



TECHNOLOGY
POLICY
INSTITUTE

**Comments filed with the Federal Communications Commission
on the Notice of Proposed Rulemaking Transforming the 2.5 GHz Band**

June 2018

Thomas M. Lenard

Comments of Thomas M. Lenard, Ph.D.
Senior Fellow and President Emeritus, Technology Policy Institute
On Federal Communications Commission’s Notice of Proposed Rulemaking
Transforming the 2.5 GHz Band
WT Docket No. 03-66 (Terminated) and WT Docket No. 18-120
June 13, 2018

Introduction and Summary

These comments are submitted in response to the Commission’s Notice of Proposed Rulemaking (NPRM) “Transforming the 2.5 GHz Band.” The Commission is proposing rule changes to rationalize operation of the Educational Broadband Service (EBS) spectrum, which occupies 114 megahertz of the 2.5 GHz band,¹ and to make additional spectrum available for flexible use. This is important because, as the NPRM notes, the 2.5 GHz band “constitutes the single largest band of contiguous spectrum below 3 gigahertz and has been identified as prime spectrum for next generation mobile operations, including 5G uses.”²

The Commission’s goal, correctly, is to ensure that the 2.5GHz spectrum is allocated to its highest-valued uses. Accomplishing this goal requires two things: First, the Commission needs to remove remaining restrictions on EBS licenses and convert them to flexible-use licenses. The Commission is proposing to do this. Second, the Commission needs to select a mechanism for moving the unassigned 2.5 GHz spectrum—the “white spaces”—to flexible-use licenses. These two actions will achieve significant progress toward more efficient spectrum use. Once all the spectrum is assigned under flexible-use licenses, subsequent transactions may then yield additional efficiency gains.

The Commission is considering two alternative auction mechanisms to move the unassigned spectrum to higher-valued uses—an overlay auction or an incentive auction. As is discussed below, the overlay auction seems better suited to the EBS band and is likely to involve lower costs and fewer delays in moving the spectrum to productive uses.

Although the NPRM largely represents a move toward a market-based, efficient regime for the 2.5 GHz band, some aspects are inconsistent with that goal. The most obvious of these is the proposal to open special filing windows for preferred applicants, which would represent a continuation of the legacy method of spectrum allocation.

Comments on the NPRM

The 2.5 GHz band is an example of the “command-and-control” regime under which the Commission historically allocated blocks of spectrum to specific uses and assigned licenses to applicants who satisfied specific criteria. The spectrum could not be transferred from one use to

¹ The remaining 80 megahertz is assigned to Broadband Radio Service (BRS).

² NPRM, ¶ 1.

another without the Commission's permission. Economists have long recognized the substantial costs associated with inefficient utilization of spectrum under the command-and-control regime.

The EBS part of the 2.5 GHz band was designated for transmitting instructional materials. EBS licensees were required to be accredited public or private educational institutions, government organizations engaged in formal education, or nonprofit organizations whose purposes are educational. Licensees were required to use each channel for a minimum of 20 hours per week for educational purposes.

Recognizing that the spectrum was more valuable in other (non-educational) uses, the Commission eventually relaxed its requirements. Starting in 1983, the Commission permitted EBS licensees to lease excess capacity. Starting in 2004, the Commission permitted the frequencies to be used for broadband services. EBS licensees can lease their capacity for 30 years as long as they retain five percent for educational uses and use each channel at least 20 hours per week for educational purposes.

An estimated 90 percent of active EBS licenses are now leased to other entities for non-educational purposes.³ Leasing mitigates the efficiency losses of the EBS allocation, but remaining restrictions impose ongoing opportunity costs. In addition, the EBS band is currently unassigned in half the country, primarily rural areas west of the Mississippi.⁴ It is unclear how strong demand is for that spectrum; as the NPRM notes, unused EBS spectrum has been generally unavailable since 1995.⁵ Additional measures are clearly needed to ensure that the value of the 2.5 GHz spectrum can be maximized. As Commissioner O'Rielly notes in his statement, "there are few bands more in need of such a review than the EBS band."

To increase the value of the 2.5 GHz band, the Commission should complete the transition to a market system with freely tradeable flexible-use licenses as rapidly as possible. Such a regime will ensure that spectrum is allocated to its best and highest-valued uses. The Commission's proposal goes part of the way, but seems also to be unwilling to completely abandon the traditional command-and-control world. Aspects of the proposal, discussed below, would likely slow the transition, delaying the full benefits of efficient spectrum allocation.

Geographic Service Areas

Current EBS Geographic Service Areas (GSAs) generally include a circle with a radius of 35 miles around the transmitter. The Commission is proposing to expand GSAs to include the census tracts covered by a licensee's existing GSA. The intent is to rationalize the GSAs by making them conform to well-defined geographic areas. The Commission should better explain the benefits of redefining the GSAs in this way, especially since the new definition would expand the spectrum assigned to incumbent licensees. Why would this further the goal of moving spectrum to its highest-value uses?

³ See Statements of Commissioner O'Rielly and Commissioner Carr.

⁴ NPRM, ¶ 5.

⁵ NPRM, ¶ 8.

The proposal to “regularize” GSA boundaries might be justified if it reduced the transactions costs associated with efficiency-enhancing spectrum trades. The NPRM suggests this might be the case when it argues that the “regularity in the shape and size of white spaces [presumably resulting from regularity in the shape and size of GSA boundaries] would facilitate new entry into the 2.5 GHz band.” Such a result is plausible, although the Commission does not provide any analysis supporting this claim. The fact that 90 percent of EBS licenses are currently leased suggests that the current geographic shape of EBS licenses is not an impediment to putting them to more efficient uses. Similarly, it may not be an impediment to auctioning the white spaces or effecting other trades that might facilitate entry.

Currently, GSAs do not overlap, but that might not be the case if the Commission proceeded with its proposal to include census tracts. Then the Commission would need to address that problem, which could delay auctioning the unassigned spectrum.

Expanding the GSA of existing licenses would increase their market value and represent a windfall gain for incumbents. These increases could come at the expense of reduced revenues from auctioning the white spaces. While the goal should not be to maximize auction revenues, absent clear efficiency benefits, there doesn’t seem to be a good public policy rationale for giving incumbent licensees a windfall gain.

Priority Filing Windows

The Commission is requesting comment on whether, after rationalizing GSAs, it should offer priority “filing windows” to three categories of applicants for unassigned 2.5 GHz spectrum: existing licensees, Tribal Nations, and educational entities. These priority applicants would need to show they have a local presence.

This proposal represents a continuation of the legacy command-and-control allocation regime and would, if adopted, be a step backwards. It would be inconsistent with moving spectrum to its highest-valued uses as expeditiously as possible. The new licensees would eventually be able to lease or sell their spectrum to more efficient users, but there would be several unnecessary steps along the way. New licensees would benefit from a windfall gain without any apparent efficiency justification. Assigning spectrum to these priority applicants can be expected to represent an efficiency cost and an impediment to transforming the EBS band.

Modified Proposal

Restructuring the 2.5 GHz band to ensure that it is put to its highest and best use can be achieved in two steps:

First, the Commission should convert incumbent licenses into fully tradable, flexible-use licenses. The proposal appears to do this by eliminating limits on the entities that can hold EBS licenses, making it clear that licensees may assign or transfer control of their licenses to other entities, and eliminating current restrictions on EBS lease terms. The Commission should also eliminate the educational use requirements for EBS.

Second, the Commission should hold an overlay auction of the remaining white spaces. With an overlay auction, incumbents would retain their licenses (with more flexibility per the proposal). Overlay bidders would purchase primary rights to the white spaces and secondary rights to the incumbents' licenses, i.e., conditional on obtaining the incumbent's permission.⁶ This sets up the opportunity for efficiency-enhancing transactions.

An overlay auction is likely to be a simpler, faster way of rationalizing the 2.5 GHz band than an incentive auction. An incentive auction involves two auctions—a reverse auction in which EBS licensees would bid to sell their licenses, and a forward auction of potential purchasers.

The argument 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.

Moreover, the TV band reverse auction to some extent sidestepped the issue of declaring the TV stations had full property rights to their spectrum. This is probably not an issue with the EBS band, where the licensees already have substantial flexibility in how their spectrum is used and who uses it.

Two-sided auctions are complicated, costly to the government as well as to participants, and take a long time to complete. The spectrum from the recent TV band incentive auction, proposed in the 2010 National Broadband Plan, will only become available in 2020 and less than 60 percent of the amount targeted will actually become available.

Incentive auctions could impose operational burdens on EBS licensees who likely have fewer resources than TV licensees. It would be easier for transactions to occur between incumbents and overlay licensees after an overlay auction had assigned the white spaces.

Conclusion

Rationalizing the 2.5 GHz band is important, and the Commission is to be commended for issuing this NPRM. However, the Commission should modify its proposal before the plan is finalized. The major recommendations of these comments are:

- The Commission should convert incumbent licenses into fully tradable, flexible-use licenses without any remaining EBS-related restrictions.
- If the Commission wants to modify the GSA boundaries, it should better explain the advantages of doing so.
- The Commission should not offer priority filing windows.

⁶ See Thomas W. Hazlett, FCC “Incentive Auction” marks progress and pitfalls towards freeing wireless spectrum, Brookings TechTank, May 24, 2017.

- The Commission should auction unassigned spectrum by overlay auction rather than a two-sided incentive auction.

These suggestions are intended to reduce the costs (in time and money) of the transition to efficient utilization of the 2.5 GHz spectrum.