

<http://www.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION CONTACT:**

Brian Rehn, Planning & Implementation Branch (3AD30), Air & Radiation Division, U.S. Environmental Protection Agency, Region III, 1650 Arch Street, Philadelphia, Pennsylvania 19103. The telephone number is (215) 814-2176. Mr. Rehn can also be reached via electronic mail at [rehn.brian@epa.gov](mailto:rehn.brian@epa.gov).

**SUPPLEMENTARY INFORMATION:**

EPA proposed to approve portions of a state implementation plan (SIP) revision submitted on September 30, 2019 by the Pennsylvania Department of Environmental Protection (PADEP) on behalf of the Allegheny County Health Department (ACHD). The SIP submittal (also referred to as “the Allegheny County PM<sub>2.5</sub> Plan”) addresses Clean Air Act (CAA or “the Act”) requirements for the 2012 annual fine particulate matter (PM<sub>2.5</sub>) national ambient air quality standards (NAAQS or “standards”) in the Allegheny County Moderate PM<sub>2.5</sub> nonattainment area (“Allegheny County area”). EPA’s June 12, 2020 document proposed to fully approve all elements of the plan except for those addressing contingency measure requirements and motor vehicle emissions budgets, which EPA proposed to conditionally approve.

EPA is reopening the comment period based on a request by Clean Air Council for a 30-day extension of the comment period. Clean Air Council’s request, which is in the docket<sup>1</sup> for this matter, seeks an extension of the comment period until August 13, 2020. Their justification for such an extension included the complexity of the plan and EPA’s proposed action, substantial changes to the plan made by ACHD following public comment at the local level, and the fact that EPA’s proposed rule’s July 13, 2020 close of comment period occurs at a similar time as those of several other state and Federal actions related to air quality in the area, for which comments are due on or around the same time. After reviewing these arguments, EPA has decided to reopen the comment period to August 13, 2020. All comments received on or before August 13, 2020 will be entered into the public record and considered by EPA before taking final action on the proposed rule. Comments submitted between the close of the original comment period and the re-opening of this comment period will be accepted and considered.

Dated: July 17, 2020.

**Cosmo Servidio,**

*Regional Administrator, Region III.*

[FR Doc. 2020-15870 Filed 7-30-20; 8:45 am]

**BILLING CODE 6560-50-P**

**FEDERAL COMMUNICATIONS COMMISSION**

**47 CFR Parts 1, 2, and 27**

**[PS Docket No. 13-42; FCC 20-89; FRS 16931]**

**Reallocation of 470-512 MHz (T-Band) Spectrum**

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** In this document, the Commission seeks comment on reallocating spectrum associated with broadcast television channels 14-20 (470-512 MHz or T-Band), assigning new licenses by auction for the 6 megahertz to 18 megahertz of spectrum that is potentially available in each of the eleven urbanized areas, and relocating “public safety eligibles” from the T-Band. Specifically, the Commission proposes rules that would allow for flexible use in the auctioned T-Band, including wireless (fixed or mobile) use. The Commission also proposes to permit broadcast operations and seeks comment on how best to facilitate this and other potential uses. The Commission seeks comment on transition mechanisms and costs for relocating public safety eligibles from the T-Band, including whether to transition these licensees only where auction revenues exceed anticipated transition costs. The Commission also proposes an auction framework and licensing, operating, and technical rules for the reallocated spectrum that would preserve the current environment for incumbents remaining in the T-Band. Finally, the Commission seeks comment on how to best address the non-public safety operations in the T-Band to maximize opportunities for new entrants, including whether and how to transition non-public safety operations.

**DATES:** Interested parties may file comments on or before August 31, 2020; and reply comments on or before September 29, 2020.

**ADDRESSES:** You may submit comments, identified by PS Docket No. 13-42, by any of the following methods:

- *Electronic Filers:* Comments may be filed electronically using the internet by accessing the ECF’s: <http://apps.fcc.gov/ecfs/> in docket number PS Docket No.

13-42. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- *Paper Filers:* Parties who choose to file by paper must file an original and one copy of each filing.

Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission’s Secretary, Office of the Secretary, Federal Communications Commission.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street SW, Washington, DC 20554.

- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19. *See FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy*, Public Notice, DA 20-304 (March 19, 2020). <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

- During the time the Commission’s building is closed to the general public and until further notice, if more than one docket or rulemaking number appears in the caption of a proceeding, paper filers need not submit two additional copies for each additional docket or rulemaking number; an original and one copy are sufficient.

**FOR FURTHER INFORMATION CONTACT:**

Melissa Conway, [Melissa.Conway@fcc.gov](mailto:Melissa.Conway@fcc.gov), of the Wireless Telecommunications Bureau, Mobility Division, (202) 418-2887. For additional information concerning the PRA information collection requirements contained in this document, contact Cathy Williams at (202) 418-2918 or send an email to [PRA@fcc.gov](mailto:PRA@fcc.gov).

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission’s Notice of Proposed Rulemaking (NPRM) in PS Docket No. 13-42, FCC 20-89, released on July 6, 2020. The complete text of the NPRM is available for viewing via the Commission’s ECF’s website by entering the docket number, PS Docket No. 13-42.

*People with Disabilities:* To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format),

<sup>1</sup> <https://regulations.gov>, Docket ID No. EPA-R03-OAR-2020-0157.

send an email to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer & Governmental Affairs Bureau at 202–418–0530 (voice), 202–418–0432 (TTY).

Pursuant to §§ 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments on or before the dates indicated on the first page of this document.

### Ex Parte Rules

This proceeding shall continue to be treated as a “permit-but-disclose” proceeding in accordance with the Commission's *ex parte* rules (47 CFR 1.1200). Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

### Initial Paperwork Reduction Analysis

This document contains proposed information collection requirements. The Commission, as part of its

continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104–13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107–198, see 44 U.S.C. 3506(c)(4), the Commission seeks specific comment on how it might further reduce the information collection burden for small business concerns with fewer than 25 employees.

### Initial Regulatory Flexibility Act Analysis

As required by the Regulatory Flexibility Act of 1980 (RFA), the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in the *NPRM*. It requests written public comment on the IRFA, contained at Appendix B to the *NPRM*. Comments must be filed in accordance with the same deadlines as comments filed in response to the *NPRM* as set forth on the first page of this document, and have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of the *NPRM*, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

### Synopsis

Section 6103 of the Middle Class Tax Relief and Job Creation Act of 2012 (T-Band Mandate)<sup>1</sup> directs the Commission to reallocate T-Band spectrum used by “public safety eligibles” and begin a system of competitive bidding to grant new initial licenses for the use of the spectrum by February 22, 2021, to relocate these public safety entities from the T-Band no later than two years after completion of the system of competitive bidding, and to make auction proceeds available to the National Telecommunications and Information Administration (NTIA) to make grants as necessary to cover relocation costs for the public safety entities for which the statute requires relocation. This *NPRM* is the commencement of the process to meet

each of the statutory deadlines and directives.

### A. Allocation and Use of T-Band Frequencies

In 1970, the Commission allocated spectrum in the 470–512 MHz band in certain “major urbanized areas” for sharing between broadcast television and “public safety, industrial, and land transportation” private land mobile radio services (PLMR). The Commission did so to address spectrum shortages and congestion in certain urbanized areas for those services and to anticipate future PLMR growth and spectrum needs. Today, T-Band spectrum is assigned to Public Safety Pool and Industrial/Business PLMR operations in the following eleven urbanized areas: Boston, MA; Chicago, IL; Dallas/Fort Worth, TX; Houston, TX; Los Angeles, CA; Miami, FL; New York, NY/NE NJ; Philadelphia, PA; Pittsburgh, PA; San Francisco/Oakland, CA; and Washington, DC/MD/VA. Additionally, in some urbanized areas, T-Band spectrum within the lowest 300 kilohertz of each broadcast television channel is designated for part 22 public mobile service. Commission rules allow T-Band licensees an operational radius of 128 kilometers (80 miles) from the geographic center of each urbanized area.

Each television broadcast channel consists of a 6 megahertz block, with the number and frequency range of broadcast channel(s) open for assignment to T-Band users varying in each urbanized area. With limited exceptions, T-Band frequency assignments within each broadcast channel are available in the eleven urbanized areas for use by either type of licensee. Paired frequencies are assigned in 12.5 kilohertz or 25 kilohertz bandwidths, with each frequency pair separated by 3 megahertz to avoid interference. As a result, Public Safety frequency assignments are interleaved with Industrial/Business frequency assignments in most T-Band channels. T-Band spectrum consists of interleaved narrowband channels and is heavily used by these entities across the eleven urbanized areas. According to Commission licensing records, there are approximately 925 Public Safety licensees with 3,000 stations, and approximately 700 non-public safety entities with 1700 stations throughout the T-Band spectrum. In addition, some entities in the T-Band, both public safety and Industrial/Business, operate through waivers of § 90.305 of the Commission's rules governing location of T-Band stations. The ratio of public safety to Industrial/Business usage

<sup>1</sup> Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112–96, section 6103, 126 Stat. 156, 205–206 (2012), (codified at 47 U.S.C. 1413) (Spectrum Act).

varies from urbanized area to urbanized area.

#### *B. Statutory Directive*

In analyzing the T-Band Mandate's potential impact, the Government Accountability Office concluded in 2019 that T-Band relocation poses significant challenges, including uncertainty of available spectrum, high cost, and interoperability concerns, and that implementation of the T-Band Mandate could deprive first responders of their current ability to communicate by radio. The National Public Safety Telecommunications Council, in both a 2013 report and a 2016 updated report, calculated the cost to relocate public safety operations from the T-Band would be approximately \$5.9 billion. The Commission's own estimates from early 2019 indicated that relocating public safety users from the T-Band would have an estimated cost between \$5 and \$6 billion and that these estimated relocation costs would greatly exceed the total expected revenues from an auction for both wireless use and the provision of broadcast services.

Bipartisan Congressional opposition to the T-Band Mandate has increased as the deadline approaches. Multiple bills have been introduced that would repeal the T-Band Mandate. Congressional statements calling for repeal note the critical nature of these public safety communications as well as the substantial concern that the potential value of the spectrum at auction would not cover relocation costs.

In this proceeding, the Commission proposes an approach to implement the T-Band Mandate for the 470–512 MHz band and address a variety of issues, such as an expanded allocation, band plan, spectrum block size, overlay license rights, and license area size, that would allow new flexible-use licensees to make use of the spectrum vacated by the mandatory transition of public safety eligibles. The Commission also addresses issues related to the transition of public safety incumbents out of the

band, including which entities require transition, and seek comment on potential paths forward for incumbent Industrial/Business licensees and licensees operating in the T-Band pursuant to part 22 of the Commission's rules, as the T-Band Mandate is silent with regard to treatment of those licensees. Finally, the Commission proposes rules that would allow for flexible use under part 27 of the Commission's rules in the auctioned T-Band spectrum.

#### *C. Reallocation and Licensing of T-Band Spectrum for Flexible Use*

The T-Band Mandate provides that the "Commission shall . . . reallocate the spectrum in the 470–512 MHz band . . . currently used by public safety eligibles as identified in § 90.303" of the Commission's rules. In considering how to reallocate this spectrum, and consistent with the Commission's approach to allocation of certain other bands, the Commission seeks to provide flexibility for new T-Band licensees, after relocation of public safety operations, to tailor the use of the band to their specific operational needs and to maximize network efficiency. The Commission therefore proposes a modification of the current 470–512 MHz band co-primary allocations to provide for Mobile Service, Fixed Service, and Broadcasting. The Commission seeks comment on this proposal. In particular, the Commission asks whether the expansion of the Land Mobile Service allocation for the 470–512 MHz band to permit Mobile Service, which would include not only Land Mobile Service, but Aeronautical Service and Maritime Service, would allow for more efficient use of the spectrum? How might an expanded allocation affect the resulting interference environment in the band, and would additional protections be necessary? How should the addition of either or both of these expanded allocations be reflected in the proposed

rules? Commenters should discuss in detail the costs and benefits of any expanded allocations.

The Commission believes that its proposal meets the requirements for the allocation of flexible use spectrum under section 303(y) of the Communications Act of 1934, as amended (Act). That section allows the Commission to allocate spectrum for flexible uses if the allocation is consistent with international agreements and if it finds that: (1) The allocation is in the public interest; (2) the allocation does not deter investment in communications services, systems, or development of technologies; and (3) such use would not result in harmful interference among users. The proposed allocation is consistent with international allocations for use of the 470–512 MHz band. Further, the proposed licensing framework for the new T-Band operations could spur innovation and investment in communications services, systems, and wireless technologies. The Commission seeks comment on this proposal.

*Band Plan.* The Commission proposes the band plan below in Figure 1 that would accommodate an auction of geographic area licenses of six megahertz blocks on a block-by-block basis in the 470–512 MHz band. The Commission proposes that the following blocks will be available in the listed urbanized areas, consistent with the current T-Band frequency assignments set forth in §§ 90.303 and 90.311 of our rules: A Block (Boston, Chicago, Los Angeles, Miami, New York, Pittsburgh); B Block (Chicago, New York); C Block (Boston, Dallas, Los Angeles, New York, San Francisco); D Block (Houston, San Francisco, Washington DC); E Block (Pittsburgh, Washington, DC); F Block (Philadelphia); G Block (Los Angeles, Philadelphia), shown in Figure 2. The Commission seeks comment on this proposed band plan and any appropriate alternatives, as well as the costs and benefits of any alternatives.

Figure 1

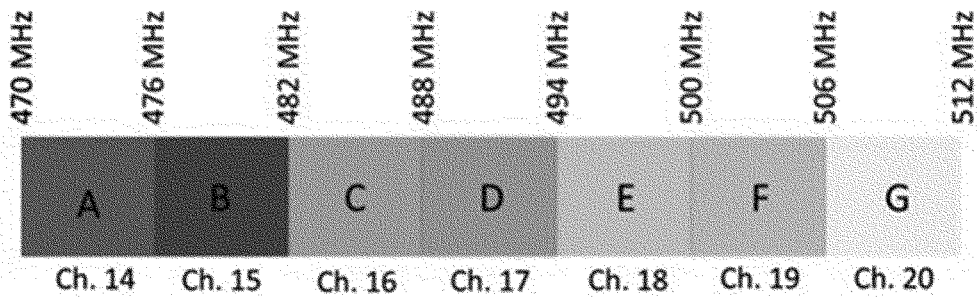


Figure 2

Ch. No.	Block	L Freq.	U Freq.	Bos.	Chi.	Dal.	Hou.	LA	Mia.	NY/NE NJ	Phila.	Pitts.	SF	DC
14	A	470	476											
15	B	476	482											
16	C	482	488											
17	D	488	494											
18	E	494	500											
19	F	500	506											
20	G	506	512											

The Commission emphasizes that it is not proposing any changes to the other, non-public safety allocations in the band at this time.

*Spectrum Block Size and Overlay Licensing.* In proposing the spectrum block sizes for new licenses in the 470–512 MHz band, the Commission is mindful of the existing spectral environment. The T-Band Mandate requires that the Commission use competitive bidding to grant new initial licenses for the use of spectrum currently used by public safety eligibles as identified in § 90.303 of the Commission’s rules and to relocate those public safety licensees from the T-Band. This approach would necessarily limit available channels to discrete frequency pairings within the six megahertz block in a given urbanized area, and would exclude from competitive bidding all frequencies currently authorized to Industrial/Business licensees pursuant to part 90 of the Commission’s rules and all frequencies currently authorized to licensees for point to multi-point operation pursuant to part 22 of the Commission’s rules. In the event that the Commission accepts mutually exclusive applications for licenses in the band, it will grant the licenses

through a system of competitive bidding, consistent with section 309(j) of the Act. Further, to facilitate increased flexibility, the Commission proposes to use its authority pursuant to the T-Band Mandate and section 309(j) of the Act to make available for licensing through competitive bidding in a given urbanized area the full six megahertz blocks in the 470–512 MHz band as an overlay authorization. An overlay license authorizes operations for a geographic area “overlaid” on existing incumbent licensees, consisting in the T-Band of part 90 Industrial/Business and Public Safety Pool licensees, and part 22 point to multi-point licensees. This approach requires the overlay licensee to protect existing incumbents from interference indefinitely, *i.e.*, until the incumbent rights are relinquished. The Commission concludes that offering overlay licenses will best protect the rights of incumbent licensees that might remain in the band.

Consistent with an overlay approach, any new licensee operation on a frequency pair within the six megahertz is fully dependent upon whether an incumbent licensee is relocated from the T-Band spectrum. The Commission proposes that, as required by the T-Band Mandate, only “public safety eligibles”

using T-Band spectrum are to be mandatorily relocated from the T-Band at this time. Would issuing overlay authorizations for the current six megahertz spectrum block, with only public safety eligibles proposed to be relocated from the T-Band, allow for both the provision of potential new services and the maintenance of a status quo incumbent interference environment for existing operations? The Commission seeks comment in general on the overlay auction approach with public safety eligibles relocating from the T-Band. The Commission seeks specific comment on whether this approach would lay the foundation for promoting the most efficient and intensive use of the spectrum and the recovery for the public of a portion of the value of the public spectrum resource. The Commission also seeks comment any alternatives approaches and the associated costs and benefits.

The Commission proposes that an overlay licensee in the T-Band would have a right to operate within the channel block to the extent: (1) A frequency is not assigned to an incumbent (either for shared or exclusive use); (2) the incumbent vacates the frequency, whether as required by the T-Band Mandate,

voluntary transition, acquisition, failure to renew, or permanent discontinuance; or (3) the incumbent and overlay licensee reach an agreement permitting such operation. The Commission also proposes that for a frequency to be considered vacated, the overlay licensee must clear all incumbents, such that there would be no overlap in authorized bandwidth of incumbent and overlay licensee transmissions.

Additionally, given the need to protect adjacent broadcast licensees, the Commission does not find feasible, and therefore do not propose, that an overlay licensee can operate co-channel on a frequency licensed to an incumbent by meeting, for example, a specified minimum mileage separation, or through an interference protection showing relying on contour calculations. The Commission seeks comment on this approach and whether we should adopt an alternative methodology whereby a technical showing could be made supporting co-channel operation of an overlay licensee while protecting existing incumbents in the same geographic area.

**Geographic License Area Size.** The Commission proposes to license the 470–512 MHz band on a geographic area basis with a 128-kilometer (80-mile) operational radius for each urbanized area based on the geographic centers set forth in §§ 90.303 and 90.305 of our rules. The Commission considers promoting a range of objectives when designing a system of competitive bidding and determining the appropriate geographic license size, including: (1) Facilitating access to spectrum by a wide variety of providers, including small entities and rural providers; (2) providing for the efficient use of spectrum; (3) encouraging deployment of wireless broadband services to consumers; and (4) promoting investment in and rapid deployment of new technologies and services. Other relevant factors here are the presence of incumbent broadcast operations and of non-public safety, Industrial/Business PLMR operations. In light of these factors, the Commission proposes to license the 470–512 MHz band with a geographic area consistent with the current T-Band operational radius.

The Commission seeks comment on this geographic-area licensing approach, and on any alternative licensing approach, including the costs and benefits of adopting such a licensing approach. Commenters also should address how any alternative licensing approach would be consistent with the requirements of section 309(j) and the statutory objectives that the Commission

seeks to promote in establishing methodologies for competitive bidding.

**Licensing Trigger.** The T-Band Mandate provides that auction proceeds shall be available to cover relocation costs of public safety entities from the T-Band. As noted above, prior assessments predict that the cost of relocating public safety licensees may approach \$6 billion. The Commission thus proposes to issue licenses only where net winning bids would exceed the total estimated relocation costs for all public safety T-Band licensees subject to mandatory relocation, as informed by earlier analyses in the record and the detailed comment we expect to receive in response to this *NPRM* regarding the costs of providing comparable facilities to relocated public safety licensees. The Commission seeks comment on this proposal, as well as on the statutory meaning of certain terms that will inform the likelihood that net winning bids will in fact exceed total estimated relocation costs. The Commission seeks comment on whether the term “proceeds,” as used in the T-Band Mandate, should be limited to monies paid for licenses covering spectrum “currently used by public safety eligibles as identified in § 90.303.” The Commission also seeks comment on whether the term “relocation costs,” should be defined consistent with its approach in other proceedings.

Commenters should address how this approach, or any alternative, would or would not be consistent with the statutory requirements of section 309(j) and with the T-Band Mandate’s statutory directives. For example, the Commission seeks comment on how to address any deficit in net winning bids—should it require public safety licensees to relocate on a city-by-city basis if the bids for a particular urbanized area meet or exceed the cost estimates to relocate public safety licensees in that particular area? Similarly, should licensees be required to relocate on a channel-by-channel basis within urbanized areas where bids for that channel meet or exceed the cost of clearing the channel? Are there alternative spectrum block sizes, licensing areas, or band plans that would meet the statutory directives, result in a status quo inference environment, and nonetheless ensure efficient use of spectrum? Commenters offering alternate methods should address the costs and benefits of a proposed alternate method.

#### *D. Transition of Incumbents From T-Band Spectrum*

##### **1. Public Safety Transition**

As directed by the T-Band Mandate, the Commission proposes to relocate from T-Band spectrum all “public safety eligibles as identified in § 90.303” of our rules, and to do so “not later than 2 years after the date on which the system of competitive bidding described in [the statute] is completed.” The Commission also proposes to require that comparable facilities be provided to relocated licensees, and notes that transition of Public Safety licensees out of the T-Band to such facilities is subject to reimbursement from auction proceeds to “cover relocation costs.” The Commission seeks comment on this approach and on the availability of a suitable spectrum destination(s) for Public Safety entities relocated from the T-Band. The Commission emphasizes that it is committed under any scenario to ensuring the continuity of such licensees’ public safety mission-critical communications.

**Public Safety Entities.** Section 6103(a)(2) requires the auction of “the spectrum in the 470–512 MHz band . . . currently used by public safety eligibles as identified in § 90.303 of title 47, Code of Federal Regulations.” Section 90.303 states that frequency assignments in the 482–488 MHz band (broadcast television channel 16) are available “for use by eligibles in the Public Safety Radio Pool” in Los Angeles; New York City; Nassau, Suffolk, and Westchester counties in New York State; and Bergen County, New Jersey. Section 90.303 also provides that other frequencies are available for assignment in eleven specific urbanized areas, and that these frequencies are listed in § 90.311. Section 90.311, in turn, provides that 470–512 MHz Band frequencies are available to listed “categories of users,” including “[p]ublic safety (as defined in § 90.20(a)) [the Public Safety Pool].” The Commission thus interprets “public safety eligibles” to include the entities named in § 90.303(b) and (c) and the entities referenced by § 90.303 that operate on frequencies assigned to the public safety category of users by § 90.311. The Commission seeks comment on this statutory interpretation and any alternatives that are consistent with the T-Band Mandate.

Following passage of the T-Band Mandate, the Bureaus imposed a freeze on future licensing or expanded operations in the 470–512 MHz band, thus preventing significant changes to the composition of the T-Band. The Commission interprets the statute’s reference to spectrum “currently used

by public safety eligibles” as limiting the reallocation and auction required by the T-Band Mandate to those frequencies in use by the public safety eligibles in the T-Band at the time the freeze was imposed, as opposed to frequencies in use by non-public safety licensees or that are unassigned. The Commission seeks comment on this interpretation and, with respect to the applicable licensing timeframe, whether it should interpret “currently used” as the time of the statute’s enactment (*i.e.*, February 22, 2012), which would not take into account subsequent licensing changes in the T-Band.

The Commission reiterates that some public safety licensees operate in the T-Band pursuant to waiver on channels not listed or referenced in § 90.303 of our rules, and thus are arguably outside the scope of the T-Band Mandate. For example, the 476–482 MHz block (broadcast television channel 15) in Los Angeles currently is used by public safety incumbents pursuant to a waiver, and 476–482 MHz is specifically excluded from the list of available frequencies identified in § 90.303. In addition, other T-Band public safety entities have received waivers of § 90.305 of the Commission’s rules or are operating via frequency pair assignments classified as Industrial/Business, pursuant to waivers of § 90.311(a)(2) of the rules. The Commission seeks comment on whether it should interpret the statute to require it to auction T-Band spectrum licensed to public safety entities under the aforementioned waivers, and to require these licensees to relocate out of the T-Band.

The Commission seeks comment on any issues that may arise if public safety waiver licensees or those operating through Industrial/Business assignments are allowed to remain in the T-Band. For example, what would be the effect on interoperability between public safety systems operating with and without waivers if only public safety licensees not subject to waiver were subject to relocation? Similarly, if a public safety waiver licensee has base station operations both inside and outside the 50-mile radius for base stations, would any operations outside the area authorized by the rules function as a splintered or partial system? Or should such a public safety waiver licensee be required to relocate all operations from the T-Band? Finally, if public safety waiver licensees are not relocated from the T-Band, what criteria would be appropriate to ensure interference is minimized between such licensees and auction licensees?

*Comparable Facilities.* Consistent with its approach to mandatory relocation in other services, the Commission proposes that public safety licensees relocated from the T-Band will be compensated for reasonable relocation costs and provided with comparable facilities. Provision of comparable facilities should ensure that public safety eligibles are not unduly burdened and that their operations are not inordinately disrupted by mandatory relocation from the T-Band. Importantly, the Commission seeks to ensure that, in providing comparable facilities, the relocation process does not result in degradation of existing service or cause an adverse effect on important public safety communications operations. The Commission proposes to define “comparable facility” as a replacement system that is at least equivalent to the public safety eligible’s existing T-Band system with respect to the following four factors: (1) System, (2) capacity, (3) quality of service, and (4) operating costs. The Commission seeks comment on this proposal.

The Commission also proposes guidelines on how these factors would apply in providing a comparable facility and seek comment on each factor. The Commission proposes that a comparable system would be functionally determined from the end user’s point of view (*i.e.*, base station facilities operating on an integrated basis to provide service to a common end user, and all associated mobile units). The Commission proposes that a system may include multiple-licensed facilities operated as a unified system if the end user can access all such facilities.

The Commission proposes that comparable channel capacity must have the same overall capacity as the original configuration, including equivalent signaling capacity, baud rate, and access time, and must achieve coextensive geographic coverage with that of the original system.

The Commission proposes that comparable quality of service would require the end user to enjoy the same level of interference protection. Quality of service necessarily requires reliability, or the degree to which information is transferred accurately within the system. For analog or digital voice transmissions, this would be measured by the percent of time that audio signal quality meets an established threshold.

With respect to operating costs, the Commission proposes that compensable costs would include all reasonable engineering, equipment, site and Commission fees, as well as any reasonable, additional costs that the

covered incumbent may incur as a result of mandatory relocation. Should the Commission assume that the compensation regime would provide for recovery of all costs associated with relocation, including planning and administrative costs, or should it limit compensable costs to only the cost of retuning and/or replacing equipment? Should the Commission establish a rebuttable presumption or guideline regarding soft costs, including potentially establishing a cap on soft costs as a percentage of hard costs, to determine what is reasonably and unavoidably incurred, and thus properly compensable, consistent with other recent proceedings?

*Relocation Cost Grants.* The T-Band Mandate provides that “[p]roceeds (including deposits and upfront payments from successful bidders) from the competitive bidding system described in subsection (a)(2) shall be available to the Assistant Secretary [of NTIA] to make grants in such sums as necessary to cover relocation costs for the relocation of public safety entities from the T-Band spectrum.” The statute refers solely to NTIA’s responsibility for the issuance of grants, appearing to leave responsibility with the Commission to determine reimbursable amounts with respect to costs of relocation, including the provision of comparable facilities. The Commission seeks comment on whether Congress intended for the Commission to rely on its expertise to determine the appropriate grant amounts based on both the provision of comparable facilities as well as on other individual licensee relocation costs. Alternatively, the Commission seeks comment on whether Congress intended NTIA to issue rules regarding eligible entities and eligible costs in accordance with the statute. Under this alternative reading, the Commission seeks comment on how the its expertise could be leveraged to inform the NTIA grant program.

The Commission seeks comment on additional relocation costs public safety licensees are likely to incur to relocate out of the T-Band, with the caveat that the destination spectrum bands are not yet determined. Should relocation costs for each licensee be determined based on a cost model, such as the model developed by the National Public Safety Telecommunications Council in its T-Band Report? The Commission seeks recommendations on formulas and calculation methods, and what parameters should be considered.

*Relocation Spectrum.* The T-Band Mandate does not identify spectrum bands to which public safety entities

could be relocated. Prior submissions in the extensive record in this proceeding have discussed the availability of the FirstNet public safety broadband network; the 450–470 MHz band; the 700 MHz band; the 800 MHz band; and the 900 MHz band, though many of these submissions and GAO have questioned whether sufficient alternative spectrum is available to accommodate relocation of any T-Band public safety licensees. The Commission therefore seeks detailed comment on the suitability of these or any other spectrum bands to serve as relocation spectrum, what characteristics must be present to consider a band a viable relocation option—for example, capacity, readily available equipment, and similar propagation characteristics—and the costs and benefits of relocating public safety licensees to a particular band(s). Are there relocation alternatives other than replacement spectrum that we should consider, such as third-party service or other media?

**Relocation Deadline.** The T-Band Mandate imposes a specific completion deadline, directing that “[r]elocation shall be completed not later than 2 years after the date on which the system of competitive bidding . . . is completed.” The Commission seeks comment on what constitutes the completion of relocation for purposes of section 6103(c). Commenters should discuss the steps a public safety entity must take to relocate its system, and the estimated timelines for these steps. For example, the Commission expects a transition would require a T-Band public safety licensee to develop, test, and commence operations in destination spectrum band(s) before discontinuing operations in the T-Band. Commenters should provide details of transition planning and specific anticipated timeframes for each phase. In the alternative, the Commission asks whether relocation would be completed once the Public Safety incumbent commences operations on its replacement frequencies, even if the incumbent has not completed all the tasks associated with the relocation.

## 2. Non-Public Safety Transition

The T-Band Mandate does not require relocation nor provide for reimbursement of non-public safety licensees operating in the T-Band. Therefore, under the Commission’s proposal, the T-Band would remain encumbered with part 90 Industrial/Business licensees on interleaved frequencies and with part 22 licensees in the lowest 300 kHz of most six megahertz blocks. Allowing non-public

safety incumbents to remain in the T-Band would result in continued co-channel use of spectrum in a limited geographic area, which likely will prevent broadcast or wireless use by an overlay licensee. In light of these considerations and the statutory mandate to use auction proceeds to fund the relocation of Public Safety incumbents, the Commission seeks comment on requiring a mandatory transition of all non-public safety incumbents (*i.e.*, part 90 Industrial/Business licensees and part 22 licensees) out of the T-Band, subject to payment of relocation costs, including provision of comparable facilities, by the overlay licensee.

Section 316(a)(1) of the Act provides that “[a]ny station license . . . may be modified by the Commission . . . if in the judgment of the Commission such action will promote the public interest, convenience and necessity.” The Commission seeks comment on whether making contiguous spectrum available for auction, enhancing the usefulness of the spectrum and promoting auction competition, and thus increasing the chances of a successful auction so that the directives of section 6103 may be executed, would support a determination that ordering license modifications of non-public safety incumbents (*e.g.*, entities that section 6103 does not take into consideration) would promote the public interest, convenience, and necessity, given all the relevant circumstances, including such factors as the effects on all the incumbent licensees and the costs and benefits to the public that are likely to result from the reconfiguration of this spectrum.

The Commission also seeks comment on potential other transition or realignment approaches that could meet the statutory mandate to fund public safety relocation costs from auction proceeds and to allow for efficient use of spectrum without requiring a full transition from the T-Band. For example, should the Commission instead realign interleaved Industrial/Business and part 22 licensees in order to create more contiguous spectrum for auction, either within single channel blocks or by relocating Industrial/Business and part 22 operations to a single channel in a city with multiple T-Band channels, resulting in at least one unencumbered six-megahertz channel? The Commission notes that, as 3 MHz separation between base and mobile transmit frequencies is required to prevent intra-system interference, any realignment within a channel would still leave two portions of a six-megahertz channel block encumbered.

Should the Commission sunset the 2012 waiver of the narrowbanding requirement for T-Band licensees and set new narrowbanding deadlines for Industrial/Business licensees in the T-Band? Commenters advocating for realignment or other approaches should also address transition mechanisms, technical issues, such as ease of retuning existing radios, timing and cost considerations, and whether additional protections or rules might be necessary to protect incumbents, whether part 90 Industrial/Business, part 22, or broadcast, from harmful interference.

The T-Band Mandate does not confer authority to use T-Band auction revenues to fund non-Public Safety relocation or realignment, whether out of the T-Band, within a T-Band channel, or to different channels within the band. However, the Commission has authority to condition licenses in the public interest, such as by requiring overlay licensees to pay for the costs associated with license modifications and has used this authority in prior proceedings. To the extent that the Commission may require T-Band part 90 Industrial/Business and part 22 licensees to relocate from their current frequency assignments, it seeks comment on whether to require an overlay licensee to pay for relocation costs of such licensees to comparable facilities. As with mandatory relocation of public safety licensees above, “comparable facilities” would require that a replacement system be provided to an incumbent during mandatory relocation that is at least equivalent to the incumbent’s existing T-Band system with respect to: (1) System, (2) capacity, (3) quality of service, and (4) operating costs.

The Commission also seeks comment on spectrum bands to which part 90 Industrial/Business and part 22 entities could be relocated. As with public safety entity relocation, the Commission seeks comment on whether there are spectrum bands that can accommodate relocation of these incumbents. Are there additional bands that would be more suitable for part 90 Industrial/Business or part 22 licensees, but potentially less appropriate for public safety licensee relocation? The Commission seeks comment on the characteristics required to consider a band a viable relocation option—for example, capacity, readily available equipment, and similar propagation characteristics—and the costs and benefits of relocating part 90 Industrial/Business and part 22 licensees to a particular band(s). Are there relocation alternatives other than replacement spectrum that the Commission should



consider, such as third-party service or other media?

#### *E. Licensing and Operating Rules; Regulatory Issues*

Given the Commission's proposal to auction T-Band licenses on a block-by-block basis for fixed and mobile use, the Commission proposes to designate the new T-Band spectrum as a Miscellaneous Wireless Communications Service governed by part 27 of the Commission's rules. The Commission therefore proposes that all future licensees in the T-Band would be required to comply with licensing and operating rules applicable to all part 27 services, including assignment of licenses by competitive bidding, flexible use, regulatory status, foreign ownership reporting, compliance with construction notification requirements, renewal criteria, permanent discontinuance of operations, partitioning and disaggregation, and spectrum leasing. The Commission seeks comment on its approach and asks commenters to identify any aspects of its general part 27 service rules that should be modified to accommodate the particular characteristics of the T-Band.

The Commission has also sought comment in this *NPRM* regarding potential broadcast use of the T-Band, or if there are other uses of T-Band outside of flexible wireless use. How should the Commission modify its licensing and operating rules if there are broadcast or other uses in the band?

In addition, the Commission seeks comment on service-specific rules for the T-Band, including eligibility, mobile spectrum holdings policies, license term, performance requirements, renewal term construction obligations, and other licensing and operating rules. In addressing these issues, commenters should discuss the costs and benefits associated with these proposals and any proposed alternatives. In the alternative, the Commission asks commenters to address whether new T-Band licensees should be regulated under part 90 of our rules so that new T-Band licensees and incumbent PLMR licensees would be subject to a single set of rules. Commenters favoring this approach should identify the part 90 rules that would need to be amended and suggest specific rule language.

#### 1. Eligibility

Consistent with established Commission practice, the Commission proposes to adopt an open eligibility standard for licenses in the T-Band. The Commission seeks comment on this approach. Specifically, the Commission seeks comment on whether adopting an

open eligibility standard for the licensing of the T-Band would encourage the development of new technologies, products, and services, while helping to ensure efficient use of this spectrum. The Commission notes that an open eligibility approach would not affect citizenship, character, or other generally applicable qualifications that may apply under our rules. Commenters should discuss the costs and benefits of the open eligibility proposal on competition, innovation, and investment.

Finally, a person that, for reasons of national security, has been barred by any agency of the Federal Government from bidding on a contract, participating in an auction, or receiving a grant "is ineligible to hold a license that is required by [the Spectrum Act] to be assigned by a system of competitive bidding under section 309(j) of the Communications Act." This eligibility restriction would apply to the auction of spectrum "currently used by public safety eligibles as identified in § 90.303" of our rules. The Commission seeks comment on how this eligibility restriction would apply to the auction of spectrum blocks used by a mixture of Public Safety, Industrial/Business, and part 22 incumbents.

#### 2. Mobile Spectrum Holding Policies

Spectrum is an essential input for the provision of mobile wireless services, and the Commission has developed policies to ensure that spectrum is assigned in a manner that promotes competition, innovation, and efficient use. The Commission seeks comment generally on whether and how to address any mobile spectrum holdings issues involving T-Band spectrum to meet our statutory requirements and ensure competitive access to the band. Similar to the Commission's approach in the *2017 Spectrum Frontiers Order and FNPRM* and the *1675–1680 MHz NPRM*, the Commission proposes not to adopt a pre-auction, bright line limit on the ability of any entity to acquire spectrum in the T-Band through competitive bidding at auction. Since such pre-auction limits may restrict unnecessarily the ability of entities to participate in and acquire spectrum in an auction, the Commission is not inclined to adopt such limits absent a clear indication that they are necessary to address a specific competitive concern, and seeks comment on any specific concerns of this type.

The Commission does not propose that this band be included in the Commission's spectrum screen, which helps to identify those markets that may warrant further competitive analysis,

when evaluating proposed secondary market transactions. Instead, the Commission proposes to review spectrum holdings on a case-by-case basis when applications for initial licenses are filed post-auction to ensure that the public interest benefits of having a threshold on spectrum applicable to secondary market transactions are not rendered ineffective. Commenters should discuss and quantify any costs and benefits associated with any proposals on the applicability of mobile spectrum holdings policies to T-Band spectrum.

The Commission notes that its rules contain restrictions on the common ownership of commercial full power television stations both in a particular local market and nationwide, as well as restrictions on the cross-ownership of such stations with other media outlets. To the extent that a successful bidder seeks to operate a full power television station on the reallocated spectrum awarded as a result of this auction, the Commission seeks comment on whether the permittee of such new station would need to comply with its existing media ownership rules.

#### 3. License Term, Performance Requirements, Renewal Term Construction Obligations

*License Term.* For licensees other than those providing broadcast services, the Commission proposes a 15-year initial term for new flexible-use T-Band licenses, and a ten-year term for subsequent renewals, given that relocation, and clearance, and initial performance requirements will have been satisfied upon renewal of a given T-Band license. The Commission believes that 15 years affords licensees sufficient time to make long-term investments in deployment and seek comment on the costs and benefits of this proposal. The Commission invites commenters to submit alternate proposals for the appropriate license term, which should similarly include a discussion on the costs and benefits. Importantly, the Commission notes that, in the event this spectrum is used for broadcast services, the license term is statutorily limited to eight years and that shorter term will apply.

*Performance Requirements.* The Commission seeks comment on adopting specific quantifiable benchmarks as an important component of our performance requirements for licensees not providing broadcast services. The Commission seeks comment on requiring a new T-Band licensee, planning to provide mobile or point-to-multipoint service in accordance with our part 27 rules, to



provide reliable signal coverage and offer service to at least 45% of the population in each of its license areas within six years of the license issue date (first performance benchmark), and to at least 80% of the population in each of its license areas within 12 years from the license issue date (second performance benchmark). For a licensee deploying point-to-point service, the Commission seeks comment on requiring it to demonstrate within six years of the license issue date (first performance benchmark) that it has four links operating and providing service, either to customers or for internal use, if the population within the license area is equal to or less than 268,000. If the population within the license area is greater than 268,000, the Commission seeks comment on requiring a licensee deploying point-to-point service to demonstrate that it has at least one link in operation and that it is providing service per every 67,000 persons within a license area. The Commission seeks comment on requiring a licensee deploying point-to-point service to demonstrate within 12 years of the license issue date (final performance benchmark) that it has eight links operating and providing service, either to customers or for internal use, if the population within the license area is equal to or less than 268,000. If the population within the license area is greater than 268,000, the Commission seeks comment on requiring a licensee deploying point-to-point service to demonstrate that it is providing service and that it has at least two links in operation per every 67,000 persons within a license area. The Commission seeks comment on whether in order to be eligible to be counted under the point-to-point buildout standard, a point-to-point link must operate with a transmit power greater than +43 dBm. The Commission notes that the proposed period for complying with these performance requirements would begin on the date that the license is issued, irrespective of the extent to which the incumbent licensees have been relocated out of the T-Band.

The Commission believes that 12 years will provide sufficient time for any T-Band licensee to meet the proposed coverage requirements. The Commission proposes that a T-Band licensee, after satisfying the 12-year second performance benchmark, be required to continue providing reliable signal coverage, or point-to-point links, as applicable, and offering service at or above that level for the remaining three years in the proposed 15-year license term in order to obtain license renewal.

Establishing such benchmarks before the end of the license term will allow us time to verify, to the extent needed, that the performance benchmarks have been met before licensees need to renew their licenses. The Commission seeks comment on its proposal.

The Commission recognizes that new T-Band licensees will have the flexibility to provide a range of services, including broadcast services. In the event that T-Band spectrum is used for broadcast services, the Commission seeks comment on requiring a broadcast station to be constructed and operational through the transmission of broadcast signals within the initial eight-year license term. Are there other parameters that should be included to ensure the efficient and effective use of T-Band spectrum for broadcast services (e.g., a specific level of market penetration)? The Commission seeks comment on this and any other requirements to achieve our goal of ensuring spectrum use. The Commission also seeks comment on whether services potentially less suited to a population coverage metric (e.g., Internet of Things-type fixed and mobile services) would benefit from an alternative performance benchmark, for example, geographic coverage benchmarks. Commenters should discuss the appropriate metric to accommodate such service offerings or other innovative services in the T-Band, as well as the costs and benefits of an alternative approach.

The Commission also seeks comment on whether the proposals discussed above achieve the appropriate balance between license-term length and a significant final buildout requirement. The Commission seeks comment on the proposed buildout requirements and any potential alternatives. Above, the Commission discusses various mechanisms for expanding flexible use in all or part of the T-Band. The Commission asks proponents of the various approaches described above whether there are issues specific to this section and their preferred approach. For example, given the potential use of the T-Band by private wireless users such as electric utilities or other Industrial/Business Pool eligibles, should it adopt specific performance requirements tailored to account for potential use of the spectrum for private internal business purposes? The Commission also seeks comment on whether small entities face any special or unique issues with respect to buildout requirements such that they would require certain accommodations or additional time to comply. Finally, commenters should discuss and

quantify how any supported buildout requirements will affect investment and innovation, as well as discuss and quantify other costs and benefits associated with the proposals.

*Penalty for Failure to Meet Performance Requirements.* Along with performance benchmarks, the Commission seeks to adopt meaningful and enforceable penalties for failing to meet the benchmarks. The Commission seeks comment on which penalties will most effectively ensure timely build-out. Specifically, the Commission proposes that, in the event a T-Band licensee fails to meet the first performance benchmark, the licensee's second benchmark and license term would be reduced by two years, thereby requiring it to meet the second performance benchmark two years sooner (at 10 years into the license term) and reducing its initial license term to 13 years. The Commission further proposes that, in the event a T-Band licensee fails to meet the second performance benchmark for a particular license area, its license for each license area in which it fails to meet the performance benchmark shall terminate automatically without Commission action. How should the Commission modify this proposal in the event the spectrum is used for broadcast services and is subject to an 8-year license term?

The Commission proposes that, in the event a T-Band licensee's authority to operate terminates, the licensee's spectrum rights would become available for reassignment pursuant to the competitive bidding provisions of section 309(j). Further, consistent with the Commission's rules for other part 27 licenses, the Commission proposes that any T-Band licensee that forfeits its license for failure to meet its performance requirements would be precluded from regaining that license. Finally, the Commission seeks comment on other performance requirements and enforcement mechanisms that would effectively ensure timely buildout.

*Compliance Procedures.* In addition to compliance procedures applicable to all part 27 licensees, including the filing of electronic coverage maps and supporting documentation, the Commission proposes a rule requiring that such electronic coverage maps accurately depict both the boundaries of each licensed area and the coverage boundaries of the actual areas to which the licensee provides service or in the case of a fixed deployment, the locations of the fixed transmitters associated with each link. If a licensee does not provide reliable signal coverage to an entire license area, we propose that it must provide a map that

accurately depicts the boundaries of the area or areas within each license area that are not being served. The Commission further proposes that each licensee must file supporting documentation certifying the type of service it is providing for each licensed area within its service territory and the type of technology used to provide such service. Supporting documentation must include the assumptions used to create the coverage maps, including the propagation model and the signal strength necessary to provide reliable service with the licensee's technology. The Commission believes that such procedures will confirm that the spectrum is being used consistently with the performance requirements. The Commission seeks comment on its proposals. In the event this T-Band spectrum is used for broadcast services, the Commission seeks comment on whether and how it should modify the proposed compliance procedures.

**Renewal Term Construction Obligation.** In addition to, and independent of, the general renewal requirements contained in § 1.949 of our rules, which apply to all Wireless Radio Services (WRS) licensees, the Commission also seeks comment on application of specific renewal term construction obligations to new T-Band licensees. The *WRS Renewal Reform FNPRM* sought comment on various renewal term construction obligations, such as incremental increases in the construction metric in each subsequent renewal term—e.g., by 5 or 10%—up to a certain threshold. In the event that licensees fail to satisfy any additional renewal term construction obligations, the Commission sought comment on a range of penalties and on methods for reassigning the unused spectrum, including automatic termination, “keep-what-you-serve,” and “use or share” approaches.

The *WRS Renewal Reform FNPRM* proposed to apply rules adopted in that proceeding to all flexible geographic licenses. Given the Commission's proposal to license this band on a geographic basis for flexible use, any additional renewal term construction obligations proposed in the *WRS Renewal Reform FNPRM* also would apply to licenses in the T-Band. The Commission seeks comment on whether there are unique characteristics of the T-Band that might require a different approach from the proposals contained in the *WRS Renewal Reform FNPRM*. For example, the Commission proposes geographic areas consisting solely of urbanized areas and the discussion of renewal term construction obligations was tailored to ensuring rural build-out.

Further, while many existing wireless radio services have 10-year license terms, here the Commission proposes and seeks comment on a 15-year initial license term with 10-year renewal terms for T-Band licensees providing non-broadcast services (eight years for licensees providing broadcast services). Do any of the proposals for this band necessitate a more tailored approach than the rules of general applicability proposed in the *WRS Renewal Reform FNPRM*? For instance, should the Commission require buildout to 85% of the population by the end of second license term, given the increased length of the initial license term? Similarly, in the event the Commission permits licensees to demonstrate compliance with initial term performance requirements by providing IoT services, should an applicant deploying IoT applications in the T-Band be required to exceed its original construction metric by an additional 5%? If a T-Band license is issued for broadcast use, how would this effect renewal term obligations? Commenters advocating rules specific to the T-Band should address the costs and benefits of their proposed rules. Further, they should discuss how a given proposal would encourage investment and deployment in areas that might not otherwise benefit from significant wireless coverage.

#### 4. Competitive Bidding Procedures

Consistent with the competitive bidding procedures the Commission has used in previous auctions, the Commission proposes to conduct any auction for licenses for spectrum in the T-Band in conformity with the general competitive bidding rules set forth in Part 1, Subpart Q, of the Commission's rules. The Commission also seeks comment on whether any of our Part 1 rules or other competitive bidding policies would be inappropriate or should be modified for an auction of T-Band licenses. The Commission seeks comment on the costs and benefits of these proposals.

The Commission also seeks comment on whether to make bidding credits for designated entities available for this band. If the Commission decides to offer small business bidding credits, it seeks comment on how to define a small business. In recent years, for other flexible use licenses, the Commission has adopted bidding credits for the two larger designated entity business sizes provided in the Commission's Part 1 standardized schedule of bidding credits. Accordingly, the Commission seeks comment on defining a small business as an entity with average gross revenues for the preceding five years not

exceeding \$55 million, and a very small business as an entity with average gross revenues for the preceding five years not exceeding \$20 million. A qualifying “small business” would be eligible for a bidding credit of 15% and a qualifying “very small business” would be eligible for a bidding credit of 25%. The Commission also seeks comment on whether the unique characteristics of these frequencies and its proposed licensing model suggest that it should adopt different small business size standards and associated bidding credits than the Commission has in the past.

Because new licenses in this band will only be available in eleven urbanized areas within an operational radius of the geographic center of each area, the Commission proposes not to offer rural service bidding credits and seeks comment on this proposal.

#### F. Technical Rules

The Commission's goal is to establish technical rules that maximize flexible use of the new T-Band spectrum licenses while appropriately protecting incumbent operations. Many of the technical rules proposed below are based on the rules adopted for the 600 MHz and lower 700 MHz bands, which are similar to T-Band in terms of flexible use, propagation characteristics, and ability to accommodate wideband technologies. The Commission believes that the proposed technical rules regarding transmitter power, antenna height, and out-of-band emissions (OOBE) limits, together with existing interference protection rules, will maintain a status quo interference environment, where an overlay licensee is not permitted to cause harmful interference to any operations that remain in or are adjacent to the 470–512 MHz band (e.g., on broadcast television channel 21 or operations below 470 MHz). The Commission seeks comment on its proposed technical rules and whether they best achieve its objectives of permitting more flexible use of this spectrum, while at the same time protecting co-channel and adjacent spectrum users from harmful interference.

##### 1. Out-of-Band Emissions Limit

Under the proposal, the Commission would license T-Band spectrum in certain geographic areas in six megahertz blocks on a block-by-block basis. Therefore, the Commission must consider how to address potential harmful interference between adjacent blocks within the T-Band, and between T-Band spectrum and adjacent bands.

The Commission previously has concluded that attenuating transmitter

out-of-band emissions (OOBE) by  $43 + 10 \log(P)$  dB, where P is the transmit power in watts, is appropriate to minimize harmful electromagnetic interference between operators. The Commission adopted this approach in other bands suited for flexible services, including the 600 MHz and lower 700 MHz bands used for wireless broadband services. To fully define an emissions limit, the Commission's rules generally specify details on how to measure the power of the emissions, such as the measurement bandwidth. For the 600 MHz and lower 700 MHz bands, the measurement bandwidth used to determine compliance with this limit for both mobile stations and base stations is 100 kHz, with some modification within the first 100 kHz. Similarly, the Commission believes that it is reasonable to apply this procedure to both mobile and base transmissions in the T-Band.

Accordingly, to address potential harmful electromagnetic interference immediately outside each T-Band block, the Commission proposes to apply § 27.53(g) of the Commission's rules, which includes OOBE attenuation of  $43 + 10 \log(P)$  dB and the associated measurement procedure, to the T-Band. The Commission seeks comment on this proposal, and on whether it would need to modify this proposal if licenses are issued in the band for broadcast operations. The Commission also seeks comment on the effect of the proposed OOBE attenuation on the existing interference environment. For instance, how will the OOBE attenuation affect the current interference environment on any remaining part 90 public safety, Industrial/Business, or part 22 point to multi-point operations? How will the OOBE attenuation affect the separation distance to protect adjacent TV channels? And how will the OOBE attenuation affect the current interference environment on PLMR operations at the upper edge of the 450–470 MHz band?

## 2. Transmitter Power Limits

The Commission proposes to apply transmitter power limits for T-Band operations that generally are consistent with the 600 MHz and lower 700 MHz bands, while taking into consideration that the proposed band plan for the T-Band does not have a predetermined uplink and downlink. Accordingly, the Commission proposes an effective radiated power (ERP) not to exceed 1,000 watts for fixed and base stations transmitting a signal with an emission bandwidth of 1 MHz or less, with maximum permissible power decreasing as the antenna height above average

terrain (HAAT) rises above 305 meters. For base stations transmitting a signal with an emission bandwidth greater than 1 MHz, the Commission proposes an ERP not to exceed 1,000 watts/MHz with the maximum permissible power decreasing as the antenna height above average terrain (HAAT) rises above 305 meters. Alternatively, the Commission seeks comment on whether we should limit the ERP for fixed and base stations to 1,000 watts/MHz for any emission bandwidth, with maximum permissible power decreasing as the antenna height above average terrain (HAAT) rises above 305 meters. The Commission seeks comment on whether this alternate approach would provide sufficient power for narrowband operations in the T-Band. The Commission also proposes to afford additional flexibility for licensees seeking to operate at transmit powers higher than it has proposed, provided they comply with a power flux density limit and the notice requirement specified in our rules to mitigate the risk of harmful interference. This produced power flux density must not exceed 3,000 microwatts per square meter on the ground over the area extending to 1 km from the base of the antenna mounting structure. The Commission further notes that the maximum ERP in the current T-Band rules is limited by the distance to the closest co-channel TV station. The Commission seeks comment on this approach, including costs and benefits, noting that our proposal varies from current T-Band rules, but is consistent with other flexible services, specifically 600 MHz and lower 700 MHz. The Commission also seeks comment on whether modifications to this proposal are necessary if licenses are issued in the band for broadcast operations.

The Commission notes that it did not propose to include a rural component to the power limits for the T-Band, as it has included for other services, because under our proposal T-Band base stations would not be permitted to be located more than 80 kilometers (50 miles) from the geographic center of the urbanized areas listed in § 27.6 of the Commission's rule.

## 3. Co-Channel Interference Between T-Band Licensees and TV Systems

Since the Commission proposes to license the T-Band on a geographic area basis with an 80-mile operational radius, the Commission seeks to ensure that T-Band licensees do not cause interference to TV co-channel systems operating along common geographic borders. The Commission's 600 MHz and lower 700 MHz rules address the

possibility of harmful co-channel interference between geographically adjacent licenses. The rule provides that the predicted or measured median field strength shall not exceed 40 dBµV/m at any location on the edge of the geographical border of the licensee's service area, unless the adjacent affected service area licensee agrees to a different field strength. Given the similarities between the T-Band, lower 700 MHz, and 600 MHz bands, the Commission proposes to apply the signal strength limit currently set forth in § 27.55(a)(2) of our rules to the T-Band. The Commission also proposes to allow licensees in adjacent areas to agree to alternate field strength limits. The Commission seeks comment on this approach, including any costs and benefits, and also seeks comment on whether any modifications to this proposal are necessary if licenses are issued in the T-Band for broadcast operations.

## 4. Antenna Height Limits

The Commission proposes to apply the flexible 600 MHz and lower 700 MHz antenna height rules, as set forth in § 27.50(c) of our rules, to the T-Band. Although the existing antenna rules for those bands do not set specific antenna height restrictions, ERP reductions are required for base or fixed stations with a height above average terrain (HAAT) exceeding 305 meters and will be applied to T-Band licensees. In addition, other rules effectively limit antenna heights. For example, all part 27 services are subject to rule § 27.56, which prevents antenna heights that would be a hazard to air navigation. Also, the Commission's proposed co-channel interference rules effectively limit antenna heights because of the limitation on field strength at the boundary of a licensee's service area. The Commission believes that the general antenna height restrictions are sufficient to afford necessary protections, and therefore does not propose any band-specific limitations on new T-Band licensees. The Commission seeks comment on this approach, including the costs and benefits, and also seeks comment on whether this approach requires modification if licenses are issued in the band for broadcast operations.

## 5. Canadian and Mexican Coordination

Under the Commission's current proposal to license the T-Band on a geographic area basis with an 80-mile operational radius, the Commission does not believe that new T-Band licenses will require coordination with either Canada or Mexico as the areas

under consideration are sufficiently separated from the border areas so as to pose no international interference issues. However, if larger geographic license areas are adopted in a future proceeding, international coordination may be required. The Commission notes that § 27.57(c) of its rules provides that all part 27 Wireless Communications Services operations are subject to international agreements between the U.S. and Mexico and between the U.S. and Canada.

#### 6. Protection of Broadcast Television Service in the T-Band From Wireless Operations

The Commission proposes to apply to the T-Band the protections of current broadcast TV rules that are consistent with those applied to 600 MHz band licensees. Specifically, the Commission proposes that licensees authorized to operate wireless services in this band be prohibited from causing harmful interference to public reception of the signals of broadcast television stations transmitting co-channel or on an adjacent channel. The Commission proposes that such wireless operations comply with the desired to undesired (D/U) ratios in Table 5 in OET Bulletin No. 74, Methodology for Predicting Inter-Service Interference to Broadcast Television from Mobile Wireless. If a licensee in this band causes harmful interference within the noise-limited contour or protected contour of a broadcast television station that is operating co-channel or on an adjacent channel, the Commission proposes to require the licensee to eliminate the harmful interference. The Commission seeks comment on this approach, whether additional protections might be necessary, and the cost and benefits of any such modifications.

In the event that a new initial T-Band licensee intends to use the license for provision of broadcast services, the Commission seeks comment on whether

such licensees should be subject to part 73 rules regarding television-to-television protection criteria. If so, the Commission seeks comment on what criteria should apply in situations where adjacent licensees hold licenses governed by part 73 and part 27 rules, respectively.

#### 7. Other Technical Issues

Part 27 contains several additional technical rules applicable to all part 27 services, including §§ 27.51 (Equipment authorization), 27.52 (RF safety), 27.54 (Frequency stability), and 27.56 (Antenna structures; air navigation safety). The Commission proposes to apply all of these part 27 technical rules to new T-Band licensees, including those acquiring licenses through assignment, partitioning or disaggregation. The Commission seeks comment on this approach, including the costs and benefits, and it also seeks comment on whether modifications to this proposal are necessary if licenses are issued in the band for broadcast operations.

#### Ordering Clauses

*It is ordered*, pursuant to the authority found in sections 1, 2, 4(i), 303, 309 and 316 of the Communications Act of 1934, 47 U.S.C. 151, 152, 154(i), 303, 309, and 316, by section 6103 of the Middle Class Tax Relief and Job Creation Act of 2012, Public Law 112–96, 126 Stat. 156 (2012), section 6103, and § 1.411 of the Commission's rules, 47 CFR 1.411, that this Notice of Proposed Rulemaking *is hereby adopted*.

*It is further ordered* that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Notice of Proposed Rulemaking, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

#### Lists of Subjects in 47 CFR Parts 1, 2, and 27

Administrative practice and procedure, Common carriers, Communications common carriers, Radio, Table of frequency allocations, Telecommunications.

Federal Communications Commission.

**Marlene Dortch,**  
*Secretary.*

#### Proposed Rules

For the reasons discussed in the preamble, the Federal Communications Commission proposes to amend 47 CFR parts 1, 2, and 27 as follows:

#### PART 1—PRACTICE AND PROCEDURE

- 1. The authority citation for part 1 continues to read as follows:

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

- 2. Section 1.9005 is amended by revising paragraph (j) to read as follows:

##### § 1.9005 Included services.

\* \* \* \* \*

(j) The Wireless Communications Service in the 470–512 MHz band and the 698–746 MHz band (part 27 of this chapter);

\* \* \* \* \*

#### PART 2—FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

- 3. The authority citation for part 2 continues to read as follows:

**Authority:** 47 U.S.C. 154, 302a, 303, and 336, unless otherwise noted.

- 4. Section 2.106, the Table of Frequency Allocations, is amended by revising page 29 to read as follows:

##### § 2.106 Table of Frequency Allocations.

\* \* \* \* \*

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Table of Frequency Allocations				456-894 MHz (UHF)		Page 29	
International Table				United States Table		FCC Rule Part(s)	
Region 1 Table	Region 2 Table	Region 3 Table	Federal Table		Non-Federal Table		
456-459 FIXED			456-459		456-460 FIXED		
MOBILE 5.286AA					LAND MOBILE		
5.271 5.287 5.288			US64 US287 US288				
459-460 FIXED	459-460 FIXED	459-460 FIXED	459-460				
MOBILE 5.286AA	MOBILE 5.286AA	MOBILE 5.286AA					
	MOBILE-SATELLITE (Earth-to-space) 5.286A 5.286B 5.286C						
5.209 5.271 5.286A 5.286B	5.209	5.209 5.271 5.286A 5.286B			US64 US287 US288 NG32 NG112		
5.286C 5.286E		5.286C 5.286E			NG124 NG148		
460-470 FIXED			460-470		460-462.5375		
MOBILE 5.286AA			Meteorological-satellite (space-to-Earth)		FIXED		
Meteorological-satellite (space-to-Earth)					LAND MOBILE		
					US209 US289 NG124		
					462.5375-462.7375		
					LAND MOBILE		
					US289		
					462.7375-467.5375		
					FIXED		
					LAND MOBILE		
					US73 US209 US287 US288 US289		
					NG124		
					467.5375-467.7375		
					LAND MOBILE		
					US287 US288 US289		
					467.7375-470		
					FIXED		
					LAND MOBILE		
					US73 US209 US287 US288		
					US289		
					470-608		
5.287 5.288 5.289 5.290					470-512		
470-694	470-512	470-585			FIXED		
BROADCASTING	BROADCASTING	MOBILE 5.296A			MOBILE		
	Fixed	BROADCASTING			BROADCASTING		
	Mobile				NG5 NG14 NG86 NG115 NG149		
	5.292 5.293 5.295						
					512-608		
	BROADCASTING				BROADCASTING		
	5.295 5.297				NG5 NG14 NG115 NG149		
	608-614						
	RADIO ASTRONOMY				608-614		
	Mobile-satellite except aeronautical				LAND MOBILE (medical telemetry and medical telecommand)		
	mobile-satellite (Earth-to-space)				RADIO ASTRONOMY US74		
					US246		

\* \* \* \* \*

**PART 27—MISCELLANEOUS  
WIRELESS COMMUNICATIONS  
SERVICES**

■ 5. 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.

■ 6. Section 27.1 is amended by adding paragraph (b)(16) to read as follows:

**§ 27.1 Basis and purpose.**

\* \* \* \* \*

(b) \* \* \*

(16) 470–512 MHz.

\* \* \* \* \*

■ 7. Section 27.5 is amended by adding paragraph (n) to read as follows:

**§ 27.5 Frequencies.**

\* \* \* \* \*

(n) *470–512 MHz band.* Seven unpaired channel blocks of 6 megahertz each are available for assignment. The following frequencies are available for licensing pursuant to this part in the 470–512 MHz band:

Block A: 470–476 MHz;

Block B: 476–482 MHz;

Block C: 482–488 MHz;

Block D: 488–494 MHz;

Block E: 494–500 MHz;

Block F: 500–506 MHz; and

Block G: 506–512 MHz.

■ 8. Section 27.6 is amended by adding paragraph (n) to read as follows:

**§ 27.6 Service areas.**

\* \* \* \* \*

(n) *470–512 MHz band.* The following table lists specific urbanized areas with T-Band frequency bands and blocks that are available for assignment. The available frequencies are listed in § 27.5. The service area for the 470–512 MHz band extends 128 kilometers (80 miles) from the geographic centers of the urban areas listed below:

TABLE 3 TO PARAGRAPH (n)

Urbanized area	Geographic center		Bands (MHz)	TV channels	Blocks
	North latitude	West longitude			
Boston, MA .....	42°21'24.4"	71°03'23.2"	470–476, 482–488 .....	14, 16 .....	A, C.
Chicago, IL .....	41°52'28.1"	87°38'22.2"	470–476, 476–482 .....	14, 15 .....	A, B.
Dallas/Fort Worth, TX .....	32°47'09.5"	96°47'38.0"	482–488 .....	16 .....	C.
Houston, TX .....	29°45'26.8"	95°21'37.8"	488–494 .....	17 .....	D.
Los Angeles, CA .....	34°03'15.0"	118°14'31.3"	470–476, 482–488, 506–512 .....	14, 16, 20 .....	A, C, G.
Miami, FL .....	25°46'38.4"	80°11'31.2"	470–476 .....	14 .....	A.
New York, NY/NE NJ .....	40°45'06.4"	73°59'37.5"	470–476, 476–482, 482–488 .....	14, 15, 16 .....	A, B, C.
Philadelphia, PA .....	39°56'58.4"	75°09'19.6"	500–506, 506–512 .....	19, 20 .....	F, G.
Pittsburgh, PA .....	40°26'19.2"	79°59'59.2"	470–476, 494–500 .....	14, 18 .....	A, E.
San Francisco/Oakland, CA .....	37°46'38.7"	122°24'43.9"	482–488, 488–494 .....	16, 17 .....	C, D.
Washington, DC/MD/VA .....	38°53'51.4"	77°00'31.9"	488–494, 494–500 .....	17, 18 .....	D, E.

**Note 3 to paragraph (n):** Coordinates are referenced to the North American Datum 1983 (NAD83).

■ 9. Section 27.13 is amended by adding paragraph (n) to read as follows:

**§ 27.13 License period.**

\* \* \* \* \*

(n) *470–512 MHz band.* Authorization for the 470–512 MHz band will have a term not to exceed fifteen years from the date of issuance and ten years from the date of any subsequent license renewal, except that initial authorizations for a part 27 licensee that provides broadcast services, whether exclusively or in combination with other services, will not exceed eight years.

■ 10. Section 27.14 is amended by revising the first sentence of paragraphs (a) and (k), and adding paragraph (w) to read as follows:

**§ 27.14 Construction requirements.**

(a) AWS and WCS licensees, with the exception of WCS licensees holding authorizations for the 470–512 MHz band, 600 MHz band, Block A in the 698–704 MHz and 728–734 MHz bands, Block B in the 704–710 MHz and 734–740 MHz bands, Block E in the 722–728 MHz band, Block C, C1 or C2 in the 746–757 MHz and 776–787 MHz bands,

Block A in the 2305–2310 MHz and 2350–2355 MHz bands, Block B in the 2310–2315 MHz and 2355–2360 MHz bands, Block C in the 2315–2320 MHz band, Block D in the 2345–2350 MHz band, and in the 3700–3980 MHz band, and with the exception of licensees holding AWS authorizations in the 1915–1920 MHz and 1995–2000 MHz bands, the 2000–2020 MHz and 2180–2200 MHz bands, or 1695–1710 MHz, 1755–1780 MHz and 2155–2180 MHz bands, must, as a performance requirement, make a showing of “substantial service” in their license area within the prescribed license term set forth in § 27.13. \* \* \*

\* \* \* \* \*

(k) Licensees holding WCS or AWS authorizations in the spectrum blocks enumerated in paragraphs (g), (h), (i), (q), (r), (s), (t), (v) and (w) of this section, including any licensee that obtained its license pursuant to the procedures set forth in paragraph (j) of this section, 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. \* \* \*

\* \* \* \* \*

(w) The following provisions apply to any licensee holding an authorization in the 470–512 MHz band:

(1) Licensees relying on mobile or point-to-multipoint service shall provide reliable signal coverage and offer service within eight (8) years from the date of the initial license to at least 45 percent of the population in each of its license areas (“First Buildout Requirement”). Licensee shall provide reliable signal coverage and offer service within 12 years from the date of the initial license to at least 80 percent of the population in each of its license areas (“Second Buildout Requirement”). Licensees relying on point-to-point service shall demonstrate within eight years of the license issue date that they have four links operating and providing service to customers or for internal use if the population within the license area is equal to or less than 268,000 and, if the population is greater than 268,000, that they have at least one link in operation and providing service to customers, or for internal use, per every 67,000 persons within a license area (“First Buildout Requirement”). Licensees relying on point-to-point

service shall demonstrate within 12 years of the license issue date that they have eight links operating and providing service to customers or for internal use if the population within the license area is equal to or less than 268,000 and, if the population within the license area is greater than 268,000, shall demonstrate they are providing service and have at least two links in operation per every 67,000 persons within a license area (“Second Buildout Requirement”).

(2) If a licensee fails to establish that it meets the First Buildout Requirement for a particular license area, the licensee’s Second Buildout Requirement deadline and license term will be reduced by two years. If a licensee fails to establish that it meets the Second Buildout Requirement for a particular license area, its authorization for each license area in which it fails to meet the Second Buildout Requirement shall terminate automatically without Commission action, and the licensee will be ineligible to regain it if the Commission makes the license available at a later date.

(3) To demonstrate compliance with these performance requirements, licensees shall use the most recently available decennial U.S. Census Data at the time of measurement and shall base their measurements of population or geographic area served on areas no larger than the Census Tract level. The population or area within a specific Census Tract (or other acceptable identifier) will be deemed served by the licensee only if it provides reliable signal coverage to and offers service within the specific Census Tract (or other acceptable identifier). To the extent the Census Tract (or other acceptable identifier) extends beyond the boundaries of a license area, a licensee with authorizations for such areas may include only the population or geographic area within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license. If a licensee does not provide reliable signal coverage to an entire license area, the licensee must provide a map that accurately depicts the boundaries of the area or areas within each license area not being served. Each licensee also must file supporting documentation certifying the type of service it is providing for each licensed area within its service territory and the type of technology used to provide such service. Supporting documentation must include the assumptions used to create the coverage maps, including the propagation model and the signal strength necessary to provide reliable service with the licensee’s technology.

(4) License Renewal. After satisfying the 12-year, final performance benchmark, a licensee must continue to provide coverage and offer service at or above that level for the remaining three years of the 15-year license term in order to warrant license renewal.

■ 11. Section 27.50 is amended by revising paragraphs (c) introductory text, (c)(2), (4), (5), and (10), and headings for tables 1 and 3 to read as follows:

**§ 27.50 Power limits and duty cycle.**

\* \* \* \* \*

(c) The following power and antenna height requirements apply to stations transmitting in the 470–512 MHz band, the 600 MHz band and the 698–746 MHz band:

\* \* \* \* \*

(2) Fixed and base stations, except for fixed and base stations operating in the 470–512 MHz band, located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal with an emission bandwidth of 1 MHz or less must not exceed an ERP of 2000 watts and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts ERP in accordance with Table 2 of this section;

\* \* \* \* \*

(4) Fixed and base stations, except for fixed and base stations operating in the 470–512 MHz band, located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal with an emission bandwidth greater than 1 MHz must not exceed an ERP of 2000 watts/MHz and an antenna height of 305 m HAAT, except that antenna heights greater than 305 m HAAT are permitted if power levels are reduced below 2000 watts/MHz ERP in accordance with Table 4 of this section;

(5) Licensees, except for licensees operating in the 470–512 MHz band and the 600 MHz downlink band, seeking to operate a fixed or base station located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics from the Bureau of the Census, and transmitting a signal at an ERP greater than 1000 watts must:

\* \* \* \* \*

(10) Portable stations (hand-held devices) in the 470–512 MHz band, the 600 MHz uplink band and the 698–746

MHz band, and fixed and mobile stations in the 470–512 MHz and 600 MHz uplink band are limited to 3 watts ERP.

\* \* \* \* \*

**Table 1 to § 27.50—Permissible Power and Antenna Heights for Base and Fixed Stations in the 757–758 and 775–776 MHz Bands and for Base and Fixed Stations in the 470–512 MHz Band, 600 MHz, 698–757 MHz, 758–763 MHz, 776–787 MHz and 788–793 MHz Bands Transmitting a Signal With an Emission Bandwidth of 1 MHz or Less**

\* \* \* \* \*

**Table 3 to § 27.50—Permissible Power and Antenna Heights for Base and Fixed Stations in the 470–512 MHz Band, 600 MHz, 698–757 MHz, 758–763 MHz, 776–787 MHz and 788–793 MHz Bands Transmitting a Signal With an Emission Bandwidth Greater Than 1 MHz**

\* \* \* \* \*

■ 12. Section 27.53 is amended by revising paragraph (g) to read as follows:

**§ 27.53 Emission limits.**

\* \* \* \* \*

(g) For operations in the 470–512 MHz band, the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee’s frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log(P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee’s frequency block, a resolution bandwidth of at least 30 kHz may be employed.

\* \* \* \* \*

■ 13. Section 27.55 is amended by revising paragraphs (a)(2) and (b) to read as follows:

**§ 27.55 Power strength limits.**

(a) \* \* \*

(2) The 470–512 MHz band, 600 MHz, 698–758, and 775–787 MHz bands: 40 dBμV/m.

\* \* \* \* \*

(b) Power flux density limit for stations operating in the 470–512 MHz band and 698–746 MHz bands. For base and fixed stations operating in the 470–512 MHz band and 698–746 MHz band in accordance with the provisions of § 27.50(c)(6), the power flux density that would be produced by such stations through a combination of antenna height and vertical gain pattern must



not exceed 3000 microwatts per square meter on the ground over the area extending to 1 km from the base of the antenna mounting structure.

\* \* \* \* \*

■ 14. Section 27.57 is amended by revising paragraph (b) to read as follows:

**§ 27.57 International coordination.**

\* \* \* \* \*

(b) Wireless operations in the 470–608 MHz, 614–763 MHz, 775–793 MHz, and 805–806 MHz bands are subject to current and future international agreements between the United States and Canada and the United States and Mexico. Unless otherwise modified by international treaty, licenses must not cause interference to, and must accept harmful interference from, television broadcast operations in Mexico and Canada, where these services are co-primary in the band.

\* \* \* \* \*

■ 15. Section 27.75 is amended by revising paragraph (a)(2) to read as follows:

**§ 27.75 Basic interoperability requirement.**

(a) \* \* \*

(2) Mobile and portable stations that operate on any portion of frequencies in the 470–512 MHz band or 600 MHz band must be capable of operating on all frequencies in the 470–512 MHz band or 600 MHz band using the same air interfaces that the equipment utilizes on any frequencies in the 470–512 MHz band or 600 MHz band.

\* \* \* \* \*

■ 16. Section 27.1310 is amended by revising the section heading and paragraphs (a) introductory text, (a)(2), (b) introductory text, (b)(1), (c), and (d)(4) to read as follows:

**§ 27.1310 Protection of Broadcast Television Service in the 470–512 MHz band and 600 MHz band from wireless operations.**

(a) Licensees authorized to operate wireless services in the 470–512 MHz band and 600 MHz band must cause no harmful interference to public reception of the signals of broadcast television stations transmitting co-channel or on an adjacent channel.

\* \* \* \* \*

(2) If a 470–512 MHz band or 600 MHz band licensee causes harmful interference within the noise-limited contour or protected contour of a broadcast television station that is operating co-channel or on an adjacent channel, the 470–512 MHz band or the 600 MHz band licensee must eliminate the harmful interference.

(b) A licensee authorized to operate wireless base stations in the 470–512

MHz band, or authorized to operate wireless services in the 600 MHz downlink band:

(1) Is not permitted to deploy wireless base stations within the noise-limited contour or protected contour of a broadcast television station licensed on a co-channel or adjacent channel in the 470–512 MHz band or 600 MHz downlink band;

\* \* \* \* \*

(c) A licensee authorized to operate wireless mobile or portable devices in the 470–512 MHz band, or authorized to operate wireless services in the 600 MHz uplink band must limit its service area so that mobile and portable devices do not transmit:

\* \* \* \* \*

(d) \* \* \*

(4) Co-channel operations in the 470–512 MHz band and 600 MHz band are defined as operations of broadcast television stations and wireless services where their assigned channels or frequencies spectrally overlap;

\* \* \* \* \*

■ 17. Section 27.1320 is revised to read as follows:

**§ 27.1320 Notification to white space database administrators.**

To receive interference protection, the 470–512 MHz band and 600 MHz licensees shall notify one of the white space database administrators of the areas where they have commenced operation pursuant to §§ 15.713(j)(10) and 15.715(n) of this chapter.

■ 18. Add subpart P, consisting of §§ 27.1500 through 27.1504, to read as follows:

**Subpart P—470–512 MHz Band**

Sec.

27.1500 470–512 MHz band subject to competitive bidding.

27.1501 Designated entities in the 470–512 MHz band.

27.1502 Comparable facilities.

27.1503 Overlay licensee rights.

27.1504 Permanent discontinuance of service in the 470–512 MHz band.

**Subpart P—470–512 MHz Band**

**§ 27.1500 470–512 MHz band subject to competitive bidding.**

Mutually exclusive initial applications for 470–512 MHz band licenses are subject to competitive bidding. The general competitive bidding procedures set forth in 47 CFR part 1, subpart Q of this chapter will apply unless otherwise provided in this subpart.

**§ 27.1501 Designated entities in the 470–512 MHz band.**

*Eligibility for small business provisions.*

(a) *Definitions.* For purposes of this section:

(1) *Small business.* A small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$55 million for the preceding five (5) years.

(2) *Very small business.* A very small business is an entity that, together with its affiliates, its controlling interests, and the affiliates of its controlling interests, has average gross revenues not exceeding \$20 million for the preceding five (5) years.

(b) *Bidding credits.* A winning bidder that qualifies as a small business, as defined in this section, or a consortium of small businesses may use the bidding credit of 15 percent, as specified in § 1.2110(f)(2)(i)(C) of this chapter, subject to the cap specified in § 1.2110(f)(2)(ii) of this chapter. A winning bidder that qualifies as a very small business, as defined in this section, or a consortium of very small businesses may use the bidding credit of 25 percent, as specified in § 1.2110(f)(2)(i)(B) of this chapter, subject to the cap specified in § 1.2110(f)(2)(ii) of this chapter.

**§ 27.1502 Comparable facilities.**

To be considered comparable facilities under this subpart, a replacement system provided to a public safety licensee during a mandatory relocation from the 470–512 MHz band must be at least equivalent to the licensee's existing system with respect to the following four factors:

- (a) System;
- (b) Capacity;
- (c) Quality of service; and
- (d) Operating costs.

**§ 27.1503 Overlay licensee rights.**

(a) A licensee authorized under part 27 to operate in the 470–512 MHz band shall be permitted to construct and operate on its authorized frequencies within its geographic license area provided:

(1) A frequency is not assigned to a part 90 or part 22 licensee (either for shared or exclusive use);

(2) The part 90 or part 22 licensee vacates the frequency, whether by mandatory transition pursuant to Public Law 112–96, 126 Stat. 156 (2012) (Act), section 6103, voluntary transition, acquisition, failure to renew its license, or permanent discontinuance. A frequency is considered vacated where

all part 90 and part 22 licensees are no longer operational, such that there would be no overlap in authorized bandwidth of part 90 or part 22 licensees with part 27 overlay licensee transmissions; or

(3) The part 90 and/or part 22 licensee and the part 27 licensee reach an agreement permitting such operation.

#### **§ 27.1504 Permanent discontinuance of 470–512 MHz licenses.**

A 470–512 MHz band licensee that permanently discontinues service as defined in § 1.953 of this chapter must notify the Commission of the discontinuance within 10 days by filing FCC Form 601 requesting license cancellation. An authorization will automatically terminate, without specific Commission action, if service is permanently discontinued as defined in § 1.953 of this chapter, even if a licensee fails to file the required form requesting license cancellation.

[FR Doc. 2020–15707 Filed 7–30–20; 8:45 am]

BILLING CODE 6712–01–P

## **FEDERAL COMMUNICATIONS COMMISSION**

### **47 CFR Part 64**

[CG Docket No. 17–59; FCC 20–96; FRS 16959]

### **Advanced Methods To Target and Eliminate Unlawful Robocalls**

**AGENCY:** Federal Communications Commission.

**ACTION:** Proposed rule.

**SUMMARY:** In this document the Federal Communications Commission (FCC or Commission) invites comments on proposed revisions to its rules implementing the Telephone Consumer Protection Act and the Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence Act (TRACED Act). The Commission proposes: To require voice service providers to respond to certain traceback requests, mitigate bad traffic when notified of such traffic by the Commission, and implement effective measures to prevent new and renewing customers from using its network to originate illegal calls; to extend the safe harbor for blocking based on reasonable analytics including caller ID authentication information to network-based blocking without consumer consent so long as the blocking is specifically designed to block calls that are highly likely to be illegal and is managed with sufficient human oversight and network monitoring to

ensure that blocking is working as intended; and to require terminating voice service providers to provide a list of individually blocked calls that were placed to a particular number at the request of the subscriber to that number. These proposals, taken together, implement the TRACED Act and continue the Commission's fight against illegal and unwanted robocalls while taking further steps to ensure that wanted calls are protected.

**DATES:** Comments are due on or before August 31, 2020, and reply comments are due on or before September 29, 2020.

**ADDRESSES:** You may submit comments, identified by CG Docket No. 17–59, by any of the following methods:

- **Electronic Filers:** Comments may be filed electronically using the internet by accessing the ECFS: <http://apps.fcc.gov/ecfs/>.

- **Paper Filers:** Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

- Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Drive, Annapolis Junction, MD 20701.

- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street SW, Washington, DC 20554.

- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID–19. See *FCC Announces Closure of FCC Headquarters Open Window and Change in Hand-Delivery Policy*, Public Notice, DA 20–304 (March 19, 2020), <https://www.fcc.gov/document/fcc-closes-headquarters-open-window-and-changes-hand-delivery-policy>.

**FOR FURTHER INFORMATION CONTACT:** Jerusha Burnett, Consumer Policy Division, Consumer and Governmental Affairs Bureau, email at [jerusha.burnett@fcc.gov](mailto:jerusha.burnett@fcc.gov) or by phone at (202) 418–0526.

**SUPPLEMENTARY INFORMATION:** This is a summary of the Commission's *Fourth Further Notice of Proposed Rulemaking (FFNPRM)*, in CG Docket No. 17–59, FCC 20–96, adopted on July 16, 2020, and released on July 17, 2020. The *Third Report and Order* that was adopted concurrently with the *FFNPRM* is published elsewhere in this issue of the *Federal Register*. The full text of document FCC 20–96 is available for public inspection and copying via the Commission's Electronic Comment Filing System (ECFS). To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an email to [fcc504@fcc.gov](mailto:fcc504@fcc.gov) or call the Consumer and Governmental Affairs Bureau at 202–418–0530 (voice).

This matter shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission's *ex parte* rules. 47 CFR 1.1200 *et seq.* Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substances of the presentations and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented is generally required. See 47 CFR 1.1206(b). Other rules pertaining to oral and written *ex parte* presentations in permit-but-disclose proceedings are set forth in § 1.1206(b) of the Commission's rules, 47 CFR 1.1206(b).

### **Initial Paperwork Reduction Act of 1995 Analysis**

The *FFNPRM*, FCC 20–96, seeks comment on proposed rule amendments that may result in modified information collection requirements. If the Commission adopts any modified information collection requirements, the Commission will publish another notice in the *Federal Register* inviting the public to comment on the requirements, as required by the Paperwork Reduction Act. Public Law 104–13; 44 U.S.C. 3501–3520. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, the Commission seeks comment on how it might further reduce the information collection burden for small business concerns with fewer than 25 employees. Public Law 107–198; 44 U.S.C. 3506(c)(4).

### **Synopsis**

1. In the *FFNPRM*, the Commission seeks comment on how it can build on its prior work and further implement the TRACED Act. The Commission proposes to establish an affirmative obligation for voice service providers to