201 of the Rules and permitting commercial entities to directly hold EBS licenses without the costs associated with leasing will promote intensive and efficient spectrum use by providing EBS licensees to those who ultimately place the greatest value on the spectrum.").

[255] *See* NACEPF Reply at 37 (explaining the downward effect on the cost of an overlay license at auction).

[256] *See* WCAI Comments at 3-4 (summarizing a number of small and/or rural businesses who have had success using leased EBS spectrum).

90. We also conclude that the unique characteristics of the 2.5 GHz band described above and the priority window for Tribal entities are sufficient to promote greater use of the spectrum over rural Tribal lands, thus making bidding credits for Tribal lands unnecessary. We also believe that the priority window for rural Tribal lands will reduce or eliminate mutually exclusive applications in those areas. If there are mutually exclusive applications for rural Tribal lands, all applicants during the priority window potentially would be eligible for a Tribal lands bidding credit if we were to offer one. As the Commission previously has explained, a bidding credit is not necessary when it will not serve its intended purpose.[257] If we were to offer all eligible Tribal entities a Tribal lands bidding credit, it would not assist a tribal entity's ability to effectively compete in an auction against other eligible Tribal entities who also have the same bidding credit. We believe a Tribal local priority window is an important means of facilitating service on Tribal lands, and we disagree with Midco's contention that a Tribal lands bidding credit would be an adequate substitute.[258] We believe the priority window and performance requirements will be sufficient to promote greater use of 2.5 GHz spectrum over rural Tribal lands.

### 2. Description of Licenses Being Offered

91. *Geographic Area.* We adopt counties as the appropriate geographic size for new licenses.[259] We find that a county-based license will afford overlay licensees the flexibility to develop localized services, allow for targeted deployments based on market forces and customer demand, and facilitate access by both smaller and larger providers.[260] As noted by several commenters, counties also "nest" into Basic Trading Areas (BTA)s, and thus they are congruent with the current footprint of BRS licensees, creating consistency with the existing BRS licensing framework.[261] As noted by supporters, licensing by county accommodates a wide variety of business models: it enables rural providers to obtain spectrum just in the area that they intend to serve, while allowing larger providers to aggregate spectrum in multiple counties as part of a larger business plan.

92. We reject the alternative of census tracts as the geographic area licensing unit. We agree with commenters opposing the use of census tracts[262] that census tracts are extremely numerous and are dynamic in size and location, which makes them difficult to manage and organize.[263] These commenters contend that "the numerous boundaries make RF containment problematic, a problem that would be exacerbated by the relatively higher field strength limits involved with 2.5 GHz equipment that can operate at hundreds of watts of power."[264] Because many census tracts would be smaller than the average coverage area of a single 2.5 GHz base station, we conclude that census tracts would be unworkable.

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[257] *See Amendment of the Commission's Rules Regarding Installment Payment Financing for Personal Communications Services (PCS) Licenses*, Sixth Report and Order and Order on Reconsideration, 15 FCC Rcd 16266, 16288, para. 45 (2000) (eliminating the continued use of bidding credits in restricted auctions because in closed bidding it would not necessarily serve the intended purpose of assisting small businesses to compete effectively.).

[258] *See* Midco March 5 *Ex Parte* at 6.

[259] NTCA Comments at 6; WCAI Comments at 5; T-Mobile Reply at 7-8; TechKnowledge March 27 *Ex Parte*, White Paper at 30.

[260] NTCA Comments at 6.

[261] *Id.*

[262] Midco finds either census tracts or counties acceptable, although it maintains that counties would be easier to administer. Midco Comments at 8-9.

[263] T-Mobile Reply at 7-8.

[264] *Id.*

93. We also find Sprint's proposal to offer large-area licenses, based on either Partial Economic Areas or BTAs, inferior to basing licenses on counties.[265] While Sprint notes that "BTA licensing in particular has the benefit of consistency with the existing BRS licensing framework,"[266] we are not persuaded that consistency with the BRS framework alone warrants adopting a larger license size for EBS spectrum.

94. *Band Plan.* We adopt a band plan that will include two overlay licenses: one license will include the lower and middle band channels (A1-4, B1-4, C1-4, D1-4, G4, J), and the other will include the channels G1-3 and the relevant EBS K channels. By giving applicants one wide block of 100 megahertz and one narrower block of 16.5 megahertz from which to choose, we will provide opportunity for entities of various sizes and spectrum needs. As commenters note, it is important that one wide channel block of contiguous spectrum be available because wider blocks are necessary to provide high-speed broadband access.[267] Licensing the lower band and middle band as one channel block and the upper band channel as a separate block fits the overall structure of the current band plan and makes it easier for the new overlay licensees to coordinate with the incumbent EBS licensees.[268]

95. In the *NPRM*, we asked commenters to address the appropriate channel block size for future licensing and to discuss why such a channel block size would serve the public interest, and we received a variety of proposals in response.[269] While some commenters argue that we should license the current middle band segment as a separate license, we conclude that such an approach would be spectrally inefficient.[270] The middle band segment was originally designed for legacy video services,[271] which have virtually disappeared from the band. Licensing the middle band channels separately creates discontiguity, which is ill-suited for wireless broadband use in general and Time Division Duplexing (TDD)—the predominant use of the band currently—in particular. For this reason, we reject WCAI and Sprint's proposals to have three different licenses. WCAI suggests licenses for the lower band (A1-3, B1-3, C1-3, D1-3 and the J channels), the middle band (A-G4) and the upper band. (G1-3 and the K channels), while Sprint proposes three licenses at (1) A1-4 and B1-4, (2) C1-4 and (3) D1-4 and G1-4.[272] We also reject WISPA's proposal for four channel blocks, (1) A1-3 and B1-3, (2) C1-3 and (3) D1-3, A4, B4, C,4, D4 and G4 and (4) G1-3.[273] By creating separate licenses for the lower and middle parts of the band, these proposals would not maximize the 2.5 GHz band's potential to be used for high-speed wireless broadband services.

96. We further find that the EBS white space discounts from the spectrum screen also should be eliminated. In the NPRM, we sought comment on whether any rule changes adopted here would warrant modification of our treatment of EBS spectrum in the spectrum screen.[274] Although one

[265] Sprint Comments at 11.

[266] *Id.*

[267] Midco Comments at 17-18; Sprint Comments at 11; WCAI Comments at 19-20; WISPA Comments at 20-21.

[268] The J channels account for an additional 4 megahertz of lower guard band EBS spectrum which will be newly added to the spectrum screen.

[269] *NPRM*, 33 FCC Rcd at 4702, para. 50.

[270] Select Spectrum Comments at 3; WCAI Comments at 18-19; WISPA Comments at 20-21.

[271] *BRS/EBS R&O*, 19 FCC Rcd at 14184, para. 39.

[272] Sprint Comments at 11.

[273] WISPA Comments at 20-21.

[274] *NPRM*, 33 FCC Rcd at 4695, para. 24.

commenter, opposing revision of the screen, argues that changes are unnecessary,[275] several others support revising the spectrum screen.[276] WCAI, for example, argues that retaining a spectrum screen discount "based on outdated educational use requirements and eligibility would not reflect the new reality that all EBS spectrum can be used for commercial purposes."[277] AT&T similarly argues that changing the EBS spectrum rules and reallocating EBS spectrum would require the Commission to revise the spectrum screen to include all EBS spectrum because the changes would make all EBS spectrum "'used and useful' for the provision of mobile broadband services."[278]

97. Although the Commission previously excluded 16.5% of EBS spectrum from the spectrum screen to account for the fact that commercial providers did not have an opportunity to gain access to EBS white space spectrum, this discount is no longer necessary.[279] Accordingly, we find that EBS white space spectrum should be considered "available," for purposes of the spectrum screen.

98. Finally, we conclude that it is no longer necessary to exclude 5% of EBS spectrum from the spectrum screen in light of our decision to eliminate the educational use requirement.[280] While we recognize that some existing EBS spectrum leases may include terms with educational use restrictions,[281] we believe that if there are such aspects of EBS spectrum leases that warrant further consideration, our case-by-case review of secondary market transactions is the best way to assess the impact of such spectrum lease contractual provisions in particular local markets.[282]

### 3. Requirements for New 2.5 GHz Licensees

99. *Performance Requirements.* We adopt the performance requirements that the Commission proposed in the *NPRM*,[283] replacing the existing substantial service regime[284] with a menu of specific performance requirements for EBS licensees that depend on the specific service they are

[275] Select Spectrum Comments at 5.

[276] WCAI Comments at 23-24; Midco Comments at 19, AT&T Comments at 8 n.16.

[277] WCAI Comments at 23-24.

[278] AT&T Comments at 8 n.16.

[279] Nebraska notes that the spectrum screen depends on white space and how it is used. Nebraska Joint Agency Comment at 11; *see also* AT&T Comments at 8, n.16 (asserting that if the Commission decides to reallocate EBS spectrum, by, among other things, conducting a regular spectrum auction of unlicensed EBS spectrum, it should revise the spectrum screen).

[280] *Mobile Spectrum Holdings Report and Order*, 29 FCC Rcd at 6186, para. 123.

[281] Several commenters note extensive leasing arrangements in the EBS band and want those leases to be preserved. HITN Comments at 4; NAUF Comments at 8; Voqal Comments at 6, 10. We agree with commenters that our actions should not harm or invalidate existing leases, and we emphasize that nothing in our actions is intended to invalidate existing lease provisions.

[282] *Mobile Spectrum Holdings Report and Order*, 29 FCC Rcd at 6239, paras 284-85.

[283] *NPRM*, 33 FCC Rcd at 4703-04, para. 54.

[284] Currently, licensees in the 2.5 GHz band, including EBS licensees, are subject to a substantial service regime of performance requirements, which were set forth in 2006 as part of the ongoing efforts to transition the band to the new band plan established in 2004. Licensees were required to demonstrate compliance by May 1, 2011. This requirement includes specific safe harbors, including 30 percent population coverage for mobile or point-to-multipoint use, six permanent links per million for fixed point-to-point services, and an educational safe harbor for EBS licensees specifically, consisting of 20 hours of educational use per channel, per week. *See BRS/EBS Second R&O*, 21 FCC Rcd at 5719-33, paras. 276-304; *see also BRS/EBS FNPRM*, 19 FCC Rcd at 14282-84, paras. 321-22.

[284] *NPRM*, 33 FCC Rcd at 4703-04, paras. 54-55.

offering.[285] Going forward, EBS licensees that are required to make a build-out showing under these new standards[286] may fulfill their final performance requirements by showing any of the following: (1) 80% population coverage for mobile or point-to-multipoint service (50% interim); (2) 40 links per million persons (one link per 25,000) for fixed point-to-point service (20 links per million interim (one link per 50,000)); or (3) 80% population coverage for broadcast service (50% interim). No other types of showing or levels of coverage will be accepted.[287] These benchmarks will apply to both licenses won at auction and licenses granted through the Tribal priority window.

100. These benchmarks are similar to those for the AWS-3 and WCS bands (which have similar propagation characteristics) but are slightly higher (an additional 5%) to account for the maturity of technologies already developed and deployed in the 2.5 GHz band.[288] Specifically, while the AWS-3 and WCS performance requirements were established before there were extensive operations in those bands, there are currently extensive operations and ample equipment in the 2.5 GHz band. These increased requirements will help to address the concerns of some commenters that current licensees of this spectrum are not deploying to all communities within their license areas.[289] This approach to performance requirements is supported by several commenters who advocate for robust performance requirements, including the *NPRM* proposal specifically,[290] as well as other commenters who generally support build-out requirements without providing specifics.[291]

101. Some commenters suggest a more relaxed approach to performance requirements, including retaining the current substantial service regime.[292] Other commenters support adoption of the same performance requirements as those currently applicable to BRS licensees,[293] which are similar to the current EBS substantial service standard.[294] We reject retaining the existing substantial service requirement for new EBS licenses, as the existing requirements are inconsistent with the build-out

[285] *Id.* at 4703-04, para. 54.

[286] As we discuss below, this does not include existing licensees who have already fulfilled their performance requirements under the previous standards.

[287] Licensees may continue to apply for extensions and waivers, per the Commission's usual policies on such requests.

[288] *See* 47 CFR § 27.14(p), (s). AWS-3 and WCS licensees must provide coverage of 75% of the population in their license areas as a final buildout requirement. *Id.*

[289] *See* Bad River Comments at 6; Nez Perce Tribe Comments at 7; Friday Institute Reply at 8-9.

[290] EBC Comments at 4 (supporting Commission proposal if limited to commercial licenses); Friday Institute Reply at 6-9 (urging "more robust" requirements); Midco Comments at 14 (supporting Commission proposal), North Carolina Comments at 6 (suggesting 50% interim area coverage and 95% final); WISPA Comments at 22-23 (supporting Commission proposal).

[291] CA K-12 HSN Comments at 20 (supporting "a good process to ensure license holders are meeting minimal use requirements"); CCA Comments at 6-7 (suggesting "reasonable" standards); SETDA Comments at 8 (urging adoption of "build-out requirements that lead to timely service delivery for marginalized students").

[292] CTN/NESBA Comments at 20 (supporting substantial service); NACEPF Comments at 49 (opposing any requirement more stringent than those in place for commercial operators in other bands, including BRS); R Street Institute Comments at 9-11 (urging use of secondary markets instead), Select Spectrum Comments at 6 (supporting substantial service); Sprint Comments at 12-13 (supporting substantial service); Utah Comments at 2-3 (supporting substantial service); WCAI Comments at 30 -31 (supporting using existing standards for BRS, which provide for 30% population coverage); EBPARC Reply at 5-6 (supporting substantial service).

[293] Sprint Comments at 12; WCAI Comments at 30.

[294] *See* 47 CFR § 27.14(o)(1), (2).

requirements we have adopted for similar bands such as AWS. We agree with WISPA that those substantial service standards are too vague, particularly in the context of a band that has a developed equipment ecosystem.[295] The existing substantial service requirements were adopted prior to the transition to the new band plan and at a time when there was substantial uncertainty about how the band would be used in the future. Now, the ability to use EBS for broadband is well established. Given the maturity of the ecosystem in this band, and the low thresholds and vague requirements of the previous standards, we decline to continue with the substantial service regime or to adopt any minor modification thereof.[296] In other bands, the Commission has determined that a substantial service regime, which lacks firm minimum requirements, does not adequately safeguard effective use of the relevant spectrum, and we extend that conclusion to EBS.[297] The increased requirements we adopt in this *Report and Order* will address that concern more effectively than the current requirements.

102. A few commenters suggest alternatives to the *NPRM* proposal beyond retention of substantial service. The Nez Perce Tribe suggests that the "coverage target" should be 100% area coverage, but that the actual benchmark should be determined by each licensee according to the specific terrain and circumstances of each license.[298] Other commenters propose imposing various standards of service, such as speed or affordability, as part of the performance requirement.[299] We decline to incorporate these concepts into the new performance requirements we adopt today. The Nez Perce Tribe's case-by-case suggestion would result in requirements that would vary across licenses, and that, if based on a licensee's own analysis, could not be determined prior to auction. The resulting uncertainty would be unfair to auction participants, who could not reasonably anticipate the construction obligation that would accompany their new licenses. This system also would place a significant burden on licensees to justify their particular level of construction as adequate in their circumstances, rather than giving licensees a set benchmark on which to rely. We also decline to incorporate any quality of service measure into the performance requirements. We do not include such a requirement in any other wireless service as a condition of license renewal, and the commenters suggesting it have not provided evidence that EBS as a service is uniquely situated so as to require it.

103. We decline to adopt any educational use metric for performance requirements. The potential for wireless services to support education is clear; nevertheless, this goal will be supported best by adopting stringent build-out requirements that encourage wider deployment of all broadband services, rather than by attempting to define what constitutes acceptable levels or types of educational use specifically. The few comments received on this issue illustrate the difficulty of finding a specific educational metric that encourages deployment without placing an undue regulatory burden on licensees.[300] The robust mobile, fixed, and broadcast metrics we adopt in this *Report and Order* will promote deployment of wireless services that can be used for all purposes, including education. We

[295] WISPA Reply at 22.

[296] For the reasons discussed in this item, we will continue to use the old substantial service requirements for the limited purpose of applying the renewal standard to existing EBS licensees. *See* para. 110, *infra*.

[297] *See Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, et al.*, Report and Order, 31 FCC Rcd 8014, 8088, para. 203 (2016).

[298] Nez Perce Comments at 7.

[299] Midco Comments at 14-15 (minimum speed threshold of 25 Mbps down and 3 Mbps up, no data caps); SHLB Comments at 5-7, n.11 (20% of all customers should have affordable, uncapped wireless broadband service).

[300] *See* South Florida EBS Comments at 7 (acknowledging that the current hour-based metric is a poor fit for the broadband context but cautioning that any new metric must not overburden licensees); Friday Institute Reply at 6-7 (suggesting that the metric be based on the percentage of K-20 students served, as geographic area is insufficient to describe the educational reach of a deployment).

recognize that incumbent licensees may have relied on the educational use standard to fulfill their performance requirements in the past. Those licensees may continue to use the substantial service standard in order to make their renewal showing, but the substantial service standard, including the educational safe harbor, will not be available to new licensees in the band.

104. The Commission also sought comment in the *NPRM* on the appropriate timeline for the interim benchmark, and the appropriate penalty for failure to meet a benchmark.[301] In this regard, we will apply the interim benchmark after four years, and the final benchmark after eight years. The penalty for failure to meet the interim benchmark will be the acceleration of the final benchmark deadline by two years, to six years rather than eight. This timeline is slightly more aggressive than WISPA's suggestion of a five-year interim and a ten-year final deadline,[302] but the critical role of mid-band spectrum in today's spectrum environment warrants such an approach. The existing ecosystem of equipment already available in the band, and the success of recipients of waivers and STAs with expeditious deployment, also suggest that a more compressed timeline is appropriate here.[303] This timeline and the two-year acceleration penalty are also largely consistent with our rules in other bands[304] and will help harmonize the regulatory regime of the 2.5 GHz band with other commercial wireless services. Apart from WISPA, no other commenters offer suggestions for the timing of benchmarks or the acceleration penalty.

105. As with other wireless services, a license will automatically terminate if the licensee fails to meet the final construction benchmark.[305] We reject as unnecessary Midco's suggestion to allow one or two 90-day cure periods in order to accommodate "difficult conditions" or "other unknown impediments."[306] We expect applicants to conduct their due diligence and plan to meet these buildout deadlines. In extraordinary circumstances, the Commission may consider waiver requests to accommodate unanticipated difficulties requiring short-term accommodations.

106. For licenses acquired via the Tribal priority window described above, we adopt a different timeline. These licenses must demonstrate compliance with interim build-out levels after two years, and final build-out levels after five years. The penalty for missing the interim deadline will be an acceleration of the final deadline by one year. This timeline will encourage deployment in underserved areas, while discouraging speculation or application mills.[307] The equipment ecosystem in this band has matured considerably since potential licensees last had a routine opportunity to apply for this spectrum, and the cost and difficulty of deployment have eased significantly.[308] Recent recipients of waivers and STAs in this band have been able to deploy and begin service well within a five-year timeframe.[309] This

[301] *NPRM*, 33 FCC Rcd at 4703-04, para. 54.

[302] WISPA Comments at 22-23.

[303] *See* para. 106 *infra*.

[304] *See* 47 CFR § 27.14(q) (AWS-4, interim showing four years after initial license grant, final accelerated from seven to six years if interim not met); (s) (AWS-3, final accelerated by two years if interim not met); (t) (600 MHz, same as AWS-3).

[305] *See* 47 CFR §§ 1.946(c), 1.955(a)(2).

[306] Midco Comments at 18.

[307] *See* EBC Comments at 3-4 (suggesting a short initial build-out period to discourage application mills).

[308] *See* MuralNet Comments at 2, NMU Comments at 4.

[309] NMU received a waiver of the filing freeze and was granted additional, geographically-adjacent license areas in November 2015; Kings County was granted an STA for additional channel groups in May 2017; and the Havasupai were granted an STA for one channel group in February 2018. Each of these entities has since deployed across the additional spectrum it was granted (Kings County has deployed in two of three channel groups) and is currently providing service. *See* Kings County Comments at 2-3; NMU Comments at 4; Havasupai March 29 *Ex Parte* at 2.

timeline is also consistent with the recommendation from MuralNet, which developed and deployed the network for the Havasupai Tribe.[310]

107. There are also considerations specific to the Tribal window that support this timeline for those licensees. Because Tribal applicants will be able to specify their own service area, this timeline will encourage those applicants to estimate accurately the level of deployment they will be able to achieve, rather than over-claiming and thereby precluding any other potential licensee. We therefore reject Colville's suggestion that requirements should not be "more robust" than for other licensees, [311] and Havasupai's suggestion that Tribes should not be subject to any build-out requirement whatsoever. [312] In addition, a five-year Tribal deployment timeline will enable an auction-based overlay licensee to reclaim unbuilt spectrum before the end of its ten-year overlay license term if a Tribe is unable to build, helping to ensure that the spectrum is put to use.

108. *Renewal Standards.* In 2017, the Commission adopted a unified regulatory framework for the Wireless Radio Services (WRS) that replaced the existing patchwork of service-specific rules regarding renewal, comparative renewal, continuity of service, and partitioning and disaggregation, with clear and consistent rules of the road for WRS licensees.[313] We adopt the *NPRM*'s proposal to apply the WRS framework of renewal standards to new EBS licenses, including licenses granted via the Tribal priority window.[314] With the actions we take today to make EBS more flexible and similar to other bands where the WRS rules apply, we find it is now appropriate to apply the WRS rules to EBS. This change will harmonize the regulatory regime of the 2.5 GHz band with other bands that support commercial wireless services,[315] and it will give licensees more clarity on their regulatory requirements and options, including the flexibility to partition or disaggregate their licenses. The record supports applying the WRS framework to new EBS licensees.[316] We believe that updating the renewal standards in this manner will encourage more rapid deployment of next generation wireless services, including 5G.

[310] *See* MuralNet May 24 *Ex Parte* at 2 (advocating for a buildout requirement for existing licenses of 60% population coverage "at broadband speeds" after three years, and 90% coverage after five years).

[311] Colville Comments at 12. This suggestion is also consistent with the Nez Perce Tribe's suggested performance requirements for all licensees. Nez Perce Comments at 7.

[312] Havasupai Comments at 3.

[313] *See Amendment of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 To Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services*, Second Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 8874 (2017) (*WRS Second R&O*). This framework did not change existing performance requirement obligations. Rather, it clarified the relationship between "performance requirements" (sometimes referred to as "construction requirements" or "buildout requirements") and "renewal standards." *Id.* at 8883, paras. 20-21. Performance requirements are specified for each service or band (not in the WRS proceeding) and are one component of renewal standards. *Id.* at 8883, para. 21. Licenses subject to WRS must meet the renewal standards at the end of every license term, including the initial one. *Id.* The discussion of "performance requirements" in this and the above section refers to the performance/construction requirements themselves, not to the separate issue of renewal standards.

[314] *See NPRM*, 33 FCC Rcd at 4705, para. 55.

[315] *See* WISPA Comments at 22-23.

[316] Midco Comments at 19; Utah Comments at 2; WCAI Comments at 32; WISPA Comments at 22; Bad River Comments at 7, n.12.

109. We also apply the WRS framework to existing EBS licensees. The Commission sought comment on this issue in the *NPRM*, and several commenters support this idea.[317] Applying the renewal standard to existing licenses will ensure that the licensees who hold them will continue to provide some level of service and that the frequencies covered by those licenses do not lie fallow. Consistent with our treatment of other incumbent licenses that did not have a prior renewal standard, we will require compliance with the renewal standard for renewal applications filed after January 1, 2023.[318]

110. In evaluating existing licensees under these new renewal standards, however, we will apply our old, substantial-service build-out standard contained in section 27.14(o) of the Commission's rules, rather than the new build-out standards. Because we are not applying the new build-out standards to existing licensees, it would create confusion and inconsistency if we were to evaluate whether their licenses should be renewed using a standard that licensees are not required to meet for the purposes of satisfying build-out requirements. This consideration should answer the concerns of commenters that suggest that requiring an increased level of build-out by existing licensees would be arbitrary or unfair.[319] We clarify that, for purposes of meeting the renewal standard, the educational use safe harbor contained in section 27.14(o)(2) is available only to licensees that meet the old EBS eligibility standard, since that safe harbor was based on service to accredited educational institutions. If such a licensee transfers its license to an entity that does not meet that standard, the new licensee will be required to make future showings using one of the other safe harbor provisions contained in section 27.14(o).

### 4. Dismissal of Pending Waiver Requests

111. Upon adoption of this *Report and Order*, we will dismiss, without prejudice, any pending applications for new EBS licenses.[320] A freeze on the filing of new EBS applications was instituted in 2003 in conjunction with the Commission's proposing new technical rules and band plan for the 2.5 GHz band.[321] The Commission has granted some waiver requests to permit the filing of applications for new EBS licenses while the freeze remained in place.[322] There are a handful of additional requests for waiver

[317] Midco Comments at 19; Utah Comments at 2; WCAI Comments at 32. Other commenters support the idea under certain conditions. *See* CTN/NESBA Comments at 20-21 (suggesting a five-year transition period); Colville Comments at 12 (supporting renewal standards if Tribes are provided "sufficient time" to construct facilities); EBS Parties Reply at 4.

[318] *See* 47 CFR § 1.949(c). While NEBSA and CTN ask for a five-year transition period (*see* NEBSA/CTN Comments at 21), we find that the January 1, 2023 date will provide adequate time for current EBS licensees to prepare.

[319] Sprint Comments at 13. Several other commenters support applying WRS to existing licenses only if the same performance standards are used. *See* CTN/NESBA Comments at 20-21; HITN Comments at 7; South Florida EBS Comments at 7-8 (arguing that the Commission should not requires EBS licensees to maintain any level of build-out achieved under a particular lease).

[320] Monterey Peninsula Unified School District (File Number 0007664266) and Duckwater Shoshone Tribe (File Numbers 0007768145 and 0007768146.

[321] *See* Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands. *Notice of Proposed Rulemaking and Memorandum Opinion and Order*, WT Docket No. 03-66, 18 FCC Rcd 6722, 6813, para. 226; 6825, para. 260 (2003) (*NPRM and MO&O*).

[322] *See, e.g.*, Application of The Board of Trustees of Northern Michigan University For a New Educational Broadband Service Station, *Memorandum Opinion and Order*, 23 FCC Rcd 11832 (WTB 2008); Application of The Nisqually Indian Tribe, *Memorandum Opinion and Order*, 28 FCC Rcd 15569 (WTB BD 2013); The Board of Trustees of Northern Michigan University, *Memorandum Opinion and Order*, 28 FCC Rcd 15576 (WTB BD 2013); The Board of Trustees of Northern Michigan University, *Memorandum Opinion and Order*, 28 FCC Rcd 15583

(continued….)

of the EBS freeze currently pending that seek new EBS licenses.[323] Since this *Report and Order* is instituting a new process for the assignment of EBS spectrum, we see no need to grant requests for waiver of the freeze, and therefore we dismiss these pending applications without prejudice. The applicants are free to participate in the license assignment processes adopted herein through the Tribal priority window or competitive bidding, as applicable.

### D. Cleaning up the 2.5 GHz Rules

112. Because the transition from the interleaved channel plan under the former ITFS to the new channel plan under BRS and EBS was completed in 2011, the Commission proposed to remove those rule sections that addressed the transition.[324] In light of the fact that the transition has been completed, we find that the rules are obsolete and no longer necessary, and that elimination of the rules is therefore in the public interest. We also received no comments objecting to the removal of these rules. We therefore adopt our proposal to remove sections 27.1230 through 27.1239 of our rules.[325]

113. We also received no comments objecting to the Commission's proposal to make non-substantive clarifying amendments to section 27.1206 of our rules.[326] In light of our decisions to adopt a Tribal priority window with GSAs based on rural Tribal lands, as well as our decision not to rationalize existing licenses, we will amend section 27.1206 to reflect the decisions we have made. We also reorganize sections 27.1207, 27.1208, and 27.1209 to place similar subjects together, reduce duplication, and incorporate the rule changes we have adopted for EBS. These changes do not result in any substantive changes for existing BRS or EBS licenses.

114. Several commenters have made proposals that are outside of the scope of the subject proceeding or that have been made moot by our changes to the EBS band, and thus, we are not addressing those proposals herein.[327]

(Continued from previous page)
(WTB BD 2013); Application of The Board of Trustees of Northern Michigan University For a New Educational Broadband Service Station, *Memorandum Opinion and Order*, 31 FCC Rcd 3371 (WTB BD 2016).

[323] *See* Monterey Peninsula Unified School District, File No. 0007664266; Duckwater Shoshone Tribe, File Nos. 0007768145 and 0007768146.

[324] *NPRM*, 33 FCC Rcd at 4704, para. 56.

[325] A few Multichannel Video Programming Distributors (MVPD) have received waivers to opt out of the transition so that they can continue providing service. Should an MVPD operator decide that it wishes to discontinue video service and transition to the new band plan, it can follow the process established by the Wireless Telecommunications Bureau in *Antilles Wireless, LLC d/b/a USA Digital, et al.*, Order on Reconsideration, 25 FCC Rcd 8052, 8058, paras. 13-14 (WTB 2010).

[326] *NPRM*, 33 FCC Rcd at 4704, para. 57.

[327] For example, EIBASS and NAB request that we make clear that EBS licensees are obligated to protect BAS stations in the 2483.5-2500 MHz band. NAB Comments at 1-2; EIBASS Reply at 2. EBS spectrum starts at 2502 MHz and is not adjacent to BAS spectrum. Nothing in the *NPRM* proposes changes to the technical or operational rules. Thus, there is nothing in this *NPRM* that would impact BAS stations and what EIBASS and NAB request is outside the scope of this proceeding. In addition, some commenters request that we make changes to the E-Rate program in ways that would assist educators and students. *See, e.g.*, Midco Comments at 13-14; SETDA Comments at 9-10; Utah Comments at 4; WCAI Comments at 18-19. Nothing in the *NPRM* proposed any changes to the E-Rate program. Other commenters ask that we adopt new rules-such as imposing a local presence requirement on existing EBS licensees, SETDA Comments at 7, or instituting new procedures for renewal or lease approval processes for EBS licensees. Utah Comments at 2-6. With the elimination of the eligibility and educational use requirements, we see no reason to address these requests, as they are now moot. VIYA asks that we automatically provide entities providing service via special temporary authority (STA) with full licenses based on their outlay of resources. VIYA Comments at 9-12. We note that VIYA has filed applications for permanent authority for the
(continued….)

### E. Effective Date of Rule Changes

115. In order to provide applicants in the Tribal priority window with a stable licensing environment unaffected by changes to the band, we will defer the effective date of the rule changes we adopt in this proceeding[328] (other than the rules adopting the Tribal priority window and the construction requirements rule, which will apply to the Tribal priority window) until six months from the date of *Federal Register* publication of this *Report and Order*.

## IV. PROCEDURAL MATTERS

116. *Final Regulatory Flexibility Analysis.* The Regulatory Flexibility Act (RFA)[329] requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that "the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities."[330] Accordingly, we have prepared a Final Regulatory Flexibility Analysis (FRFA) concerning the possible impact of the rule changes contained in this *Report and Order* on small entities. The FRFA is set forth in Appendix B.

117. *Paperwork Reduction Act.* This document contains new or modified collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. It will be submitted to the Office of Management and Budget (OMB) for review under section 3507(d) of the PRA. OMB, the general public, and other Federal agencies are invited to comment on the new or modified information collection requirements contained in this proceeding. In addition, we note that, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4), we previously sought, but did not receive, specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. We describe impacts that might affect small businesses, which includes more businesses with fewer than 25 employees, in the Final Regulatory Flexibility Analysis in Appendix B.

118. *Congressional Review Act.* The Commission will send a copy of this Report & Order to Congress and the Government Accountability Office pursuant to the Congressional Review Act. See 5 U.S.C. § 801(a)(1)(A).

119. *Further Information.* For further information, contact John Schauble of the Wireless Telecommunications Bureau, Broadband Division, at 202-418-0797 or John.Schauble@fcc.gov.

## V. ORDERING CLAUSES

120. Accordingly, IT IS ORDERED, pursuant to Sections 1, 2, 3, 4, 5, 7, 301, 302, 303, 304, 307, 309, and 310 of the Communications Act of 1934, 47 U.S.C. §§ 151, 152, 153, 154, 155, 157, 301, 302a, 303, 304, 307, 309, and 310, and Section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. § 1302, that this Report and Order IS HEREBY ADOPTED.

121. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Report and Order, including

(Continued from previous page)
frequencies in questions. *See* File Nos. [[_____]] (filed June 17, 2019). The *NPRM* did not propose this, and we believe this issue is better addressed in the context of VIYA's pending applications. Accordingly, we will not address this issue in the rulemaking.

[328] We are also deferring the modification of the spectrum screen until six months from the date of *Federal Register* publication.

[329] *See* 5 U.S.C. §§ 601–612. The RFA has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[330] 5 U.S.C. § 605(b).

the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

122. IT IS FURTHER ORDERED that the rules and requirements adopted herein WILL BECOME EFFECTIVE six months from the date of publication in the Federal Register with the exception of Sections 27.14(u) and 27.1204 of the rules, which contain new or modified information collection requirements that require review by the OMB under the PRA and which WILL BECOME EFFECTIVE after OMB review and approval, on the date specified in a notice that the Commission will publish in the Federal Register announcing such approval and effective date.

123. IT IS FURTHER ORDERED, pursuant to Sections 4(i) and 309 of the Communications Act of 1934, 47 U.S.C. §§ 154(i), 309, and Section 1.934(d)(2) of the Commission's Rules, 47 CFR § 1.934(d)(2), that the requests for waiver of the freeze on the filing of new EBS applications filed by Monterey Peninsula Unified School District and the Duckwater Shoshone Tribe ARE DENIED, and the applications filed by Monterey Peninsula Unified School District (File No. 0007664266) and Duckwater Shoshone Tribe (File Nos. 0007768145 and 0007768146) ARE DISMISSED WITHOUT PREJUDICE.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

## APPENDIX A

## Final Rules

The Federal Communications Commission amends 47 CFR parts 1 and 27 as follows:

**PART 1 – PRACTICE AND PROCEDURE**

1. The authority citation for part 1 is revised to read as follows:

Authority: 47 U.S.C. chs. 2, 5, 9, 13; 28 U.S.C. 2461, unless otherwise noted.

2. Amend § 1.907 by revising the definition for "Covered Geographic Licenses" to read as follows:

**§ 1.907 Definitions.**

* * * * *

*Covered Geographic Licenses*. Covered geographic licenses consist of the following services: 1.4 GHz Service (part 27, subpart I of this chapter); 1.6 GHz Service (part 27, subpart J); 24 GHz Service and Digital Electronic Message Services (part 101, subpart G); 218-219 MHz Service (part 95, subpart F); 220-222 MHz Service, excluding public safety licenses (part 90, subpart T); 600 MHz Service (part 27, subpart N); 700 MHz Commercial Services (part 27, subparts F and H); 700 MHz Guard Band Service (part 27, subpart G); 800 MHz Specialized Mobile Radio Service (part 90, subpart S); 900 MHz Specialized Mobile Radio Service (part 90, subpart S); Advanced Wireless Services (part 27, subparts K and L); Air-Ground Radiotelephone Service (Commercial Aviation) (part 22, subpart G); Broadband Personal Communications Service (part 24, subpart E); Broadband Radio Service (part 27, subpart M); Cellular Radiotelephone Service (part 22, subpart H); Citizens Broadband Radio Service (part 96, subpart C, of this chapter); Dedicated Short Range Communications Service, excluding public safety licenses (part 90, subpart M); Educational Broadband Service (part 27, subpart M); H Block Service (part 27, subpart K); Local Multipoint Distribution Service (part 101, subpart L); Multichannel Video Distribution and Data Service (part 101, subpart P); Multilateration Location and Monitoring Service (part 90, subpart M); Multiple Address Systems (EAs) (part 101, subpart O); Narrowband Personal Communications Service (part 24, subpart D); Paging and Radiotelephone Service (part 22, subpart E; part 90, subpart P);

VHF Public Coast Stations, including Automated Maritime Telecommunications Systems (part 80, subpart J); Upper Microwave Flexible Use Service (part 30); and Wireless Communications Service (part 27, subpart D).

* * * * *

3. Amend § 1.9020 by revising paragraph (d)(2)(i) to read as follows:

**§ 1.9020 Spectrum Manager Leasing Arrangements.**

* * * * *

(d) * * *

(2) * * *

(i) The spectrum lessee must meet the same eligibility and qualification requirements that are applicable to the licensee under its license authorization, with the following exceptions. A spectrum lessee entering into a spectrum leasing arrangement involving a licensee in the Public Safety Radio Services (see part 90, subpart B and §90.311(a)(1)(i) of this chapter) is not required to comply with the eligibility requirements pertaining to such a licensee so long as the spectrum lessee is an entity providing communications in support of public safety operations (see §90.523(b) of this chapter). A spectrum lessee entering into a spectrum leasing arrangement involving a licensee in the Mobile Satellite Service with ATC authority (see part 25) is not required to comply with the eligibility requirements pertaining to such a licensee so long as the spectrum lessee meets the other eligibility and qualification requirements of paragraphs (d)(2)(ii) and (d)(2)(iv) of this section.

* * * * *

4. Amend § 1.9030 by revising paragraph (d)(2)(i) to read as follows:

**§ 1.9030 Long-term de facto transfer leasing arrangements.**

* * * * *

(d) * * *

(2) * * *

(i) The spectrum lessee must meet the same eligibility and qualification

requirements that are applicable to the licensee under its license authorization. A spectrum lessee entering into a spectrum leasing arrangement involving a licensee in the Public Safety Radio Services (see part 90, subpart B and §90.311(a)(1)(i) of this chapter) is not required to comply with the eligibility requirements pertaining to such a licensee so long as the spectrum lessee is an entity providing communications in support of public safety operations (see §90.523(b) of this chapter).

* * * * *

**§ 1.9047 [Removed and Reserved]**

5. Remove and reserve § 1.9047.

**PART 27 – MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES**

6. The authority citation for part 27 continues to read as follows:

Authority: 47 U.S.C. 154, 301, 302a, 303, 307, 309, 332, 336, 337, 1403, 1404, 1451, and 1452, unless otherwise noted.

7. Amend § 27.4 by removing the definition for "Commercial EBS licensee" and revising the definition of "Educational Broadband Service" to read as follows:

**§ 27.4 Definitions.**

* * * * *

*Educational Broadband Service* (EBS). A radiocommunication service licensed under this part for the frequency bands specified in Sec. 27.5(i).

* * * * *

8. Amend § 27.5 by removing and reserving paragraph (i)(3).

9. Amend § 27.14 by revising paragraphs (o) introductory language, (o)(2) introductory language, (o)(2)(iii) and (o)(3) adding paragraphs (u) and (v) to read as follows:

**§ 27.14 Construction Requirements.**

* * * * *

(o) With respect to initial BRS licenses issued on or after November 6, 2009, the licensee must make a showing of substantial service within four years from the date of issue of the license. With respect

to EBS licenses issued after July 10, 2019, the licensee must comply with paragraph (u) of this section. "Substantial service" is defined as service which is sound, favorable, and substantially above a level of mediocre service which just might minimally warrant renewal. Substantial service for BRS and EBS licensees is satisfied if a licensee meets the requirements of paragraph (o)(1), (o)(2), or (o)(3) of this section. If a licensee has not met the requirements of paragraph (o)(1), (o)(2), or (o)(3) of this section, then demonstration of substantial service shall proceed on a case-by-case basis. Except as provided in paragraphs (o)(4) and (o)(5) of this section, all substantial service determinations will be made on a license-by-license basis. Failure by any licensee to demonstrate substantial service will result in forfeiture of the license and the licensee will be ineligible to regain it.

(1) * * *

(2) An EBS license initially issued prior to July 10, 2019 has provided "substantial service" when:

* * * * *

(iii) the level of service provided by the EBS licensee meets or exceeds the minimum usage requirements specified in § 27.1214 contained in the edition of 47 CFR parts 20 through 39, revised as of October 1, 2017.

(3) An EBS or BRS licensee may be deemed to provide substantial service through a leasing arrangement if the lessee is providing substantial service under paragraph (o)(1) of this section.

(u) This section enumerates performance requirements for EBS licenses initially issued after July 10, 2019. Licensees shall demonstrate compliance with performance requirements by filing a construction notification with the Commission, within 15 days of the expiration of the applicable benchmark, in accordance with the provisions set forth in § 1.946(d) of this chapter.

(1) All EBS licenses initially issued after July 10, 2019, must demonstrate compliance with the performance requirements described in this paragraph. All equipment used to demonstrate compliance must be in use and actually providing service, either for internal use or to unaffiliated customers, as of the interim deadline or final deadline, whichever is applicable.

(2) Except for licensees with licenses applied for in the Tribal Priority Window, licensees providing mobile or point-to-multipoint service must demonstrate reliable signal coverage of 50% of the population of the geographic service area within four years of initial license grant, and 80% of the population of the geographic service area within eight years of initial license grant.

(3) Except for licensees with licenses applied for in the Tribal Priority Window, licensees providing fixed point-to-point service must demonstrate operation of one link for each 50,000 persons in the geographic service area within four years of initial license grant, and one link for each 25,000 persons in the geographic service area within eight years of initial license grant.

(4) Licensees with licenses applied for in the Tribal Priority Window must make an interim showing under paragraphs (o)(2) or (o)(3) of this section within two years of initial license grant. Licensees with licenses applied for in the Tribal Priority Window must make a final showing under paragraphs (o)(2) or (o)(3) of this section within five years of initial license grant.

(5) If an EBS licensee (other than the licensee of a license issued pursuant to the Tribal Priority Window) fails to meet interim performance requirements described in paragraphs (o)(2) or (o)(3) of this section, the deadline for that authorization to meet its final performance requirement will be advanced by two years. If an EBS licensee of a license issued pursuant to the Tribal Priority Window fails to meet interim performance requirements described in paragraphs (o)(2) or (o)(3) of this section, the deadline for that authorization to meet its final performance requirement will be advanced by one year. If an EBS licensee fails to meet its final performance requirement, its license shall automatically terminate without specific Commission action.

(v) Paragraph (u) of this section contains new or modified information-collection and recordkeeping requirements. Compliance with these information-collection and recordkeeping requirements will not be required until after approval by the Office of Management and Budget. The Commission will publish a document in the Federal Register announcing that compliance date and revising this paragraph accordingly.

**§ 27.1201 [Removed and Reserved]**

10. Remove and reserve § 27.1203.

**§ 27.1203 [Removed and Reserved]**

11. Remove and reserve § 27.1203.

12. Add § 27.1204 to read as follows:

**§ 27.1204 EBS Tribal Priority Filing Window**

(a) The Commission will specify by Public Notice a window filing period for applications for new EBS stations on rural Tribal Lands. EBS applications for new facilities will be accepted only during this window. Applications submitted prior to the window opening date identified in the Public Notice will be returned as premature. Applications submitted after the deadline will be dismissed with prejudice as untimely.

(b) Applicants in the Tribal Priority Filing Window must demonstrate that they are eligible to file in that window. To be considered eligible for the Tribal Priority Window, an applicant must be:

(1) a federally recognized American Indian tribe or Alaska Native Village; or an entity that is owned and controlled by a federally-recognized Tribe or a consortium of federally-recognized Tribes;

(2) requesting a license on Tribal land, which is defined to be any federally recognized Indian tribe's reservation, pueblo or colony, including former reservations in Oklahoma, Alaska Native regions established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688) and Indian Allotments, see §54.400(e), as well as Hawaiian Home Lands—areas held in trust for native Hawaiians by the state of Hawaii, pursuant to the Hawaiian Homes Commission Act, 1920, July 9, 1921, 42 Stat 108, et seq., as amended; and any lands designated as Tribal lands pursuant to the designation process contained in Section 54.412 of our rules prior to July 10, 2019;

(3) requesting a GSA in a rural area, which is defined to be lands that are not part of an urbanized area or urban cluster area with a population equal to or greater than 50,000; and

(4) have a local presence on the Tribal land for which they are applying.

(c) Following the close of the Tribal Priority window, the Commission will issue a Public Notice of acceptance for filing of applications submitted pursuant to paragraph (b) of this section that meet technical and legal requirements and that are not in conflict with any other application filed during the window. Petitions to deny such applications may be filed within 30 days of such public notice. A copy of any petition to deny must be served on the applicant.

(d) If applications are filed in the Tribal Priority window that are mutually exclusive, the Commission will use competitive bidding to resolve the mutual exclusivity. Two or more pending applications are mutually exclusive if the grant of one application would effectively preclude the grant of one or more of the others under Commission rules.

(e) For non-mutually exclusive applications, the applications will be processed in accordance with procedures to be specified by the Wireless Telecommunications Bureau.

(f) This section contains new or modified information-collection and recordkeeping requirements. Compliance with these information-collection and recordkeeping requirements will not be required until after approval by the Office of Management and Budget. The Commission will publish a document in the Federal Register announcing that compliance date and revising this paragraph accordingly.

13. Add § 27.1205 to read as follows:

**§ 27.1205 EBS Renewal Standard.**

In applying the renewal standard contained in § 1.949 of this chapter to EBS, for licenses initially issued after July 10, 2019, the applicable safe harbors are the buildout standards contained in § 27.14(u) of this part. For licenses initially issued before July 10, 2019, the applicable safe harbors are the buildout standards contained in § 27.14(o) of this part; provided, however, that the educational use safe harbor contained in § 27.14(o)(2) may only be used by a licensee that meets the eligibility requirements to hold an EBS license pursuant to the provisions of § 27.1201(a) contained in the edition of 47 CFR parts 20 through 39, revised as of October 1, 2017.

14. Revise § 27.1206 to read as follows:

**§ 27.1206 Geographic Service Area.**

(a) BRS:

(1) For BRS incumbent licenses granted before September 15, 1995, the geographic service area (GSA) is the area that is bounded by a circle having a 35 mile radius and centered at the station's reference coordinates, which was the previous PSA entitled to incumbent licensees prior to January 10, 2005, and is bounded by the chord(s) drawn between intersection points of the licensee's previous 35 mile PSA and those of respective adjacent market, co-channel licensees;

(2) For BRS BTA authorization holders, the GSA for a channel is the BTA, subject to the exclusion of overlapping, co-channel incumbent GSAs created on January 10, 2005.

(3) If an incumbent BRS license is cancelled or is forfeited, the GSA area of the incumbent station shall dissolve and the right to operate in that area automatically reverts to the GSA licensee that held the corresponding BTA.

(b) EBS:

(1) Existing EBS licensees.

(i) The GSA of EBS licenses on the E and F channel groups is defined in § 27.1216 of this part. EBS licensees on the E and F channel groups are prohibited from expanding their GSAs.

(ii) For incumbent EBS licenses not in the E and F channel groups in effect as of July 10, 2019, the geographic service area (GSA) is the area that is bounded by a circle having a 35 mile radius and centered at the station's reference coordinates, which was the previous PSA entitled to incumbent licensees prior to January 10, 2005, and is bounded by the chord(s) drawn between intersection points of the licensee's previous 35 mile PSA and those of respective adjacent market, co-channel licensees.

(2) New initial EBS licenses.

(i) For EBS licenses issued in the Tribal Priority Window, the GSA consists of the rural Tribal land (as defined in § 27.1201(b)(2)) specified in the application.

(ii) For all other new initial licenses issued after **[insert date six months after publication in the Federal Register]**, the GSA is the county for which the license is issued, subject to the exclusion of

overlapping, co-channel incumbent GSAs.

15. Revise § 27.1207 to read as follows:

**§ 27.1207 Service Areas and Authorizations.**

(a) Initial authorizations for BRS granted after January 1, 2008, shall be blanket licenses for all BRS frequencies identified in § 27.5(i)(2). Except for incumbent BRS licenses, BRS service areas are Basic Trading Areas (BTAs) or additional service areas similar to BTAs adopted by the Commission. BTAs are based on the Rand McNally 1992 Commercial Atlas & Marketing Guide, 123rd Edition, at pages 38-39. The following are additional BRS service areas in places where Rand McNally has not defined BTAs: American Samoa; Guam; Gulf of Mexico Zone A; Gulf of Mexico Zone B; Gulf of Mexico Zone C; Northern Mariana Islands; Mayaguez/Aguadilla-Ponce, Puerto Rico; San Juan, Puerto Rico; and the United States Virgin Islands. The boundaries of Gulf of Mexico Zone A are from an area twelve nautical miles from the shoreline at mean high tide on the north and east, to the limit of the Outer Continental Shelf to the south, and to longitude 91°00′ to the west. The boundaries of Gulf of Mexico Zone B are from an area twelve nautical miles from the shoreline at mean high tide on the north, to the limit of the Outer Continental Shelf to the south, to longitude 91°00′ to the east, and to longitude 94°00′ to the west. The boundaries of Gulf of Mexico Zone C are from an area twelve nautical miles from the shoreline at mean high tide on the north and west, to longitude 94°00′ to the east, and to a line 281 kilometers from the reference point at Linares, N.L., Mexico on the southwest. The Mayaguez/Aguadilla-Ponce, PR, service area consists of the following municipios: Adjuntas, Aguada, Aguadilla, Anasco, Arroyo, Cabo Rojo, Coamo, Guanica, Guayama, Guayanilla, Hormigueros, Isabela, Jayuya, Juana Diaz, Lajas, Las Marias, Maricao, Maunabo, Mayaguez, Moca, Patillas, Penuelas, Ponce, Quebradillas, Rincón, Sabana Grande, Salinas, San German, Santa Isabel, Villalba and Yauco. The San Juan service area consists of all other municipios in Puerto Rico.

(b) For EBS initial licenses issued after July 10, 2019, except for licenses issued in the Tribal Priority Window, the GSA is the county for which the license is issued, subject to the exclusion of overlapping, co-channel incumbent GSAs. For purposes of this subpart, counties are defined using the United States Census Bureau's data reflecting county legal boundaries and names valid through January 1, 2017. Except for licenses issued in the Tribal Priority Window, there shall be two initial authorizations issued

in each county: one authorization for channels G1, G2, G3, KG1, KG2, and KG3, and the second authorization shall be for all other EBS channels as identified in § 27.5(i)(2).

16. Revise § 27.1208 to read as follows:

**§ 27.1208 Geographic Area Licensing.**

(a) All BRS and EBS licenses are geographic area licenses. Blanket licenses cover all mobile and response stations. Pursuant to that geographic area license, incumbent licensees may modify their systems provided the modified system complies with the applicable rules. The blanket license covers all fixed stations anywhere within the authorized service area, except a station must be individually licensed if:

(1) International agreements require coordination;

(2) Submission of an Environmental Assessment is required under § 1.1307 of this chapter;

(3) The station would affect the radio quiet zones under § 1.924 of this chapter.

(b) Any antenna structure that requires notification to the Federal Aviation Administration (FAA) must be registered with the Commission prior to construction under § 17.4 of this chapter.

17. Revise § 27.1209 to read as follows:

**§ 27.1209 Reversion and Overlay Rights.**

(a) The frequencies associated with BRS incumbent authorizations that have cancelled automatically or otherwise recovered by the Commission automatically revert to the applicable BRS BTA licensee.

(b) The frequencies associated with EBS incumbent authorizations with a geographic service area that have cancelled automatically or otherwise recovered by the Commission automatically revert to a co-channel EBS county-based licensee, except that if the area in question is Tribal Land as defined in § 27.1201(b)(2) and is contiguous to the GSA of a co-channel authorization issued in the Tribal Priority Window, the area consisting of Tribal Land reverts to the co-channel license issued in the Tribal Priority Window.

(c) The frequencies associated with EBS authorizations issued in the Tribal Priority Window with a geographic service area that have cancelled automatically or otherwise recovered by the Commission automatically revert to a co-channel EBS county-based authorization.

18. Revise § 27.1214 to read as follows:

**§ 27.1214 EBS grandfathered leases.**

All leases of current EBS spectrum entered into prior to January 10, 2005 and in compliance with leasing rules formerly contained in part 74 of this chapter may continue in force and effect, notwithstanding any inconsistency between such leases and the rules applicable to spectrum leasing arrangements set forth in this chapter. Such leases entered into pursuant to the former part 74 rules of this chapter may be renewed and assigned in accordance with the terms of such lease. All spectrum leasing arrangements leases entered into after January 10, 2005, under the rules set forth in part 1 and part 27 of this chapter, must comply with the rules in those parts.

19. Revise § 27.1217 to read as follows:

**§ 27.1217 Competitive bidding procedures for the Broadband Radio Service and the Educational Broadband Service.**

Mutually exclusive initial applications for BRS and EBS licenses are subject to competitive bidding. For BRS auctions, the designated entity provisions of § 27.1218 of this part apply. For EBS auctions, no designated entity provisions apply. The general competitive bidding procedures set forth in part 1, subpart Q of this chapter apply unless otherwise provided in this subpart.

20. Amend § 27.1218 by revising the section heading to read as follows:

**§ 27.1218 Broadband Radio Service Designated Entity Provisions.**

* * * * *

21. Remove §§ 27.1230 through 27.1239.

# APPENDIX B

## Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended (RFA),[1] an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rulemaking (NPRM)* released in May 2018 in this proceeding.[2] The Commission sought written public comment on the proposals in the *NPRM*, including comments on the IRFA. No comments were filed addressing the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.[3]

### A. Need for, and Objectives of, the Report and Order

2. In the *Report and Order*, the Commission takes steps to permit more flexible use of the 2496-2690 MHz (2.5 GHz) band by current Educational Broadband Service (EBS) licensees and to provide new opportunities for EBS eligible entities, Tribal Nations, and commercial entities to obtain unused 2.5 GHz spectrum to facilitate improved access to next generation wireless broadband, including 5G, for both educational and commercial uses. EBS spectrum currently is assigned in geographic areas of various sizes and shapes and is subject to unique use and transfer restrictions. Consistent with the Commission's goal of making additional spectrum available for flexible use, and to promote use of EBS frequencies that have been unassigned for far too long, we take steps to encourage and facilitate more efficient use of the 2.5 GHz band. These steps are not intended to curtail the spectrum usage rights of existing EBS licensees, nor to annul or disturb existing agreements between such licensees and commercial operators. Additionally, since the process for transitioning Broadband Radio Service (BRS) and EBS licensees to the new band plan was completed in 2011, we eliminate the BRS/EBS transition rules. We believe it is in the public interest to eliminate these regulations that are out of date and no longer necessary.

### B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

3. There were no comments filed that specifically addressed the proposed rules and policies presented in the IRFA.

### C. Response to Comments by the Chief Counsel for Advocacy of the Small Business Administration

4. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments.[4]

5. The Chief Counsel did not file comments in response to the proposed rules in this proceeding.

### D. Description and Estimate of the Number of Small Entities To Which the Proposed Rules Will Apply

6. The RFA directs agencies to provide a description of and, where feasible, an estimate of

[1] *See* 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, (SBREFA) Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

[2] *See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands; Transforming the 2.5 GHz Band*, Notice of Proposed Rulemaking, 33 FCC Rcd 4687 (2018) (*NPRM*).

[3] *See* 5 U.S.C. § 604.

[4] 5 U.S.C. § 604(a)(3).

the number of small entities that may be affected by the rules adopted herein.[5] The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction."[6] In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act."[7] A "small business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.[8]

7. *Small Businesses, Small Organizations, Small Governmental Jurisdictions.* Our actions, over time, may affect small entities that are not easily categorized at present. We therefore describe here, at the outset, three broad groups of small entities that could be directly affected herein.[9] First, while there are industry specific size standards for small businesses that are used in the regulatory flexibility analysis, according to data from the SBA's Office of Advocacy, in general a small business is an independent business having fewer than 500 employees.[10] These types of small businesses represent 99.9% of all businesses in the United States which translates to 28.8 million businesses.[11]

8. Next, the type of small entity described as a "small organization" is generally "any not-for-profit enterprise which is independently owned and operated and is not dominant in its field."[12] Nationwide, as of August 2016, there were approximately 356,494 small organizations based on registration and tax data filed by nonprofits with the Internal Revenue Service (IRS).[13]

9. Finally, the small entity described as a "small governmental jurisdiction" is defined generally as "governments of cities, counties, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand."[14] U.S. Census Bureau data from the 2012 Census

[5] *Id.*

[6] 5 U.S.C. § 601(6).

[7] 5 U.S.C. § 601(3) (incorporating by reference the definition of "small-business concern" in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies "unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register."

[8] 15 U.S.C. § 632.

[9] *See* 5 U.S.C. § 601(3)-(6).

[10] *See* SBA, Office of Advocacy, "Frequently Asked Questions, Question 1 – What is a small business?" https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf (June 2016)

[11] *See* SBA, Office of Advocacy, "Frequently Asked Questions, Question 2- How many small businesses are there in the U.S.?" https://www.sba.gov/sites/default/files/advocacy/SB-FAQ-2016_WEB.pdf (June 2016).

[12] 5 U.S.C. § 601(4).

[13] Data from the Urban Institute, National Center for Charitable Statistics (NCCS) reporting on nonprofit organizations registered with the IRS was used to estimate the number of small organizations. Reports generated using the NCCS online database indicated that as of August 2016 there were 356,494 registered nonprofits with total revenues of less than $100,000. Of this number, 326,897 entities filed tax returns with 65,113 registered nonprofits reporting total revenues of $50,000 or less on the IRS Form 990-N for Small Exempt Organizations and 261,784 nonprofits reporting total revenues of $100,000 or less on some other version of the IRS Form 990 within 24 months of the August 2016 data release date. *See* http://nccs.urban.org/sites/all/nccs-archive/html//tablewiz/tw.php where the report showing this data can be generated by selecting the following data fields: Report: "The Number and Finances of All Registered 501(c) Nonprofits"; Show: "Registered Nonprofits"; By: "Total Revenue Level (years 1995, Aug to 2016, Aug)"; and For: "2016, Aug" then selecting "Show Results".

[14] 5 U.S.C. § 601(5).

of Governments[15] indicate that there were 90,056 local governmental jurisdictions consisting of general purpose governments and special purpose governments in the United States.[16] Of this number there were 37, 132 General purpose governments (county[17], municipal and town or township[18]) with populations of less than 50,000 and 12,184 Special purpose governments (independent school districts[19] and special districts[20]) with populations of less than 50,000. The 2012 U.S. Census Bureau data for most types of governments in the local government category show that the majority of these governments have populations of less than 50,000.[21] Based on this data we estimate that at least 49,316 local government jurisdictions fall in the category of "small governmental jurisdictions."[22]

10. *Wireless Telecommunications Carriers (except Satellite).* This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services.[23] The appropriate size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.[24] For this industry, U.S. Census Bureau data for 2012 show that there

[15] *See* 13 U.S.C. § 161. The Census of Government is conducted every five (5) years compiling data for years ending with "2" and "7". *See also* Program Description Census of Government https://factfinder.census.gov/faces/affhelp/jsf/pages/metadata.xhtml?lang=en&type=program&id=program.en.COG# .

[16] *See* U.S. Census Bureau, 2012 Census of Governments, Local Governments by Type and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG02.US01. Local governmental jurisdictions are classified in two categories - General purpose governments (county, municipal and town or township) and Special purpose governments (special districts and independent school districts).

[17] *See* U.S. Census Bureau, 2012 Census of Governments, County Governments by Population-Size Group and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG06.US01. There were 2,114 county governments with populations less than 50,000.

[18] *See* U.S. Census Bureau, 2012 Census of Governments, Subcounty General-Purpose Governments by Population-Size Group and State: 2012 - United States – States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG07.US01. There were 18,811 municipal and 16,207 town and township governments with populations less than 50,000.

[19] *See* U.S. Census Bureau, 2012 Census of Governments, Elementary and Secondary School Systems by Enrollment-Size Group and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG11.US01. There were 12,184 independent school districts with enrollment populations less than 50,000.

[20] *See* U.S. Census Bureau, 2012 Census of Governments, Special District Governments by Function and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG09.US01. The U.S. Census Bureau data did not provide a population breakout for special district governments.

[21] *See* U.S. Census Bureau, 2012 Census of Governments, County Governments by Population-Size Group and State: 2012 - United States-States - https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG06.US01; Subcounty General-Purpose Governments by Population-Size Group and State: 2012 - United States–States - https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG07.US01; and Elementary and Secondary School Systems by Enrollment-Size Group and State: 2012 - United States-States. https://factfinder.census.gov/bkmk/table/1.0/en/COG/2012/ORG11.US01. While U.S. Census Bureau data did not provide a population breakout for special district governments, if the population of less than 50,000 for this category of local government is consistent with the other types of local governments the majority of the 38, 266 special district governments have populations of less than 50,000.

[22] *Id.*

[23] U.S. Census Bureau, 2012 NAICS Definitions, "517210 Wireless Telecommunications Carriers (Except Satellite)," *See* https://factfinder.census.gov/faces/affhelp/jsf/pages/metadata.xhtml?lang=en&type=ib&id=ib.en./ECN.NAICS2012.517210.

[24] 13 CFR § 121.201, NAICS code 517210.

were 967 firms that operated for the entire year.[25] Of this total, 955 firms had employment of 999 or fewer employees and 12 had employment of 1,000 employees or more.[26] Thus, under this category and the associated size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities.

11. *Broadband Radio Service and Educational Broadband Service.* Broadband Radio Service (BRS) systems, previously referred to as Multipoint Distribution Service (MDS) and Multichannel Multipoint Distribution Service (MMDS) systems, and "wireless cable," transmit video programming to subscribers and provide two-way high-speed data operations using the microwave frequencies of the BRS and Educational Broadband Service (EBS) (previously referred to as the Instructional Television Fixed Service (ITFS)).[27]

12. *BRS.* In connection with the 1996 BRS auction, the Commission established a small business size standard as an entity that had annual average gross revenues of no more than $40 million in the previous three calendar years.[28] The BRS auctions resulted in 67 successful bidders obtaining licensing opportunities for 493 Basic Trading Areas (BTAs). Of the 67 auction winners, 61 met the definition of a small business. BRS also includes licensees of stations authorized prior to the auction. At this time, we estimate that of the 61 small business BRS auction winners, 48 remain small business licensees. In addition to the 48 small businesses that hold BTA authorizations, there are approximately 86 incumbent BRS licensees that are considered small entities (18 incumbent BRS licensees do not meet the small business size standard).[29] After adding the number of small business auction licensees to the number of incumbent licensees not already counted, there are currently approximately 133 BRS licensees that are defined as small businesses under either the SBA or the Commission's rules.

13. In 2009, the Commission conducted Auction 86, the sale of 78 licenses in the BRS areas.[30] The Commission offered three levels of bidding credits: (i) a bidder with attributed average annual gross revenues that exceed $15 million and do not exceed $40 million for the preceding three years (small business) received a 15% discount on its winning bid; (ii) a bidder with attributed average annual gross revenues that exceed $3 million and do not exceed $15 million for the preceding three years (very small business) received a 25% discount on its winning bid; and (iii) a bidder with attributed average annual gross revenues that do not exceed $3 million for the preceding three years (entrepreneur) received a 35% discount on its winning bid.[31] Auction 86 concluded in 2009 with the sale of 61

[25] U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012 NAICS Code 517210. https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517210.

[26] *Id*. Available census data does not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with "1000 employees or more."

[27] *Amendment of Parts 21 and 74 of the Commission's Rules with Regard to Filing Procedures in the Multipoint Distribution Service and in the Instructional Television Fixed Service and Implementation of Section 309(j) of the Communications Act—Competitive Bidding*, Report and Order, 10 FCC Rcd 9589, 9593, para. 7 (1995).

[28] 47 CFR § 21.961(b)(1).

[29] 47 U.S.C. § 309(j). Hundreds of stations were licensed to incumbent MDS licensees prior to implementation of Section 309(j) of the Communications Act of 1934, 47 U.S.C. § 309(j). For these pre-auction licenses, the applicable standard is SBA's small business size standard of 1500 or fewer employees.

[30] *Auction of Broadband Radio Service (BRS) Licenses, Scheduled for October 27, 2009, Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 86*, Public Notice, 24 FCC Rcd 8277 (2009).

[31] *Id*. at 8296, para. 73.

licenses.[32] Of the ten winning bidders, two bidders that claimed small business status won 4 licenses; one bidder that claimed very small business status won three licenses; and two bidders that claimed entrepreneur status won six licenses.

14. *EBS.* Educational Broadband Service has been included within the broad economic census category and SBA size standard for Wired Telecommunications Carriers since 2007. Wired Telecommunications Carriers are comprised of establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired telecommunications networks. Transmission facilities may be based on a single technology or a combination of technologies."[33] The SBA's small business size standard for this category is all such firms having 1,500 or fewer employees.[34] U.S. Census Bureau data for 2012 show that there were 3,117 firms that operated that year.[35] Of this total, 3,083 operated with fewer than 1,000 employees.[36] Thus, under this size standard, the majority of firms in this industry can be considered small.

15. In addition to U.S. Census Bureau data, the Commission's Universal Licensing System indicates that as of March 2019 there are 1,300 licensees holding over 2,190 active EBS licenses. The Commission estimates that of these 2,190 licenses, the majority are held by non-profit educational institutions and school districts, which are by statute defined as small businesses.[37]

### E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

16. We expect the rules adopted in the *Report and Order* will impose new or additional reporting or recordkeeping and/or other compliance obligations on small entities as well as other applicants and licensees. The Commission is not in a position to determine whether the adopted rule changes will require small entities to hire attorneys, engineers, consultants, or other professionals, and cannot quantify the cost of compliance with these rule changes. We do not believe however, that the costs of compliance or the administrative requirements associated with any of the rule changes will unduly burden small entities. We note that several of the rule changes are consistent with and mirror existing policies and requirements used in similar spectrum bands. Therefore, small entities with existing licenses in may already be familiar with such policies and requirements and have the processes and procedures in place to facilitate compliance resulting in minimal incremental costs to comply with the *Report and Order*.

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[32] *Auction of Broadband Radio Service Licenses Closes, Winning Bidders Announced for Auction 86, Down Payments Due November 23, 2009, Final Payments Due December 8, 2009, Ten-Day Petition to Deny Period*, Public Notice, 24 FCC Rcd 13572 (2009).

[33] U.S. Census Bureau, 2017 NAICS Definitions, "517311 Wired Telecommunications Carriers," (partial definition), http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517311&search=2017.

[34] *See*, 13 CFR § 121.201. The Wired Telecommunications Carrier category formerly used the NAICS code of 517110. As of 2017 the U.S. Census Bureau definition shows the NAICs code as 517311 for Wired Telecommunications Carriers. *See,* https://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517311&search=2017.

[35] *See* U.S. Census Bureau, *2012 Economic Census of the United States*, Table No. EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms: 2012* (517110 Wired Telecommunications Carriers). https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ5//naics~517110.

[36] *Id.*

[37] The term "small entity" within SBREFA applies to small organizations (non-profits) and to small governmental jurisdictions (cities, counties, towns, townships, villages, school districts, and special districts with populations of less than 50,000). 5 U.S.C. §§ 601(4)-(6).

### F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

17. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) an exemption from coverage of the rule, or any part thereof, for small entities.[38]

18. The Commission does not believe that the rule changes adopted in the *Report and Order* will have a significant economic impact on small entities. The proposed changes expanding the use of the 2.5 GHz band will benefit small entities as well as entities of other sizes by reducing unnecessary regulatory burdens on licensees, promoting greater spectrum efficiency, and facilitating the full use of EBS spectrum to provide advanced mobile broadband services, particularly in rural areas where this spectrum currently sits idle. Moreover, the adopted reforms will permit more flexible use of this spectrum by small and other sized entities that currently hold EBS licenses and will provide new opportunities for EBS eligible entities, Tribal Nations, and commercial entities to obtain unused 2.5 GHz spectrum to facilitate improved access to next generation wireless broadband, including 5G, for both educational and commercial uses. We discuss the alternatives considered to the rules adopted below.

19. *Rationalizing the GSAs of incumbent EBS Licensees*. In the *NPRM*, the Commission proposed to rationalize the current point-and-radius license areas held by incumbents to a defined geographic area. There was both support for this approach and alternatives proposed by commenters. The alternatives considered by the Commission included expansion to county borders, using self-defined GSAs, GSAs based on granular population data, and rationalization but not any expansion of geographic area coverage. Finding the benefits the Commission believed would result from its *NPRM* proposals are unlikely to materialize to any significant degree, and the process of rationalizing licenses is likely to be complex, time-consuming, and potentially confusing to incumbent and future licensees, the Commission declined to adopt any rationalization scheme for incumbent EBS licenses and left the existing license boundaries intact.

20. *Additional Flexibility for EBS Licensees.* The Commission adopted the *NPRM's* proposal to eliminate the EBS eligibility requirements contained in section 27.1201 of the rules for incumbent EBS licenses, including licenses granted via waiver instead of maintaining the current requirements. This alternative allows the Commission to bring these licenses into better alignment with the flexible use licensing policies used in similar spectrum bands, which feature open eligibility absent a compelling showing that regulatory intervention to exclude potential participants is necessary and has been an effective means of promoting more efficient and better use of the 2.5 GHz band. Small entities should benefit from this increased flexibility to assign or transfer control of their licenses to entities that are not EBS-eligible. We believe that, at this point in time, licensees are in the best position to determine how to use their licenses, or, alternatively, whether to transfer their licenses to a third party in the secondary market.

21. The Commission also eliminated the educational use requirement contained in section 27.1203 of the rules as proposed in the *NPRM* after considering alternative proposals to revise and/or update the requirements to reflect the current broadband use of the spectrum. In doing so the Commission did not find that any these alternatives would facilitate broadband deployment or be workable for licensees or commercial operators. Additionally, after considering alternative proposals to maintain and increase restriction on lease terms, the Commission adopted the *NPRM's* proposal to eliminate restrictions on EBS leases entered into under its secondary markets policies on a going forward basis which will

[38] 5 U.S.C. § 603(c)(1)-(4).

make the rules for the 2.5 GHz band consistent with other Part 27 services, incentivize build-out in rural areas, and provide additional flexibility to both EBS licensees and lessees.

22. *Local Priority Filing Window.* The Commission adopted a Tribal priority window for Tribal entities to obtain 2.5 GHz licenses on Tribal lands that are located in rural areas as proposed in the *NPRM,* enabling these entities to acquire all available EBS spectrum on their Tribal lands. This window will allow Tribal entities to address the educational and communication needs of their communities and provide much needed services such advanced wireless services, in areas that are devoid of such services. Conversely, after considering the priority filing window option for existing EBS licensees and for educational institutions that do not currently hold any EBS licenses, the Commission declined to adopt these windows based on a belief that windows for these entities are not the best way to achieve rapid expansion and deployment of broadband in the band.

23. *Licensing of White Spaces.* As proposed in the *NPRM*, the Commission will use competitive bidding to resolve mutually exclusive applications for the unassigned EBS spectrum after the completion of the rural Tribal priority window, finding the competitive bidding alternative is consistent with the other changes made in the *Report and Order* to align EBS licenses more closely with flexible use service rules. An overlay auction was determined to be the best mechanism for assigning EBS spectrum due to, among other things, the costly nature of an incentive auction to government and other participants. Thus, the overlay auction should help minimize participation costs for small entities.

24. *Geographic Area and the Band Plan for New Licenses.* The Band Plan adopted in the *Report and Order* will include two overlay licenses - one license will include the lower and middle band channels (A1-4, B1-4, C1-4, D1-4, G4, J), and one license will include the channels G1-3 and the relevant EBS K channels. This arrangement will give applicants one wide block and one small block from which to choose, providing opportunity for small entities participate as well as medium and large entities with different needs.

25. *Requirements for New 2.5 GHz Licenses.* Regarding performance requirements, the alternatives considered by the Commission were broadly speaking, robust requirements (including the Commission's proposal), relaxed requirements (including the current substantial service standard), or the general concept of a build-out requirement without specifics. The Commission adopted the robust mobile, fixed and broadcast performance requirement metrics from the *NPRM* for new licensees in the band, which will promote the deployment of wireless services for multiple purposes including education. With respect to the timeline for evaluating build-out, the Commission required that the interim benchmark be applied after four years, and that the penalty for failure to make this showing be the acceleration of the final benchmark deadline to six years, rather than eight years. This approach is largely consistent with our rules for other bands and will help harmonize the regulatory regime of the 2.5 GHz band with other commercial wireless services. Additionally, the Commission will apply the Wireless Radio Services (WRS) framework of renewal standards to both new and existing EBS licensees. The Commission anticipates that updating the performance requirements in this manner will encourage rapid deployment of next generation wireless services, including 5G, which will benefit small entities and the industry as a whole.

26. *Pending Waiver Requests and Cleaning Up the 2.5 GHz Rules.* Small entities should benefit from the Commission's removal of the filing freeze for new EBS licenses, which will provide them greater opportunity to obtain EBS spectrum to meet the needs of their communities. In conjunction with removing the filing freeze, the Commission will dismiss three pending requests to waive the freeze for new EBS licenses. Small entities should also benefit from the Commission's clean-up of the 2.5 GHz rules by eliminating the BRS/EBS transition rules which were completed in 2011 and making non-substantive, clarifying amendments to Section 27.1206, making it is easier to understand.

**Report to Congress**

27. The Commission will send a copy of the *Report and Order*, including this FRFA, in a report to Congress pursuant to the Congressional Review Act.[39] In addition, the Commission will send a copy of the *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Report and Order*, and FRFA (or summaries thereof) will also be published in the Federal Register.[40]

[39] *See* 5 U.S.C. § 801(a)(1)(A).

[40] *See* 5 U.S.C. § 604(b).

## APPENDIX C

## List of Commenters to *NPRM*

**Comments**

Adam Miller
Ak-Chin Indian Community (Ak-Chin)
American Indiana Higher Education Consortium (AIHEC)
Amelia Academy
American Petroleum Institute (API)
American's Public Television Stations and Corporation for Public Broadcasting (APTS-CPB)
AT&T
Bad River Band of the Lake Superior Tribe of Chippewa Indians (Bad River)
Bridge the Divide Foundation, Inc. and Rocky Mountain Broadband, LLC (Bridge the Divide)
Competitive Carriers Association (CCA)
Charter Communications, Inc.
Chemehuevi Indian Tribe (Chemehuevi)
Chester County Interlink
Chickasaw Nation
Coeur D'Alene Tribe
Confederated Tribes of the Colville Reservation (Colville)
Consortium for School Networking (CoSN)
Digital Wish
Educators and Broadband Providers for American Rural Communities (EBPARC)
Educational Broadband Corp. (EBC)
Gallatin Wireless Internet, LLC (Gallatin)
Hackett School District
Happy House Daycare
Havasupai Tribal Council (Havasupai)
Hispanic Information and Telecommunications Network, Inc. (HITN)
Hopkins Public Schools
Imperial County Office of Educational/California K-12 High Speed Network (CA K-12 HSN)
Kings County Superintendent of Schools (Kings County)
King George County Schools
Kristen Perry
Nebraska Department of Education, Nebraska Educational Television, and State of Nebraska Office of the Chief Information Officer (Nebraska)
Lawrence County School System
Love Covenant Christian School
Maria Hadden
Midcontinent Communications (Midco)
Mural Net
Northern Arizona University Foundation (NAUF)
National Association of Broadcasters (NAB)
National EBS Association and Catholic Technology Network (NEBSA/CTN)
National Congress of American Indians (NCAI)
National Digital Inclusion Alliance (NDIA)
Native Public Media (NPM)
Nez Perce Tribe (Nez Perce)
North American Catholic Educational Programming Foundation and Mobile Beacon (NACEPF)
North Carolina Department of Information Technology, Broadband Infrastructure Office (North Carolina)

Northern Michigan University (NMU)
NTCA-The Rural Broadband Association (NTCA)
PCs for People
R Street Institute
Rural EBS Coalition: Adams Telephone Co-Op, Cass Cable TV, Central Texas Communications, Coleman County Telephone Coop, Colorado Valley Communications, Etex Communications, Mahaska Communication Group, Mark Twain Communications Company, Public Service Wireless, Texas RSA 7B3 LLC dba Peoples Wireless (Rural EBS Coalition)
Schools, Health & Libraries Broadband Coalition (SHLB)
School Superintendents Association and Association of Educational Service Agencies (AASA/AESA)
Select Spectrum LLC (Select Spectrum)
South Florida EBS Licensees: School Board of Miami-Dade County, School Board of Broward County, School Board of Palm Beach County, Florida Atlantic University, Florida Gateway College (South Florida EBS)
Sprint Corporation (Sprint)
State Educational Technology Directors Association (SETDA)
Technology Policy Institute (TPI)
TechSoup Global
T-Mobile USA, Inc. (T-Mobile)
Torstrick Ministries, Inc.
Utah Education and Telehealth Network (Utah)
Verizon
Virgin Islands Telephone Corp. (VIYA)
Voqal
Wireless Communications Association, International (WCAI)
Wireless Internet Service Providers Association (WISPA)

**Reply Comments**

AT&T
Bridge the Divide
Chickasaw Nation
Community Telecommunications Network, Inc. and Michigan Educational Technology Leaders (CTNI/METL)
EBPARC
EBS Parties
Friday Institute for Educational Innovation at North Carolina State University (Friday Institute)
Gallatin
HITN
Midco
Mural Net
NEBSA/CTN
NACEPF
National Tribal Telecommunications Association (NTTA)
Northern Arizona University Foundation (NAUF)
NTCA
Pueblo de Cochiti
Rural EBS Coalition
Santa Fe Indian School
Select Spectrum
Source for Learning, Inc. (SFL)

Sprint
T-Mobile
Tribally-Owned and Tribally-Controlled Rural Telecom Entities: NTUA Wireless, LLC and Mescalero Apache Telecom, Inc. (NTUA/Mescalero)
University of Cincinnati
Views on Learning, Inc. (VOL)
Voqal
WCAI
WISPA

***Ex Parte* Comments**

American Library Association
API
APTS
APTS, Vegas PBS, South Carolina Educational Television Commission, Detroit Public Television
AT&T
BeamSpeed, LLC, Evertek, Inc., Redzone Wireless, Rise Broadband, SiouxLan Communications, Watch Communications
Chickasaw Nation/Trace Fiber Networks
CTNI/METL
United States Department of Education, Office of Planning, Evaluation, and Policy Development (Dept. of Ed.)
EBPARC
Etex Communications, L.P.
Intel Corporation
Mark Twain Communications
Midco
MuralNet
NACEPF
National Collaborative for Digital Equality
NCAI
Nebraska
NEBSA/CTN
NTCA
NTTA, Mescalero Apache Telecom, Cheyenne River Sioux Tribe Telephone Authority, Tohono O'odham Utility Authority, Gila River Telecommunications, Saddleback Communications, Sovereign Council of Hawaiian Homestead Association, Alexico
NMU
ONE Media 3.0, LLC
PCs for People
Robert Kramer
Rural EBS Coalition
"Save EBS Sign on Letter"
SETDA
SETDA and CoSN
SHLB, Nebraska, Virginia Department of Education
SHLB, NACEPF, Mobile Beacon, Voqal, National Digital Inclusion Alliance and Public Knowledge
Sprint
Sprint/MidCo/WISPA/WCAI/CTN/NEBSA/Voqal/NACEPF/Mobile Beacon
Tech Knowledge

Voqal
Wayne State University, CTNI and NEBSA
Wayne State University, NMU, Newaygo County (MI) Regional Educational Service Agency, Mecosta-Osceola (MI) Intermediate School District
WCAI
WISPA
WISPA, JAB Wireless

**Express Comments**
Aaron Read, Rhode Island Public Radio
Aaron Velky
Ahren Sievers, Elmwood Park Public Library
Akiba Byrd
Alan Gibbons-Cache Country School District
Aleph Bet Jewish Day School
Allan Schneider
Amanda Lange
Amy Baker, Pyper Powell, Shyra Merial, Ben Paz, Jim Saxon, Pam Dean, Scott Kenyon, Amanda Chaloux, Meghan McKee, Clatsop Behavioral Healthcare
Amy Sieving, Wilkinson Public Library
Amy Smift
Andrew Moore
Andrew Wallace
Andy Boell
Andy Coleman
Ann Stovall, Indian Prairie Public Library
Annmarie Lehner, Rochester City School District
April Leese
April Soltis
Arline Pique
Ashley from Moline, IL
Barbara Haeffner
Barbara K Iverson, Chicago Instructional Technology Foundation
Barbara Laub, Maplewood Memorial Library
Becky Rohr Head, Lucius Beebe Memorial Library
Becky Schott
Beth Franke, John Stark Regional HS
Beverly Horner
Bill Heimann
Bo Thomas
Brad Ecret
Brian Tobin
Carolyn Primeau
Cassie Bair
Cathy Laliberte, Tina Swarr, Mary Gomez
Center for the Advancement for Healthcare Education and Delivery
Chantall Manahan
Charles Marr, PRETC
Charles Meyers, Secret Expressions, Inc
Chillicothe Public Library
Chris Kauffman, Wayfinders Churches

Cindy Bingham
Closing The Digital Gap (501c3 Non Profit)
Coby Culbertson, Dubuque Community School District
Coffee County Schools
Cole Ferrier
Colin Webb, Oklahoma Technology Association
Courtney Hayden, Alliance for Innovation,
Craig Chatterton
Craig Liggett
Creighton Community Foundation, Inc., Jeff Boles
Custom Collaborative
Cynthia Farrell
Damien Bertwell
Dan Ellsworth
Daniel Matthews
Daniel X. O'Neil, Chicago Instructional Technology Foundation
David Asbury, Gadsden City Schools
David Camara
David Fringer
David Hartz, University of Cincinnati Blue Ash College
David L. Charles, Colorado Computer Museum
David Liss
David Long
David McGeary
David Powell
David Vincent, U.S. Crisis Care
David Wu
Davida Elsbree Pathways Charter School
Debbie Werbrouck, Patchwork Dance Company
Deborah Ketring, Copper Country Intermediate School District
Denise Blok
Denise Robinson, Brownsburg Public Library
Diane Johnson
Don Ringelstein West Aurora School District 128
Doug Brubaker
Douglas H. Hawley, AHA Board of Directors
Douglas Kiang
Dr John Vandewalle
Dr Rich Contartesi
Dr. Michael Christianson, M. Esq., JUD
Dr. Susan M. Clair, Bobby F. Keener, Jr., Virginia Department of Education
Edward Garcia, Cranston Public Library
Emily Faulkner
Emmanuel Zapata, Top of Form Foundation Communities
Enoch Kindseth, Normal Public Library
ERHAN SAYGIN
Eric Lochtefeld
Erika Verplanck
Family Bridges
Francisco Zavala
George C. Avent, Jr.

Giuseppina Azzolini
Grover Dailey
Hays County Food Bank,
Hearts for Hearing Foundation
International Cancer Advocacy Network (satellite office)
J. Todd Watkins, Huntsville City Schools
Jackie Icenhower
James Martin
James Traynor, Instructional Telecommunications Foundation
Jamie Brambley, Fulton County Library
Jane Lenser, Cherry Valley Public Library District
Jared Hardy
Jason Eyre
Jason Genovese
Jason Karabulut, Ali Cingilli, Sonoran Science Academy - Phoenix campus
Jazz@STJ
Jeff Hauser, Hands In Motion
Jeff Osborn, Windemere Ranch Middle School
Jennifer Rowan
Jered Weber
Jerome Browning
Jill McConnell, Community Library Association
Jim Hoerricks, Towcester Abbey
Joe Dusenbery
Joe McGrath
Joe Saponare
John Petersen
John Riner
Jolene Franciskovich, Coal City Public Library District
Joon Kim, Brentwood School
Josh Claseman, Pineview Park BMX
Josh Snow, Chickasaw Nation
Joshua Luckhaupt
Julia Delpino
Julie O'Neill, Mercer Veterinary Clinic for Pets of the Homeless
Karen Dini, Addison Public Library
Karen Marchese, Be Proud Foundation
Karen Nave
Kate Tranquada
Keely Gilliland, UnifiEd
Kelly Dumont,
Kelly May, Vollmar
Kent County, MD, Kent County Government
Kevin Slusher
Kim Browning
Kris Hagel
Kurt Bernhardt
Kyle Gunning, Center for Head Injury Services
Lane Education Service District
Laura Kindsvater
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Louise Lee, Butte College
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Mary Klimack, Sand Lake Town Library
Matthew Tavianini, Boxtales Theatre Company
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Robin Adkins, Edward Chipman Public Library
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Rodney Rowland, Dunn Police Athletic & Activities League, Inc.
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**Informal Comments filed after the deadline**

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Ron Taylor, Patterson Historical Society
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