



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Parts 1, 2, 20, 27, and 90

[WT Docket No. 17-200; FCC 20-67; FRS 16788]

Review of the Commission's Rules Governing 896-901/935-940 MHz Band

AGENCY: Federal Communications Commission.

ACTION: Final rule.

SUMMARY: In this document, the Commission adopts rules for broadband license operations in the 897.5-900.5/936.5-939.5 MHz segment of the 900 MHz band (896-901/935-940 MHz). The new rules are necessary because many 900 MHz licensees, including utilities and other industrial users, will require additional coverage and capacity to keep pace with the expanding need for enhanced connectivity. The intended effect of adopting rules for 900 MHz broadband license operations is to address many 900 MHz licensees' current and future needs because broadband can offer next generation services not typically associated with narrowband systems. In this document, the Commission also proposes to modify the 900 MHz nationwide ribbon license held by the Association of American Railroads, which would clear a prominent nationwide incumbent from the new broadband segment and enable significant advancements to railroad safety. The Commission denies a petition for rulemaking requested by the Enterprise Wireless Association. Lastly, the Commission adopts a partial lifting of the 900 MHz application freeze.

DATES: *Effective date:* **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].**

Compliance date: Compliance will not be required for §§ 27.1503 and 27.1505 until the Commission publishes a document in the **Federal Register** announcing that compliance date.

ADDRESSES: 445 12th Street SW, Washington, DC 20554.

FOR FURTHER INFORMATION CONTACT: Jessica Quinley, Wireless Telecommunications Bureau, Mobility Division, 202-418-1991 or Jessica.Quinley@fcc.gov. For information regarding the PRA information collection requirements, contact Cathy Williams, Office of Managing Director, at 202-418-2918 or Cathy.Williams@fcc.gov.

SUPPLEMENTARY INFORMATION: This is a summary of the *Report and Order, Order of Proposed Modification, and Orders* in WT Docket No. 17-200, FCC 20-67, adopted May 13, 2020, and released May 14, 2020, as modified by an Erratum released July 1, 2020. The full text of the *Report and Order, Order of Proposed Modification, and Orders* is available for public inspection at the following internet address: <https://docs.fcc.gov/public/attachments/FCC-20-67A1.pdf>. Alternative formats are available for people with disabilities (Braille, large print, electronic files, audio format), by sending an email to FCC504@fcc.gov or calling the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice) or 202-418-0432 (TTY).

Final Regulatory Flexibility Analysis

The Regulatory Flexibility Act of 1980, as amended (RFA), requires that an agency prepare a regulatory flexibility analysis for notice and comment rulemakings, unless the agency certifies that “the rule will not, if promulgated, have a significant economic impact on a substantial number of small entities.”

Accordingly, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) concerning the possible impact of the rule changes contained in this *Report and Order* on small entities. As required by the Regulatory Flexibility Act, an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rulemaking (NPRM)* released in March 2019 in this proceeding (84 FR 12987, April 3, 2019; 84 FR 14641, April 11, 2019). The Commission sought written public comment on the proposals in the *NPRM*, including comments on the IRFA. No comments were filed addressing the IRFA. This FRFA conforms to the RFA. The Commission will send a copy of the *Report and Order, Order of Proposed Modification, and Orders*, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration.

Paperwork Reduction Act

The requirements in §§ 27.1503 and 27.1505 constitute new or modified collections subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. The Commission will submit a request for approval of the information collections to the Office of Management and Budget (OMB) under Section 3507(d) of the PRA. OMB, the general public, and other Federal agencies will be invited to comment on

the new or modified information collection requirements contained in this proceeding. In addition, the Commission notes that, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4), the Commission previously sought, but did not receive, specific comment on how the Commission might further reduce the information collection burden for small business concerns with fewer than 25 employees. The Commission describes impacts that might affect small businesses, which includes business with fewer than 25 employees, in the FRFA.

Congressional Review Act

The Commission will send a copy of the *Report and Order, Order of Proposed Modification, and Orders* to Congress and the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. 801(a)(1)(A).

Synopsis

I. Introduction

1. In the *Report and Order*, the Commission realigns the 900 MHz band to make available six of the band's ten megahertz for the deployment of broadband services and technologies on a county-by-county basis, while reserving the band's remaining four megahertz for continued narrowband operations. Band realignment is necessary to meet the ever-increasing spectrum capacity demands of a wide range of industries, such as utilities and railroads, and other private land mobile radio services. The Report and Order adopts a primarily negotiation-based transition mechanism, establishes eligibility criteria for new broadband licenses, allows for mandatory relocation in narrow circumstances, and establishes anti-windfall payment obligations, application requirements, transition procedures, and operating and technical rules.

2. In the *Order of Proposed Modification*, the Commission proposes to modify the 900 MHz nationwide ribbon license held by the Association of American Railroads. The item includes two additional *Orders*. In the first *Order*, the Commission denies a petition for rulemaking, which requested that the Commission designate part of the 800 MHz guard band for relocation of 900 MHz narrowband channels. In the

second *Order*, the Commission partially lifts the freeze on 900 MHz applications for the limited purpose of permitting licensees to relocate their narrowband operations to facilitate the transition to broadband.

II. Background

3. The 900 MHz band (896-901/935-940 MHz) consists of 399 narrowband 12.5 kilohertz frequency pairs grouped into 10-channel blocks that alternate between Business/Industrial/Land Transportation licensees and Specialized Mobile Radio providers. While some 900 MHz licensees will continue to rely on narrowband deployments, many 900 MHz licensees, including utilities and other industrial users, will require additional coverage and capacity to keep pace with the expanding need for enhanced connectivity. Broadband is an effective tool for addressing many 900 MHz licensees' current and future needs, and it can offer next generation services not typically associated with narrowband systems.

III. Report and Order

A. Transition of 900 MHz Band to Enable Broadband Deployment

1. Band Realignment to Create a 3/3 Megahertz Broadband Segment

4. The Commission creates a broadband segment consisting of paired three megahertz channels (3/3 megahertz) in the 897.5-900.5/936.5-939.5 MHz portion of the 900 MHz band. The Commission reserves two narrowband segments—896-897.5/935-936.5 MHz and 900.5-901/939.5-940 MHz—on either side of the broadband segment. The band realignment will result in one paired three megahertz broadband segment that is compliant with 3rd Generation Partnership Project standards and two narrowband segments consisting of a paired 1.5 megahertz block and a paired .5 megahertz block, respectively. The new band plan maintains the operational status quo of licensees within the 900 MHz band and provides substantial spectral separation to reduce the potential for interference to adjacent band services.

2. Transition Process

5. The Commission relies primarily on a negotiation-based transition mechanism that enables prospective broadband licensees to acquire, relocate, or protect covered incumbents in the broadband segment. The Commission defines covered incumbent as any 900 MHz site-based licensee in the broadband segment

that under § 90.621(b) is required to be protected by a broadband licensee that locates a base station anywhere within the county, or any geographic-based 900 MHz Specialized Mobile Radio licensee in the broadband segment whose license area completely or partially overlaps the county.

6. The Commission establishes two eligibility criteria for new broadband licenses. First, the applicant must hold more than 50% of the total amount of licensed 900 MHz spectrum in the county where it seeks a license. Second, the applicant must hold spectrum in the broadband segment or reach an agreement to clear through acquisition or relocation, or demonstrate how it will provide interference protection to, covered incumbent licensees collectively holding licenses in the broadband segment for at least 90% of the site-channels in the county and within 70 miles of the county boundary and geographically licensed channels where the license area completely or partially overlaps the county.

7. To determine whether an applicant has satisfied the requisite more-than-50% spectrum threshold for a given county, an applicant may demonstrate it holds spectrum associated with: (1) 900 MHz geographic licenses completely or partially overlapping the county, (2) 900 MHz site-based stations with service contours that intersect that county's boundary, and (3) credit for 900 MHz spectrum used to facilitate acquisitions or relocations of covered incumbents on or after March 14, 2019.

8. The 90% eligibility prong includes the applicant's own 900 MHz spectrum holdings and the acquisition, relocation, or protection of covered incumbent licenses. It includes credit for 900 MHz spectrum included in an application to acquire or relocate covered incumbents filed with the Commission on or after March 14, 2019. The spectrum must be in the 897.5-900.5/936.5-939.5 MHz broadband segment and in and within 70 miles of the county where the applicant seeks a license. A prospective broadband licensee may offer to a covered incumbent for the purposes of relocation no more spectrum than the incumbent currently holds, except where doing so is necessary to achieve equivalent coverage and/or capacity. A prospective broadband licensee may also elect to provide interference protection to covered incumbents through compliance with minimum spacing criteria, letters of concurrence, or private contractual agreements. If any site of a complex system is located within the county and/or within 70

miles of the county boundary, an applicant must either hold the license for the site or reach an agreement to acquire, relocate, or protect it to demonstrate eligibility.

9. After license grant, the Commission allows a 900 MHz broadband licensee to relocate mandatorily from the broadband segment, in a given county and within 70 miles of the county, covered incumbents' remaining site-channels, and geographically licensed channels where the license area completely or partially overlaps the county, that were not covered by the broadband licensee's agreements to reach the 90% eligibility prong. Complex systems, comprised of 45 or more functionally integrated sites, are exempt from mandatory relocation. A broadband licensee that chooses to invoke mandatory relocation must pay all reasonable relocation costs, including providing the mandatorily-relocated covered incumbent with comparable facilities. A comparable facility is a replacement system that is at least equivalent to the covered incumbent's existing 900 MHz system following four factors: (1) system, (2) capacity, (3) quality of service, and (4) operating costs.

10. A broadband licensee seeking to trigger the mandatory relocation process must serve notice on a covered incumbent that it plans to relocate mandatorily. Following the service of notice, the broadband licensee may request information from the covered incumbent that is reasonably required for the licensee to develop its offer of comparable facilities. The Commission directs the Wireless Telecommunications Bureau to resolve disputes arising between parties to mandatory relocation and requires both the licensee and the incumbents to negotiate in good faith.

11. To mitigate a potential windfall to a 900 MHz broadband licensee, the Commission requires an applicant to relinquish all of its licensed 900 MHz spectrum, up to six megahertz, for any county in which it seeks a license. If an applicant relinquishes less than six megahertz of spectrum in exchange for its broadband license, then the applicant must make an anti-windfall payment, prior to the grant of the 900 MHz broadband license, to the U.S. Treasury to account for the difference in spectrum provided from the Commission's inventory.

3. Preventing Disruption to Railways and Order Proposing Modification

12. The Association of American Railroads holds a nationwide ribbon license surrounding railroad rights-of-way in six paired 12.5 kilohertz wide channels of the 900 MHz band, totaling 150 kilohertz. Three of the paired channels fall within the new narrowband segment. In the *Order of Proposed Modification*, the Commission proposes to modify the Association of American Railroads' nationwide ribbon license to provide contiguous spectrum in one of the new narrowband segments. The proposed modification would clear a prominent nationwide incumbent from the new broadband segment and enable significant enhancements to railroad safety.

B. Obtaining a 900 MHz Broadband License in a County

1. License Application

13. In the *Report and Order*, the Commission establishes rules requiring an applicant to file 900 MHz broadband license applications in accordance with part 1, subpart F, of this chapter. The Commission also establishes rules requiring an applicant to file an Eligibility Certification and Transition Plan as part of its application.

14. In its Eligibility Certification, an applicant must list the licenses the applicant holds in the 900 MHz band to demonstrate that it holds licenses for more than 50% of the total licensed 900 MHz spectrum for the county, including credit for spectrum included in an application to acquire or relocate any covered incumbents filed on or after March 14, 2019. The Eligibility Certification must also include a statement that the applicant's Transition Plan details how it holds spectrum in the broadband segment and/or has reached an agreement to clear through acquisition or relocation, or demonstrate how it will provide interference protection to, covered incumbent licensees collectively holding licenses in the broadband segment for at least 90% of the site-channels in the county, and within 70 miles of the county boundary and geographically licensed channels where the license area completely or partially overlaps the county.

15. In its Transition Plan, an applicant must demonstrate one or more of the following for at least 90% of the site-channels in the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county: (1) agreement by covered incumbents to relocate from the broadband segment; (2) protection of site-based covered incumbents

through compliance with minimum spacing criteria; (3) protection of site-based covered incumbents through new or existing letters of concurrence agreeing to lesser base station separations; (4) protection of geographically-based covered incumbents through private contractual agreements; and/or (5) evidence that it holds licenses for the site channels in the county and within 70 miles of the county boundary and geographically licensed channels where the license area completely or partially overlaps the county. The Transition Plan must describe in detail: (1) descriptions of the agreements reached with covered incumbents to relocate and the applications that the parties to the agreements will file for spectrum in the narrowband segment in order to relocate or repack licensees; (2) descriptions of how the applicant will provide interference protection to, and/or acquire or relocate from the broadband segment, covered incumbents collectively holding licenses for at least 90% of the site-channels in the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county, and/or evidence that it holds licenses for the site-channels and/or geographically licensed channels; (3) any rule waivers or other actions necessary to implement an agreement with a covered incumbent; and (4) such additional information as may be required. The Commission requires the applicant to include in a Transition Plan a certification from a frequency coordinator that the Transition Plan can be implemented consistent with the Commission's rules. The Commission allows an applicant seeking to transition multiple counties simultaneously to file a single Transition Plan that covers all of its county-based applications.

2. Implementation Procedures

16. In the *Report and Order*, the Commission directs the Wireless Telecommunications Bureau to issue a Public Notice opening a filing window to accept applications for 900 MHz broadband licenses. In 2021, the Commission will evaluate the success of the transition to determine whether an alternative approach is necessary to achieve a more complete transition of the band.

17. Consistent with part 1, applications accepted for filing will be placed on Public Notice for 30 days. The broadband license applicant would be required to file, within 15 days of filing its broadband license application, an application(s) to cancel all of its 900 MHz spectrum, up to six megahertz, conditioned

upon Commission grant of its application. A 900 MHz broadband license grant triggers the licensee's right to operate, its ability to compel mandatory relocation, and its timeline for compliance with the performance requirements.

C. Licensing and Operating Rules

1. Broadband Segment

18. In the *Report and Order*, the Commission replaces the Land Mobile Service allocation in the 897.5-900.5/936.5-939.5 MHz portion of the 900 MHz band with a Mobile Except Aeronautical Mobile Service allocation on a co-primary basis with the Fixed Service.

19. The Commission designates the 900 MHz broadband allocation as a Miscellaneous Wireless Communication Service governed by part 27 of the Commission's rules. A 900 MHz broadband license applicant must designate its regulatory status and abide by service-specific rules in part 27.

20. The Commission adopts counties as the geographic area for 900 MHz broadband licenses. For purpose of 900 MHz broadband licenses, the Commission will use the United States Census Bureau data reflecting county legal boundaries and names valid through January 1, 2017.

21. The Commission adopts an initial term of 15 years for 900 MHz broadband licensees, with a term of 10 years for any subsequent license renewal terms.

22. The Commission adopts performance requirements for 900 MHz broadband licenses. A licensee can satisfy its performance requirement through population or geographic coverage. Under the population metric, a 900 MHz broadband licensee would be required to provide reliable signal coverage and offer broadband service to at least 45% of the population in its license area within six years of license grant and to at least 80% of the population in its license area within twelve years of license grant. Under the geographic coverage metric, a 900 MHz broadband licensee would be required to provide reliable signal coverage and offer broadband service to at least 25% of the geographic license area within six years of license grant and to at least 50% of the geographic license area within twelve years of license grant. To meet the broadband service obligation, the Commission expects licensees to deploy technologies that

make intensive use of the entire 3/3 megahertz band segment and yield high uplink and downlink data rates and minimal latency sufficient to provide for real-time, two-way communications.

23. In the *Report and Order*, the Commission adopts a safe harbor on which a 900 MHz broadband licensee may rely to comply with the broadband service requirement. The Commission will find that a 900 MHz broadband licensee is offering broadband service if the service has the following minimum features: provide 3/3 megahertz 3rd Generation Partnership Project standard Long Term Evolution service offering for advanced services.

24. The Commission adopts penalties for 900 MHz broadband licensees that fail to meet the performance requirements. If a 900 MHz broadband licensee fails to meet the first performance benchmark, we require the licensee to meet the final performance benchmark two years sooner. If a 900 MHz broadband licensee fails to meet the final performance benchmark, its authorization for that license area will terminate automatically without Commission action.

25. In the *Report and Order*, the Commission declines to adopt specific renewal term construction obligations and declines to include the 900 MHz broadband segment in the Commission's spectrum aggregation screen.

2. Narrowband Segments

26. The two narrowband segments—896-897.5/935-936.5 MHz and 900.5-901/939.5-940 MHz—consist of 158 paired 12.5 kilohertz channels. In markets that have transitioned to broadband, the Commission will no longer distinguish between the Business/Industrial/Land Transportation and Specialized Mobile Radio blocks in the narrowband segments. The narrowband segments are designated for applicants eligible in the Industrial/Business Pool of subpart C, part 90; Business/Industrial/Land Transportation and Specialized Mobile Radio licensees authorized as of September 13, 2018, for continuing operations; and Business/Industrial/Land Transportation Pool and Specialized Mobile Radio licensees authorized as of September 13, 2018, for relocation to the narrowband segments from the broadband segment pursuant to subpart P, part 27. If the Commission were to lift the freeze on 900 MHz applications, applications for

new authorizations in the narrowband segments would be accepted from applicants eligible in the Industrial/Business Pool of subpart C, part 90.

D. Technical Rules

1. Broadband Segment

27. The Commission adopts an effective radiated power for base and repeater stations in the 900 MHz broadband segment not to exceed 400 watts/megahertz in non-rural areas and 800 watts/megahertz in rural areas, with maximum permissible power decreasing as the antenna height above average terrain rises above 304 meters. The Commission allows 900 MHz broadband licensees to operate at higher powers provided they sufficiently mitigate the risk of interference. The Commission also adopts an effective radiated power for mobile, control, and auxiliary test stations in the broadband segment not to exceed 10 watts and effective radiated power of portables not to exceed 3 watts.

28. The Commission establishes an out of band emission (OOBE) limit outside a licensee's frequency band of operation to be attenuated by at least $43 + 10 \log (P)$ dB for uplink operations in the 897.5-900.5 MHz band and by at least $50 + 10 \log (p)$ dB for downlink operations in the 936.5-939.5 MHz band.

29. In the *Report and Order*, the Commission declines to adopt a guard band between narrowband and broadband operations in the realigned 900 MHz band and finds it unnecessary to adopt additional limits on Long Term Evolution transmitter power and transmitter filtering requirements.

30. The Commission requires broadband licensees to prevent harmful interference and resolve any unacceptable interference to narrowband operations in the shortest time practicable. The Commission deems unacceptable interference to 900 MHz narrowband licensees as occurring when the applicable median desired signal level is measured to be -104 dBm or higher at the RF input of narrowband licensees' mobile receivers and -101 dBm or higher at the RF input of narrowband licensees' portable receivers.

31. In the *Report and Order*, the Commission establishes that 900 MHz broadband licensees with operations in the United States/Mexico and United States/Canada border regions are subject to, and shall

be in accordance with international agreements between the United States and Mexico and the United States and Canada.

32. The Commission establishes a median field strength limit not to exceed 40 dB μ V/m at any point along the geographic license boundary in the broadband segment, unless the affected licensee agrees to a different field strength limit.

2. Narrowband Segments

33. In the *Report and Order*, the Commission declined to adopt additional or modified interference protections for the new narrowband segments.

E. Cost-Benefit Analysis

34. In the *Report and Order*, the Commission described three cost-benefit analyses filed in this proceeding. The Commission concluded that where negotiations to transition the 900 MHz band to broadband are successful, deploying broadband using 900 MHz spectrum are likely to be substantially higher than the costs imposed, and where negotiations are unsuccessful, the net cost will be zero.

IV. Order Denying EWA Petition for Rulemaking

35. In the *Order*, the Commission denies a petition for rulemaking requested by the Enterprise Wireless Alliance. Enterprise Wireless Alliance had requested that the Commission designate part of the 800 MHz guard band for relocation of 900 MHz narrowband channels.

V. Order Announcing Partial Lifting of Freeze

36. In the *Order*, the Commission announces a partial lifting of the freeze on 900 MHz applications. The Commission will allow applications for the limited purposes of permitting 900 MHz licensees to relocate their narrowband operations to facilitate the transition to broadband, e.g., if the application were needed to implement a Transition Plan or a mandatory relocation agreement.

VI. Ordering Clauses

37. Accordingly, IT IS ORDERED that, pursuant to Sections 1, 2, 4(i), 4(j), 5(c), 302, 303, 304, 307, 308, 309, 310, 316, 319, 324, 332, and 333 of the Communications Act of 1934, as amended, 47 U.S.C. 151, 152, 154(i), 154(j), 155(c), 302, 303, 304, 307, 308, 309, 310, 316, 319, 324, 332, and 333, this *Report*

and Order, Order of Proposed Modification, and Orders, in WT Docket No. 17-200 IS HEREBY ADOPTED.

38. IT IS FURTHER ORDERED that the rules and requirements adopted herein WILL BECOME EFFECTIVE thirty (30) days after publication in the Federal Register, with the exception of sections 27.1503 and 27.1505. Sections 27.1503 and 27.1505 contain new or modified information collection requirements that require review by the Office of Management and Budget (OMB) under the Paperwork Reduction Act. The Commission directs the Wireless Telecommunications Bureau to announce the effective date of those information collections in a document published in the Federal Register after the Commission receives OMB approval, and directs the Wireless Telecommunications Bureau to cause Sections 27.1503 and 27.1505 to be revised accordingly.

39. IT IS FURTHER PROPOSED that, pursuant to sections 4(i) and 316(a) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 316(a), and § 1.87(a) of the Commission's rules, 47 CFR 1.87(a), in the *Order of Proposed Modification* the Commission proposes that Association of American Railroads' 900 MHz nationwide ribbon license BE MODIFIED pursuant to the conditions in this *Report and Order, Order of Proposed Modification, and Orders*. Pursuant to section 316(a) of the Communications Act of 1934, as amended, 47 U.S.C. 316(a), and § 1.87(a) of the Commission's rules, 47 CFR 1.87(a), publication of this *Report and Order, Order of Proposed Modification, and Orders* in the Federal Register shall constitute notification in writing of the proposed action and the grounds and reasons therefor. AAR and any other party seeking to file a protest pursuant to Section 316 shall have 30 days from publication to protest such *Order of Proposed Modification*.

40. IT IS FURTHER ORDERED that, pursuant to sections 4(i) and 316(a) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 316(a), and section 1.87(a) of the Commission's rules, 47 CFR 1.87(a), the proposed modification of the Association of American Railroads' 900 MHz nationwide ribbon license will be final and effective 60 days after publication of this *Report and Order, Order of Proposed Modification, and Orders* in the Federal Register, provided Anterix has voluntarily cancelled the Specialized Mobile Radio licenses listed in Appendix E by filing Form 601 in accordance with section

1.953(f). Further, in the event the Association of American Railroads or any other licensee or permittee who believes that its license or permit would be modified by this proposed action seeks to protest this proposed modification, the proposed license modification specified in this *Report and Order, Order of Proposed Modification, and Orders* and contested by the licensee shall not be made final as to such licensee unless and until the Commission orders otherwise.

41. IT IS FURTHER ORDERED that the license modification proceeding commenced by the Order of Proposed Modification be treated as a permit-but-disclose proceeding under the Commission's ex parte rules. See 47 CFR 1.1200 et seq.

42. IT IS FURTHER ORDERED that, pursuant to section 1.425 of the Commission's rules, 47 CFR 1.425, the Enterprise Wireless Alliance (EWA) Petition for Rulemaking is DENIED.

43. IT IS FURTHER ORDERED that, pursuant to section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), and section 1.925 of the Commission's rules, 47 CFR 1.925, the *Order* announcing a partial lifting of the 900 MHz application freeze is ADOPTED and SUBJECT TO the conditions specified herein.

44. IT IS FURTHER ORDERED that, pursuant to 47 CFR 1.4(b)(1), the period for filing petitions for reconsideration or petitions for judicial review of this *Report and Order, Order of Proposed Modification, and Orders* will commence on the date that a summary of this *Report and Order, Order of Proposed Modification, and Orders* is published in the Federal Register.

45. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order, Order of Proposed Modification, and Orders* to Congress and the Government Accountability Office pursuant to the Congressional Review Act, see 5 U.S.C. 801(a)(1)(A).

46. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order, Order of Proposed Modification, and Orders*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

47. It is our intention in adopting these rules that, if any provision of the *Report and Order, Order of Proposed Modification, and Orders* or the rules, or the application thereof to any person or circumstance, is held to be unlawful, the remaining portions of such *Report and Order, Order of Proposed Modification, and Orders* and the rules not deemed unlawful, and the application of the *Report and Order, Order of Proposed Modification, and Orders* and the rules to other persons or circumstances, shall remain in effect to the fullest extent permitted by law.

Lists of Subjects in 47 CFR Parts 1, 2, 20, 27, and 90

Administrative practice and procedure, Common carriers, Communications, Communications common carriers, Communications Equipment, Environmental impact statements, Radio, Reporting and recordkeeping requirements, Satellites, Security measures, Telecommunications, Telephone

Federal Communications Commission.

Cecilia Sigmund,

Federal Register Liaison Officer.

Final Rules

For the reasons discussed in the preamble, the Federal Communications Commission amends 47 CFR parts 1, 2, 27, and 90 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 1.907 is amended by revising the definition of “covered geographic licenses” to read as follows:

§1.907 Definitions.

* * * * *

Covered geographic licenses. Covered geographic licenses consist of the following services: 1.4 GHz Service (part 27, subpart I of this chapter); 1.6 GHz Service (part 27, subpart J); 24 GHz Service and Digital Electronic Message Services (part 101, subpart G of this chapter); 218-219 MHz Service (part 95, subpart F, of this chapter); 220-222 MHz Service, excluding public safety licenses (part 90, subpart T, of this chapter); 600 MHz Service (part 27, subpart N); 700 MHz Commercial Services (part 27, subparts F and H); 700 MHz Guard Band Service (part 27, subpart G); 800 MHz Specialized Mobile Radio Service (part 90, subpart S); 900 MHz Specialized Mobile Radio Service (part 90, subpart S); 900 MHz Broadband Service (part 27, subpart P); 3.7 GHz Service (part 27, subpart O); Advanced Wireless Services (part 27, subparts K and L); Air-Ground Radiotelephone Service (Commercial Aviation) (part 22, subpart G, of this chapter); Broadband Personal Communications Service (part 24, subpart E, of this chapter); Broadband Radio Service (part 27, subpart M); Cellular Radiotelephone Service (part 22, subpart H); Citizens Broadband Radio Service (part 96, subpart C, of this chapter); Dedicated Short Range Communications Service, excluding public safety licenses (part 90, subpart M); Educational Broadband Service (part 27, subpart M); H Block Service (part 27, subpart K); Local Multipoint Distribution Service (part 101, subpart L); Multichannel Video Distribution and Data Service (part 101, subpart P); Multilateration Location and Monitoring Service (part 90, subpart M); Multiple Address Systems (EAs) (part 101, subpart O); Narrowband Personal Communications Service (part 24, subpart D); Paging and Radiotelephone Service (part 22, subpart E; part 90, subpart P); VHF Public Coast Stations, including Automated Maritime Telecommunications Systems (part 80, subpart J, of this chapter); Upper Microwave Flexible Use Service (part 30 of this chapter); and Wireless Communications Service (part 27, subpart D of this chapter).

* * * * *

3. In § 1.9005 add paragraph (nn) to read as follows:

§ 1.9005 Included services.

* * * * *

(nn) The 900 MHz Broadband Service (part 27 of this chapter).

**PART 2 – FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL
RULES AND REGULATIONS**

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

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

5. Section 2.106 is amended by revising pages 31 and 32 to read as follows:

2.106 Table of Frequency Allocations.

| International Table | | | United States Table | | FCC Rule Part(s) |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| Region 1 Table | Region 2 Table | Region 3 Table | Federal Table | Non-Federal Table | |
| 890-942 | 890-902 | 890-942 | 890-902 | (See previous page) | |
| FIXED | FIXED | FIXED | | 894-896 AERONAUTICAL MOBILE US116 US268 | Public Mobile (22) |
| MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 | MOBILE except aeronautical mobile 5.317A Radiolocation | MOBILE 5.317A BROADCASTING Radiolocation | | 896-897.5 FIXED LAND MOBILE US116 US268 | Private Land Mobile (90) |
| Radiolocation | | | | 897.5-900.5 FIXED MOBILE except aeronautical mobile US116 US268 | Wireless Communications (27) Private Land Mobile (90) |
| | | | | 900.5-901 FIXED LAND MOBILE US116 US268 | Private Land Mobile (90) |
| | | | | 901-902 FIXED MOBILE US116 US268 | Personal Communications (24) |
| | 5.318 5.325 | | US116 US268 G2 | | |
| | 902-928 FIXED Amateur Mobile except aeronautical mobile 5.325A Radiolocation 5.150 5.325 5.326 | | 902-928 RADIOLOCATION G59 | 902-928 | RF Devices (15) ISM Equipment (18) Private Land Mobile (90) Amateur Radio (97) |
| | | | 5.150 US218 US267 US275 G11 | 5.150 US218 US267 US275 | |
| | 928-942 | | 928-932 | 928-929 | Public Mobile (22) |
| | FIXED | | | FIXED | Private Land Mobile (90) |
| | MOBILE except aeronautical mobile 5.317A Radiolocation | | | US116 US268 NG35 | Fixed Microwave (101) |
| | | | | 929-930 FIXED LAND MOBILE US116 US268 | Private Land Mobile (90) |

| | | | | | |
|---------------------------------------------------------------------------------------------------------|----------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| | | | | 930-931 FIXED MOBILE US116 US268 | Personal Communications (24) |
| | | | | 931-932 FIXED LAND MOBILE US116 US268 | Public Mobile (22) |
| | | | US116 US268 G2 | 932-935 FIXED US268 G2 | Public Mobile (22) Fixed Microwave (101) |
| | | | 935-941 | 935-936.5 FIXED LAND MOBILE US116 US268 | Private Land Mobile (90) |
| | | | | 936.5-939.5 FIXED MOBILE except aeronautical mobile US116 US268 | Wireless Communications (27) Private Land Mobile (90) |
| | | | | 939.5-940 FIXED LAND MOBILE US116 US268 | Private Land Mobile (90) |
| | | | | 940-941 FIXED MOBILE | Personal Communications (24) |
| | | | US116 US268 G2 | US116 US268 | |
| 5.323 942-960 FIXED MOBILE except aeronautical mobile 5.317A BROADCASTING 5.322 5.323 | 5.325 942-960 FIXED MOBILE 5.317A | 5.327 942-960 FIXED MOBILE 5.317A BROADCASTING | 941-944 FIXED US84 US268 US301 G2 944-960 | 941-944 FIXED US84 US268 US301 NG30 NG35 944-960 FIXED NG35 | Public Mobile (22) Aural Broadcast Auxiliary (74E) Low Power Auxiliary (74H) Fixed Microwave (101) |
| | | 5.320 | | | |

| | | | | |
|---------------------------------------------------------------------------------|----------------------|------------------------------------------------------------------|--------------------------------------|--------------------|
| 960-1164 | | 960-1164 | | |
| AERONAUTICAL MOBILE (R) 5.327A | | AERONAUTICAL MOBILE (R) 5.327A | | Aviation (87) |
| AERONAUTICAL RADIONAVIGATION 5.328 | | AERONAUTICAL RADIONAVIGATION 5.328 | | |
| 5.328AA | | US224 | | |
| 1164-1215 | | 1164-1215 | | |
| AERONAUTICAL RADIONAVIGATION 5.328 | | AERONAUTICAL RADIONAVIGATION 5.328 | | |
| RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B | | RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) | | |
| 5.328A | | 5.328A US224 | | |
| 1215-1240 | | 1215-1240 | 1215-1240 | |
| EARTH EXPLORATION-SATELLITE (active) | | EARTH EXPLORATION-SATELLITE (active) | Earth exploration-satellite (active) | |
| RADIOLOCATION | | RADIOLOCATION G56 | | |
| RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A | | RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) G132 | Space research (active) | |
| SPACE RESEARCH (active) | | SPACE RESEARCH (active) | | |
| 5.330 5.331 5.332 | | 5.332 | | |
| 1240-1300 | | 1240-1300 | 1240-1300 | |
| EARTH EXPLORATION-SATELLITE (active) | | EARTH EXPLORATION-SATELLITE (active) | AERONAUTICAL RADIONAVIGATION | Amateur Radio (97) |
| RADIOLOCATION | | RADIOLOCATION G56 | Amateur | |
| RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.329 5.329A | | SPACE RESEARCH (active) | Earth exploration-satellite (active) | |
| SPACE RESEARCH (active) | | AERONAUTICAL RADIONAVIGATION | Space research (active) | |
| Amateur | | 5.332 5.335 | 5.282 | |
| 5.282 5.330 5.331 5.332 5.335 5.335A | | 1300-1350 | 1300-1350 | |
| 1300-1350 | | AERONAUTICAL RADIONAVIGATION | AERONAUTICAL | Aviation (87) |
| RADIOLOCATION | | 5.337 | RADIONAVIGATION 5.337 | |
| AERONAUTICAL RADIONAVIGATION 5.337 | | Radiolocation G2 | | |
| RADIONAVIGATION-SATELLITE (Earth-to-space) | | US342 | US342 | |
| 5.149 5.337A | | | | |
| 1350-1400 | 1350-1400 | 1350-1390 | 1350-1390 | |
| FIXED | RADIOLOCATION 5.338A | FIXED | | |
| MOBILE | | MOBILE | | |
| | | RADIOLOCATION G2 | | |
| | | 5.334 5.339 US342 US385 G27 G114 | | |

| | | | | |
|--------------------------|-------------------|---------------------------------------------------------|---------------------------------------------------------|------------------------------|
| RADIOLOCATION | 5.149 5.334 5.339 | | 5.334 5.339 US342 US385 | |
| | | 1390-1395 | 1390-1395 FIXED MOBILE except aeronautical mobile | Wireless Communications (27) |
| | | 5.339 US79 US342 US385 | 5.339 US79 US342 US385 NG338A | |
| | | 1395-1400 | | |
| | | LAND MOBILE (medical telemetry and medical telecommand) | | Personal Radio (95) |
| | | 5.339 US79 US342 US385 | | |
| 5.149 5.338 5.338A 5.339 | | | | Page 32 |

PART 20 – COMMERCIAL MOBILE SERVICES

6. The authority citation for part 20 continues to read as follows:

Authority: 47 U.S.C. 151, 152(a) 154(i), 157, 160, 201, 214, 222, 251(e), 301, 302, 303, 303(b), 303(r), 307, 307(a), 309, 309(j)(3), 316, 316(a), 332, 610, 615, 615a, 615b, 615c,
unless otherwise noted.

7. Section 20.12 is amended by revising paragraph (a)(1) to read as follows:

§ 20.12 Resale and roaming.

(a)(1) Scope of manual roaming and resale. Paragraph (c) of this section is applicable to providers of Broadband Personal Communications Services (part 24, subpart E of this chapter), Cellular Radio Telephone Service (part 22, subpart H of this chapter), Specialized Mobile Radio Services in the 800 MHz and 900 MHz bands (included in part 90, subpart S of this chapter), and 900 MHz Broadband Service (included in part 27, subpart P of this chapter) if such providers offer real-time, two-way switched voice or data service that is interconnected with the public switched network and utilizes an in-network switching facility that enables the provider to re-use frequencies and accomplish seamless hand-offs of subscriber calls. The scope of paragraph (b) of this section, concerning the resale rule, is further limited so as to exclude from the requirements of that paragraph those Broadband Personal Communications Services C, D, E, and F block licensees that do not own and control and are not owned and controlled by firms also holding cellular A or B block licenses.

* * * * *

PART 27 – MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

8. 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.

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

§ 27.1 Basis and purpose.

* * * * *

(b) * * *

(16) 897.5-900.5 MHz and 936.5-939.5 MHz.

* * * * *

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

§ 27.5 Frequencies.

* * * * *

(n) *900 MHz broadband.* The paired 897.5-900.5 MHz and 936.5-939.5 MHz bands are available for assignment on a geographic basis. For operations in the 897.5-900.5 MHz and 936.5-939.5 MHz bands (designated as Channels 120-360 in section 90.613 of this chapter), no new applications will be accepted in transitioned markets for narrowband systems under part 90, subpart S of this chapter.

11. Section 27.12 is amended by revising paragraph (a) to read as follows:

§ 27.12 Eligibility.

(a) Except as provided in paragraph (b) of this section and in §§ 27.604, 27.1201, 27.1202, and 27.1503, any entity other than those precluded by section 310 of the Communications Act of 1934, as amended, 47 U.S.C. 310, is eligible to hold a license under this part.

* * * * *

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

§ 27.13 License period.

* * * * *

(n) *900 MHz broadband.* Authorizations for broadband licenses in the 897.5-900.5 MHz and 936.5-939.5 MHz bands will have a term not to exceed 15 years from the date of initial issuance and ten (10) years from the date of any subsequent renewal.

13. Add subpart P to read as follows:

Subpart P—Regulations Governing Licensing and Use of 900 MHz Broadband Service in the 897.5-900.5 MHz and 936.5-939.5 MHz Bands

Sec.

27.1500 Scope.

27.1501 Definitions.

27.1502 Permanent discontinuance of 900 MHz broadband licenses.

27.1503 Broadband license eligibility and application requirements.

27.1504 Mandatory relocation.

27.1505 Performance requirements.

27.1506 Frequencies.

27.1507 Effective radiated power limits for 900 MHz broadband systems.

27.1508 Field strength limit.

27.1509 Emission limits.

27.1510 Unacceptable interference to narrowband 900 MHz licensees from 900 MHz broadband licensees.

§ 27.1500 Scope.

This subpart sets out the regulations governing the licensing and operations of 900 MHz broadband systems operating in the 897.5-900.5/936.5-939.5 MHz band. It includes eligibility requirements and operational and technical standards for stations licensed in this band. It also supplements the rules regarding application procedures contained in part 1, subpart F of this chapter. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing and operation in this frequency band.

§ 27.1501 Definitions.

Terms used in this subpart shall have the following meanings:

900 MHz broadband. The 900 MHz broadband systems in the 897.5-900.5/936.5-939.5 MHz band licensed by the Commission pursuant to the provisions of this subpart.

900 MHz broadband licensee. An entity that holds a 900 MHz broadband license issued pursuant to this subpart.

900 MHz broadband segment. The segment of realigned 900 MHz spectrum (i.e., the 897.5-900.5/936.5-939.5 MHz band) licensed by the Commission pursuant to the provisions of this subpart.

900 MHz narrowband segment. The segments of realigned 900 MHz spectrum (i.e., the 896-897.5/935-936.5 MHz and 900.5-901/939.5-940 MHz bands (Paired channels 1-119 and 361-399)) designated for narrowband operations and licensed pursuant to 47 CFR part 90, subpart S.

Complex system. A covered incumbent's system that consists of 45 or more functionally integrated sites.

County. For purposes of this part, counties shall be defined using the United States Census Bureau's data reflecting county legal boundaries and names valid through January 1, 2017.

Covered incumbent. Any 900 MHz site-based licensee in the broadband segment that is required under § 90.621(b) to be protected by a broadband licensee with a base station at any location within the county, or any 900 MHz geographic-based SMR licensee in the broadband segment whose license area completely or partially overlaps the county.

Eligibility Certification. A filing made to the Commission as part of the prospective broadband licensee's application for a 900 MHz broadband license that demonstrates satisfaction of the eligibility restrictions.

License area. The geographic component of a 900 MHz broadband license. A license area consists of one county.

Power spectral density (PSD). The power of an emission in the frequency domain, such as in terms of ERP or EIRP, stated per unit bandwidth, e.g., watts/MHz.

Site-channel. A channel licensed at a particular location.

Transition plan. A filing made to the Commission as part of the prospective broadband licensee's application for a 900 MHz broadband license that includes a plan for transitioning the band in the particular county.

Transitioned market. See section 90.7 of part 90 of this chapter

§ 27.1502 Permanent discontinuance of 900 MHz broadband licenses.

A 900 MHz broadband licensee that permanently discontinues service as defined in § 1.953 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 this chapter, even if a licensee fails to file the required form requesting license cancellation.

§ 27.1503 Broadband license eligibility and application requirements.

(a) *Eligibility.* For an applicant to be eligible for a broadband license in a county, it must:

(1) Hold the licenses for more than 50% of the total amount of licensed 900 MHz SMR (site-based or geographically licensed) and B/ILT (site-based) spectrum for the relevant county including credit for spectrum included in an application to acquire or relocate covered incumbents filed with the Commission on or after March 14, 2019;

(2) Hold spectrum in the broadband segment or reach an agreement to clear through acquisition or relocation, including credit for spectrum included in an application to acquire or relocate covered incumbents filed with the Commission on or after March 14, 2019, or demonstrate how it will provide interference protection to, covered incumbent licensees collectively holding licenses in the broadband segment for at least 90% of the site-channels in the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county. To provide interference protection, an applicant may:

(i) Protect site-based covered incumbent(s) through compliance with minimum spacing criteria set forth in § 90.621(b) of this chapter;

(ii) Protect site-based covered incumbent(s) through new or existing letters of concurrence agreeing to lesser base station separations as set forth in § 90.621(b); and/or

(iii) Protect geographically based covered incumbent(s) through a private contractual agreement.

(3) If any site of a complex system is located within the county and/or within 70 miles of the county boundary, an applicant must either hold the license for that site or reach an agreement to acquire, relocate, or protect it in order to demonstrate eligibility.

(4) The applicant may use its current 900 MHz holdings in the narrowband segment to relocate covered incumbents. Spectrum used for the purpose of relocating incumbent(s) may not exceed the

incumbent's current spectrum holdings in the relevant county, unless additional channels are necessary to achieve equivalent coverage and/or capacity.

(b) *Application.* (1) Applications must be filed in accordance with part 1, subpart F of this chapter.

(2) An applicant for a 900 MHz broadband license must submit with its application an Eligibility Certification that:

(i) Lists the licenses the applicant holds in the 900 MHz band to demonstrate that it holds the licenses for more than 50% of the total licensed 900 MHz spectrum, whether SMR or B/ILT, for the relevant county including credit for spectrum included in an application to acquire or relocate any covered incumbents filed on or after March 14, 2019;

(ii) A statement that it has filed a Transition Plan detailing how it holds spectrum in the broadband segment and/or has reached an agreement to clear through acquisition or relocation (including credit for spectrum included in an application to acquire or relocate covered incumbents filed with the Commission on or after March 14, 2019), or demonstrate how it will provide interference protection to, covered incumbent licensees collectively holding licenses in the broadband segment for at least 90% of the site-channels in the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county.

(3) An applicant for a 900 MHz broadband license must submit with its application a Transition Plan that provides:

(i) A showing of one or more of the following:

(A) Agreement by covered incumbents to relocate from the broadband segment;

(B) Protection of site-based covered incumbents through compliance with minimum spacing criteria;

(C) Protection of site-based covered incumbents through new or existing letters of concurrence agreeing to lesser base station separations;

(D) Protection of geographically-based covered incumbents through private contractual agreements; and/or

(E) Evidence that it holds licenses for the site-channels and/or geographically licensed channels.

(ii) Descriptions of the agreements between the prospective broadband licensee and all covered incumbents collectively holding licenses for at least 90% of site-channels within the county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county.

(iii) Descriptions in detail of all information and actions necessary to accomplish the realignment, as follows:

(A) The applications that the parties to the agreements will file for spectrum in the narrowband segment in order to relocate or repack licensees;

(B) A description of how the applicant will provide interference protection to, and/or acquire or relocate from the broadband segment covered incumbents collectively holding licenses for at least 90% of site-channels within 70 miles of the county and within 70 miles of the county boundary and/or evidence that it holds licenses for the site-channels and/or geographically licensed channels.

(C) Any rule waivers or other actions necessary to implement an agreement with a covered incumbent; and

(D) Such additional information as may be required.

(iv) A certification from an FCC-certified frequency coordinator that the Transition Plan's representations can be implemented consistent with Commission rules. The certification must establish that the relocations proposed therein take into consideration all relevant covered incumbents and are consistent with the existing part 90 interference protection criteria if the covered incumbent is site-based, and include any private contractual agreements between the prospective broadband licensee and a geographically-licensed covered incumbent.

(4) Applicants seeking to transition multiple counties may simultaneously file a single Transition Plan with each of its county-based applications.

(c) *Anti-windfall provisions.* (1) The applicant must return to the Commission all of its licensed 900 MHz SMR and B/ILT spectrum, up to six megahertz, for the county in which it seeks a broadband license. The applicant will be required to file, within 15 days of filing its broadband license application, an application(s) to cancel all of its 900 MHz SMR and B/ILT spectrum, up to six megahertz, conditioned upon Commission grant of its application.

(2) If the applicant relinquishes less than six megahertz of spectrum in accordance with paragraph (c)(1) of this section, then the applicant must remit an anti-windfall payment prior to the grant of the 900 MHz broadband license. Payment must be made through a monetary payment to the U.S. Treasury.

§ 27.1504 Mandatory relocation.

(a) Subject to paragraph (b) of this section, broadband licensees may require mandatory relocation from the broadband segment covered incumbents' remaining site-channels in a given county and within 70 miles of the county boundary, and geographically licensed channels where the license area completely or partially overlaps the county, that were not covered by § 27.1503(a)(2).

(b) Complex systems are exempt from mandatory relocation. To qualify as exempt from mandatory relocation, a complex system must have at least one site (of its 45 or more functionally integrated sites) located within the county license area or within 70 miles of the county boundary.

(c) A broadband licensee seeking to relocate a covered incumbent pursuant to this section is required to pay all reasonable relocation costs, including providing the relocated covered incumbent with comparable facilities. To be comparable, the replacement system provided to a covered incumbent during a mandatory relocation must be at least equivalent to the existing 900 MHz system with respect to the following four factors:

- (1) System;
- (2) Capacity;
- (3) Quality of service; and
- (4) Operating costs.

(d) Having met the 90% success threshold, a 900 MHz broadband licensee seeking to trigger the mandatory relocation process shall serve notice on applicable covered incumbent(s).

(e) Following the service of notice, a 900 MHz broadband licensee may request information from the covered incumbent reasonably required to craft its offer of comparable facilities.

(f) We expect all parties to negotiate with the utmost “good faith” in the negotiation process.

Factors relevant to a “good-faith” determination include:

(1) Whether the party responsible for paying the cost of band reconfiguration has made a *bona fide* offer to relocate the incumbent to comparable facilities;

(2) The steps the parties have taken to determine the actual cost of relocation to comparable facilities; and

(3) Whether either party has unreasonably withheld information, essential to the accurate estimation of relocation costs and procedures, requested by the other party.

(g) A party seeking Commission resolution of a dispute must submit in writing to the Chief, Wireless Telecommunications Bureau:

(1) The name, address, telephone number, and email address of the 900 MHz broadband licensee or covered incumbent making the allegation;

(2) The name of the 900 MHz broadband licensee or covered incumbent about which the allegation is made;

(3) A complete statement of the facts supporting the broadband licensee’s or incumbent’s claim; and

(4) The specific relief sought.

(h) If an incumbent fails to negotiate in good faith, its facilities may be mandatorily relocated, and its license modified accordingly by the Commission pursuant to section 316 of the Act. If the Wireless Telecommunications Bureau finds bad faith on the part of the broadband licensee, the broadband licensee may lose the right to relocate the incumbent or the Wireless Telecommunications Bureau may refer the

matter to the Enforcement Bureau for action (which could include a range of sanctions, such as imposition of forfeitures).

§ 27.1505 Performance requirements.

(a) 900 MHz broadband licensees shall demonstrate compliance with performance requirements by filing a construction notification with the Commission, within 15 days of the expiration of the applicable benchmark, in accordance with the provisions set forth in § 1.946(d) of this chapter.

(1) The licensee must certify whether it has met the applicable performance requirements. The licensee must file a description and certification of the areas for which it is providing service. The construction notifications must include electronic coverage maps and supporting technical documentation regarding 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, and certify the accuracy of such documentation. 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.

(2) To demonstrate compliance with the population coverage requirement, licensees shall use the most recently available decennial U.S. Census Bureau data at the time of measurement and shall base their measurements of population served on areas no larger than the Census Tract level. The population 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 within the Census Tract (or other acceptable identifier) towards meeting the performance requirement of a single, individual license.

(b) A 900 MHz broadband licensee must meet either a population coverage requirement or geographic coverage as follows:

(1) *Population metric.* (i) A 900 MHz broadband licensee shall provide reliable signal coverage and offer broadband service to at least 45% of the population in its license area within six years of license grant.

(ii) A 900 MHz broadband licensee shall provide reliable signal coverage and offer broadband service to at least 80% of the population in its license area within 12 years of license grant.

(2) *Geographic coverage.* Alternatively, a 900 MHz broadband licensee may:

(i) Demonstrate it provides reliable signal coverage and offers broadband service covering at least 25% of the geographic license area within six years of license grant.

(ii) Demonstrate it provides reliable signal coverage and offers broadband service covering at least 50% of the geographic license area within twelve years of license grant.

(c) *Penalties.* (1) If a 900 MHz broadband licensee fails to meet the first performance benchmark, we require the licensee to meet the final performance benchmark two years sooner (i.e., at 10 years into the license term) and reduce the license term from 15 years to 13 years.

(2) If a 900 MHz broadband licensee fails to meet the final performance benchmark, its authorization for that license area will terminate automatically without Commission action.

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

§ 27.1506 Frequencies.

The 897.5-900.5 MHz and 936.5-939.5 MHz band segments are available for licensing with an authorized bandwidth up to 3 megahertz paired channels. The 897.5-900.5 MHz segment must only be used for uplink transmissions. The 936.5-939.5 MHz segments must only be used for downlink transmissions.

§ 27.1507 Effective radiated power limits for 900 MHz broadband systems.

(a) *Maximum ERP.* The power limits specified in this section are applicable to operations in areas more than 110 km (68.4 miles) from the U.S./Mexico border and 140 km (87 miles) from the U.S./Canada border.

(1) *General limit.* (i) The ERP for base and repeater stations must not exceed 400 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 400 watts/megahertz ERP in accordance with Table 1 of this section.

(ii) Provided that they also comply with paragraphs (b) and (c) of this section, licensees are permitted to operate base and repeater stations with up to a maximum ERP of 1000 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 1000 watts/megahertz ERP in accordance with Table 2 of this section.

(2) *Rural areas.* For systems that are located in counties with population densities of 100 persons or fewer per square mile, based upon the most recently available population statistics from the Bureau of the Census:

(i) The ERP for base and repeater stations must not exceed 800 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 800 watts/megahertz ERP in accordance with Table 3 of this section.

(ii) Provided that they also comply with paragraphs (b) and (c) of this section, base and repeater stations may operate with up to a maximum ERP of 2000 watts/megahertz power spectral density (PSD) per sector and an antenna height of 304 m height above average terrain (HAAT), except that antenna heights greater than 304 m HAAT are permitted if power levels are reduced below 2000 watts/megahertz ERP in accordance with Table 4 of this section.

(3) *Mobile, control and auxiliary test stations.* Mobile, control and auxiliary test stations must not exceed 10 watts ERP.

(4) *Portable stations.* Portable stations must not exceed 3 watts ERP.

(b) *Power flux density (PFD).* Each 900 MHz broadband base or repeater station that exceeds the ERP limit of paragraph (a)(1)(i) or (a)(2)(i) of this section must be designed and deployed so as not to exceed a modeled PFD of 3000 microwatts/m²/MHz over at least 98% of the area within 1 km of the base or repeater station antenna, at 1.6 meters above ground level. To ensure compliance with this requirement, the licensee must perform predictive modeling of the PFD values within at least 1 km of each base or repeater station antenna prior to commencing such operations and, thereafter, prior to making any site modifications that may increase the PFD levels around the base or repeater station. The modeling must take into consideration terrain and other local conditions and must use good engineering practices for the 900 MHz band.

(c) *Power measurement.* Measurement of 900 MHz broadband base transmitter and repeater ERP must be made using an average power measurement technique. Power measurements for base transmitters and repeaters must be made in accordance with either of the following:

(1) A Commission-approved average power technique (see FCC Laboratory's Knowledge Database); or

(2) For purposes of this section, peak transmit power must be measured over an interval of continuous transmission using instrumentation calibrated in terms of an rms-equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

(d) *PAR limit.* The peak-to-average ratio (PAR) of the transmission must not exceed 13 dB.

(e) *Height-power limit.* As specified in paragraph (a) of this section, the following tables specify the maximum base station power for antenna heights above average terrain (HAAT) that exceed 304 meters.

**Table 1 to § 27.1507 – Permissible Power and Antenna Heights for Base Stations and Repeaters
permitted to Transmit with up to 400 Watts/Megahertz**

| Antenna height (AAT) in meters (feet) | Effective radiated power (ERP) (watts/megahertz) |
|----------------------------------------------|---------------------------------------------------------|
| Above 1372 (4500) | 26 |
| Above 1220 (4000) To 1372 (4500) | 28 |
| Above 1067 (3500) To 1220 (4000) | 30 |
| Above 915 (3000) To 1067 (3500) | 40 |
| Above 763 (2500) To 915 (3000) | 56 |
| Above 610 (2000) To 763 (2500) | 80 |
| Above 458 (1500) To 610 (2000) | 140 |
| Above 305 (1000) To 458 (1500) | 240 |
| Up to 305 (1000) | 400 |

**Table 2 to § 27.1507– Permissible Power and Antenna Heights for Base Stations and Repeaters
Permitted to Transmit with up to 1000 Watts/Megahertz**

| Antenna height (AAT) in meters (feet) | Effective radiated power (ERP) (watts/megahertz) |
|----------------------------------------------|---------------------------------------------------------|
| Above 1372 (4500) | 65 |
| Above 1220 (4000) To 1372 (4500) | 70 |
| Above 1067 (3500) To 1220 (4000) | 75 |
| Above 915 (3000) To 1067 (3500) | 100 |
| Above 763 (2500) To 915 (3000) | 140 |
| Above 610 (2000) To 763 (2500) | 200 |
| Above 458 (1500) To 610 (2000) | 350 |
| Above 305 (1000) To 458 (1500) | 600 |
| Up to 305 (1000) | 1000 |

Table 3 to § 27.1507– Permissible Power and Antenna Heights for Base Stations and Repeaters

Permitted to Transmit with up to 800 Watts/Megahertz

| Antenna height (AAT) in meters (feet) | Effective radiated power (ERP) (watts/megahertz) |
|----------------------------------------------|---------------------------------------------------------|
| Above 1372 (4500) | 52 |
| Above 1220 (4000) To 1372 (4500) | 56 |
| Above 1067 (3500) To 1220 (4000) | 60 |
| Above 915 (3000) To 1067 (3500) | 80 |
| Above 763 (2500) To 915 (3000) | 112 |
| Above 610 (2000) To 763 (2500) | 160 |
| Above 458 (1500) To 610 (2000) | 280 |
| Above 305 (1000) To 458 (1500) | 480 |
| Up to 305 (1000) | 800 |

Table 4 to § 27.1507 – Permissible Power and Antenna Heights for Base Stations and Repeaters

Permitted to Transmit with up to 2000 Watts/Megahertz

| Antenna height (AAT) in meters (feet) | Effective radiated power (ERP) (watts/megahertz) |
|----------------------------------------------|---------------------------------------------------------|
| Above 1372 (4500) | 130 |
| Above 1220 (4000) To 1372 (4500) | 140 |
| Above 1067 (3500) To 1220 (4000) | 150 |
| Above 915 (3000) To 1067 (3500) | 200 |
| Above 763 (2500) To 915 (3000) | 280 |
| Above 610 (2000) To 763 (2500) | 400 |
| Above 458 (1500) To 610 (2000) | 700 |
| Above 305 (1000) To 458 (1500) | 1200 |
| Up to 305 (1000) | 2000 |

§ 27.1508 Field strength limit.

The predicted or measured median field strength must not exceed 40 dB μ V/m at any given point along the geographic license boundary, unless the affected licensee agrees to a different field strength. This value applies to both the initially offered service areas and to partitioned service areas.

§ 27.1509 Emission limits.

The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) in watts by at least the following amounts:

(a) For 900 MHz broadband operations in 897.5-900.5 MHz band by at least $43 + 10 \log (P)$ dB.

(b) For 900 MHz broadband operations in the 936.5-939.5 MHz band, by at least $50 + 10 \log (P)$ dB.

(c) Compliance with the provisions of paragraphs (a) and (b) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the licensee's band, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

(d) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.

(e) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

§ 27.1510 Unacceptable interference to narrowband 900 MHz licensees from 900 MHz broadband licensees.

See 47 CFR 90.672.

PART 90 – PRIVATE LAND MOBILE RADIO SERVICES

14. The authority citation for part 90 continues to read as follows:

Authority: 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7), 1401-1473.

15. Section 90.7 is amended by adding definitions for “900 MHz broadband,” “900 MHz broadband licensee,” “900 MHz broadband segment,” “900 MHz narrowband segment,” and “Transitioned market” in alphanumerical order to read as follows:

§ 90.7 Definitions.

* * * * *

900 MHz broadband. See 47 CFR 27.1501.

900 MHz broadband licensee. See 47 CFR 27.1501.

900 MHz broadband segment. See 47 CFR 27.1501.

900 MHz narrowband segment. See 47 CFR 27.1501.

* * * * *

Transitioned market. A geographic area in which the 900 MHz band has been reconfigured to consist of a 900 MHz broadband license in the 900 MHz broadband segment and two 900 MHz narrowband segments pursuant to part 27 of this chapter.

* * * * *

16. Section 90.35 is amended by revising paragraph (c)(71) to read as follows:

§ 90.35 Industrial/Business Pool.

* * * * *

(c) * * *

(71) Subpart S of this part contains rules for assignment of frequencies in the 806-824/851-869 MHz band and for narrowband operations in the 896-901/935-940 MHz band.

* * * * *

17. Section 90.205 is amended by revising paragraph (k) to read as follows:

§ 90.205 Power and antenna height limits.

* * * * *

(k) 806-824 MHz, 851-869 MHz, 896-901 MHz and 935-940 MHz. Power and height limitations for frequencies in the 806-824 MHz and 851-869 MHz bands and for narrowband operations in the 896-901/935-940 MHz band are specified in § 90.635.

* * * * *

18. Section 90.209 is amended by revising the heading to the table in paragraph (b)(5) and adding an entry in numerical order for “896-901/935-940” to read as follows:

§ 90.209 Bandwidth limitations.

* * * * *

(b) * * *

(5) * * *

Table 1 to § 90.209(b)(5)--Standard Channel Spacing/Bandwidth

| Frequency band (MHz) | Channel spacing (kHz) | Authorized bandwidth (kHz) |
|------------------------------|-----------------------|----------------------------|
| * * * | * * * | * * * |
| 896-901/935-940 ⁷ | 12.5 | 13.6 |
| * * * | * * * | * * * |

* * * * *

⁷ 900 MHz broadband systems may operate on channels and with bandwidths pursuant to the rules specified in subpart P of part 27 of this chapter.

* * * * *

19. Section 90.210 is amended by revising the heading to the table, relocating it to the end of the section, and adding an entry in numerical order for “896-901/935-940” to read as follows:

§ 90.210 Emission masks.

* * * * *

Table 1 to § 90.210--Applicable Emission Masks

| Frequency band (MHz) | Mask for equipment with audio | Mask for equipment without |
|------------------------------|-------------------------------|----------------------------|
| * * * | * * * | * * * |
| 896-901/935-940 ⁷ | I | J |

| | | |
|-------|-------|-------|
| * * * | * * * | * * * |
|-------|-------|-------|

* * * * *

⁷ Equipment used with 900 MHz broadband systems operating under subpart P of part 27 of this chapter is subject to the emission limitations in § 27.1509 of this chapter.

20. Section 90.213 is amended by revising the heading to the table in paragraph (a) and adding entries in numerical order for “896-901” and “935-940” to read as follows:

§ 90.213 Frequency stability.

(a) * * *

Table 1 to § 90.213(a)--Minimum Frequency Stability [Parts per million (ppm)]

| Frequency range (MHz) | Fixed and base stations | Mobile stations | |
|-----------------------|-------------------------|---------------------|------------------------|
| | | Over 2 watts output | 2 watts or less output |
| * * * | * * * | * * * | * * * |
| 896-901 ¹⁵ | 140.1 | 1.5 | 1.5 |
| * * * | * * * | * * * | * * * |
| 935-940 ¹⁵ | 0.1 | 1.5 | 1.5 |
| * * * | * * * | * * * | * * * |

* * * * *

¹⁵ Equipment used with 900 MHz broadband systems operating under subpart P of part 27 of this chapter is exempt from the frequency stability requirements of this section. Instead, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

* * * * *

21. Section 90.601 is revised to read as follows:

§ 90.601 Scope.

This subpart sets out the regulations governing the licensing and operations of all systems operating in the 806-824/851-869 MHz and the narrowband operations in the 896-901/935-940 MHz bands. It includes eligibility requirements, and operational and technical standards for stations licensed in these bands. It also supplements the rules regarding application procedures contained in part 1, subpart F

of this chapter. The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part; however, in case of conflict, the provisions of this subpart shall govern with respect to licensing and operation in these frequency bands.

22. Section 90.603 is amended by revising the introductory text to read as follows:

§ 90.603 Eligibility.

Except as specified in § 90.616, the following persons are eligible for licensing in the 806-824 MHz, 851-869 MHz, 896-901 MHz, and 935-940 MHz bands.

* * * * *

23. Section 90.613 is amended by revising the introductory text to read as follows:

§ 90.613 Frequencies available.

The following table indicates the channel designations of frequencies available for assignment to eligible applicants under this subpart. Frequencies shall be assigned in pairs, with mobile and control station transmitting frequencies taken from the 806-824 MHz band with corresponding base station frequencies being 45 MHz higher and taken from the 851-869 MHz band, or with mobile and control station frequencies taken from the 896-901 MHz band with corresponding base station frequencies being 39 MHz higher and taken from the 935-940 MHz band. For operations in the 897.5-900.5 MHz and 936.5-939.5 MHz bands (Channels 120-360), no new applications will be accepted in a transitioned market for a narrowband system under part 90, subpart S of this chapter. Only the base station transmitting frequency of each pair is listed in the following table.

* * * * *

24. Add § 90.616 to read as follows:

§ 90.616 896-897.5/935-936.5 MHz and 900.5-901/939.5-940 MHz narrowband segments.

(a) In a transitioned market, the narrowband segments of realigned 900 MHz spectrum (i.e., the 896-897.5/935-936.5 MHz and 900.5-901/939.5-940 MHz bands (Paired channels 1-119 and 361-399 as specified in § 90.613)) are designated for the following entities:

- (1) Applicants eligible in the Industrial/Business Pool of subpart C of this part;

(2) Business/Industrial/Land Transportation Pool and Specialized Mobile Radio licensees authorized as of September 13, 2018, for continuing operations; and

(3) Business/Industrial/Land Transportation Pool and Specialized Mobile Radio licensees authorized as of September 13, 2018, for relocation to the new narrowband segments from the broadband segment pursuant to part 27, subpart P, of this chapter.

(b) Applications for new authorizations will only be accepted from applicants specified in paragraph (a)(1) of this section.

(c) Table 1 to § 90.616(c) indicates the channels available in transitioned markets to the entities set forth in paragraph (a) of this section. These frequencies are available in transitioned markets in non-border areas and the U.S./Mexico border area. For multi-channel systems, channels may be grouped vertically or horizontally as they appear in the following table.

Table 1 to § 90.616(c)–Channels in the 896-897.5/935-936.5 MHz and 900.5-901/939.5-940 MHz Frequency Bands in Transitioned Markets (in Non-Border Areas and in the United States/Mexico Border Area)

| | |
|----------------|---------------------|
| 1-2-3-4-5 | 81-82-83-84-85 |
| 6-7-8-9-10 | 86-87-88-89-90 |
| 11-12-13-14-15 | 91-92-93-94-95 |
| 16-17-18-19-20 | 96-97-98-99-100 |
| 21-22-23-24-25 | 101-102-103-104-105 |
| 26-27-28-29-30 | 106-107-108-109-110 |
| 31-32-33-34-35 | 111-112-113-114-115 |
| 36-37-38-39-40 | 116-117-118-119 |
| 41-42-43-44-45 | 361-362-363-364-365 |
| 46-47-48-49-50 | 366-367-368-369-370 |
| 51-52-53-54-55 | 371-372-373-374-375 |

| | |
|----------------|---------------------|
| 56-57-58-59-60 | 376-377-378-379-380 |
| 61-62-63-64-65 | 381-382-383-384-385 |
| 66-67-68-69-70 | 386-387-388-389-390 |
| 71-72-73-74-75 | 391-392-393-394-395 |
| 76-77-78-79-80 | 396-397-398-399 |

(d) Table 2 to § 90.616(d) indicates the channels available in transitioned markets to the entities set forth in paragraph (a) of this section, available for use in the U.S./Canada border area.

Table 2 to § 90.616(d)– Channels in the 896-897.5/935-936.5 and 900.5-901/939.5-940 MHz

Frequency Bands in Transitioned Markets Available in the U.S./Canada Border Area

| Region | Location (longitude) | Channels |
|---------------|------------------------------------------|-----------------|
| 1 | 66° W-71° W. (0-100 km from border) | 1-119, 398, 399 |
| 2 | 71° W-80°30' W (0-100 km from border) | 1-119 |
| 3 | 80°30' W-85° W (0-100 km from border) | 1-119 |
| 4 | 85° W-121°30' W (0-100 km from border) | 1-119, 398, 399 |
| 5 | 121°30' W-127° W (0-140 km from border) | 1-119, 398, 399 |
| 6 | 127° W-143° W (0-100 km from border) | 1-119, 398, 399 |
| 7 | 66° W-121°30' W (100-140 km from border) | 1-119, 361-399 |
| 8 | 127° W-143° W (100-140 km from border) | 1-119, 361-399 |

(e) Table 3 to § 90.616(e) indicates additional channels available in transitioned markets to the entities set forth in paragraph (a) of this section, available for use in the U.S./Canada border area. The channels listed in Table 3 are available for assignment in Regions 1-6 if the maximum power flux density (PFD) of the station's transmitted signal does not exceed the limits specified in tables 29 and 30 of § 90.619 of this chapter.

Table 3 to § 90.616(e) – Additional Channels Available in Transitioned Markets in the U.S./Canada

Border Area [Regions 1-6]

| Region | Channel No.'s | Effective radiated power |
|---------------|----------------------|---------------------------------|
| 1 | 361-397 | See Table 29 of section 90.619 |
| 2 | 361-399 | See Table 29 of section 90.619 |
| 3 | 361-399 | See Table 29 of section 90.619 |
| 4 | 361-397 | See Table 29 of section 90.619 |
| 5 | 361-397 | See Table 30 of section 90.619 |
| 6 | 361-397 | See Table 29 of section 90.619 |

25. Section 90.617 is amended by revising the introductory text of paragraphs (c) and (f) to read as follows:

§90.617 Frequencies in the 809.750-824/854.750-869 MHz, and 896-901/935-940 MHz bands available for trunked, conventional or cellular system use in non-border areas.

* * * * *

(c) Except as specified in § 90.616, the channels listed in Table 3 of this section are available to applicants eligible in the Industrial Business Pool of subpart C of this part but exclude Specialized Mobile Radio Systems as defined in § 90.603(c). These frequencies are available in non-border areas. Specialized Mobile Radio (SMR) systems will not be authorized on these frequencies. These channels are available for intercategory sharing as indicated in § 90.621(e).

* * * * *

(f) Except as specified in § 90.616, the channels listed in Table 6 of this section are available for operations only to eligibles in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. These frequencies are available in non-border areas. The spectrum blocks

listed below are available for EA-based services according to §90.681.

* * * * *

26. Section 90.619 is amended by revising paragraphs (b)(1) introductory text, (b)(2) introductory text, (d)(1) introductory text, (d)(3) introductory text, (d)(4) and (5), and (d)(6) introductory text to read as follows:

§ 90.619 Operations within the U.S./Mexico and U.S./Canada border areas.

* * * * *

(b) * * *

(1) Except as specified in § 90.616, the channels listed in Table 1 of this section are available to applicants eligible in the Industrial/Business Pool of subpart C of this part but exclude Specialized Mobile Radio Systems as defined in § 90.603(c). These frequencies are available within the Mexico border region. Specialized Mobile Radio (SMR) systems will not be authorized on these frequencies. For multi-channel systems, channels may be grouped vertically or horizontally as they appear in the following table. Channels numbered above 200 may be used only subject to the power flux density limits stated in paragraph (a)(2) of this section:

* * * * *

(2) Except as specified in § 90.616, the channels listed in Table 2 of this section are available for operations only to eligibles in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. These frequencies are available in the Mexico border region. The spectrum blocks listed in the table below are available for EA-based services according to § 90.681.

* * * * *

(d) * * *

(1) Except as specified in § 90.616, channels 1-399, as listed in § 90.613 table of 896-901/935-940 MHz Channel Designations, are available to eligible applicants for use in the U.S./Canada border area as shown in table 27.

* * * * *

(3) In Region 5, except as specified in § 90.616, channels 201-397 may be authorized in the United States under the following conditions:

* * * * *

(4) Except as specified in § 90.616, channel assignments for stations to be located in the geographical area in Region 1 enclosed by the United States-Canada border, the meridian 71° W and the line beginning at the intersection of 44°25' N, 71° W, then running by great circle arc to the intersection of 45° N, 70° W, then North along meridian 70° W to the intersection of 45°45' N, then running West along 45°45' N to the intersection of the United States-Canada border, will be only for channels 121 through 160, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels.

(5) Except as specified in § 90.616, channel assignments for stations to be located in the geographical area in Region 3 enclosed by the meridian of 81° W longitude, the arc of a circle of 100 km radius centered at 42°39'30" N latitude and 81° W longitude at the northern shore of Lake Erie and drawn clockwise from the southerly intersection with 80°30' W longitude to intersect the United States-Canada border West of 81° W, and the United States-Canada border, will be only for channels 121 through 230, inclusive, and will be limited to assignments with 11 kHz or less necessary bandwidth. Coordination with Canada will be required for these channels. U.S. stations must protect Canadian stations operating on channels 121 through 230 within an area of 30 km radius from the center city coordinates (referenced to North American Datum 1983 (NAD83)) of London, Ontario (42°59'00.1" N, 81°13'59.5" W).

(6) Additional channels available: Except as specified in § 90.616, the channels listed in table 28 are available for assignment in Regions 1-6 if the maximum power flux density (PFD) of the station's transmitted signal does not exceed the limits specified in tables 29 and 30 in this section. The spreading loss shall be calculated using the free space formula taking into account any antenna discrimination in the direction of the border.

* * * * *

27. Section 90.672 is revised to read as follows:

§ 90.672 Unacceptable interference to non-cellular 800 MHz licensees from 800 MHz cellular systems or part 22 Cellular Radiotelephone systems, and within the 900 MHz narrowband segments, and to narrowband 900 MHz licensees from 900 MHz broadband licensees.

(a) *Definition.* Except as provided in 47 CFR 90.617(k), unacceptable interference to non-cellular licensees in the 800 MHz band from 800 MHz cellular systems or part 22 of this chapter, Cellular Radiotelephone systems; unacceptable interference within the 900 MHz narrowband segment; and unacceptable interference to narrowband 900 MHz licensees from 900 MHz broadband licensees, will be deemed to occur when the below conditions are met:

(1) A transceiver at a site at which interference is encountered:

(i) Is in good repair and operating condition, and is receiving:

(A) From the 800 MHz band, a median desired signal strength of -104 dBm or higher if operating in the 800 MHz band, or a median desired signal strength of -88 dBm if operating in the 900 MHz narrowband segment, as measured at the R.F. input of the receiver of a mobile unit; or

(B) From the 800 MHz band, a median desired signal strength of -101 dBm or higher if operating in the 800 MHz band, or a median desired signal strength of -85 dBm if operating in the 900 MHz narrowband segment; or, as measured at the R.F. input of the receiver of a portable *i.e.*, hand-held unit;

(C) From the 900 MHz broadband segment, a median desired signal strength of -104 dBm or higher if operating in the 900 MHz narrowband segment, as measured at the R.F. input of the receiver of a mobile unit; or

(D) From the 900 MHz broadband segment, median desired signal strength of -101 dBm or higher if operating in the 900 MHz narrowband segment, as measured at the R.F. input of the receiver of a portable, *i.e.*, hand-held unit; and either

(ii) Is a voice transceiver:

(A) With manufacturer published performance specifications for the receiver section of the transceiver equal to, or exceeding, the minimum standards set out in paragraph (b) of this section, and;

(B) Receiving an undesired signal or signals which cause the measured Carrier to Noise plus Interference ($C/(I + N)$) ratio of the receiver section of said transceiver to be less than 20 dB if operating in the 800 MHz band, or less than 17 dB if operating in the 900 MHz narrowband segment, or;

(iii) Is a non-voice transceiver receiving an undesired signal or signals which cause the measured bit error rate (BER) (or some comparable specification) of the receiver section of said transceiver to be more than the value reasonably designated by the manufacturer.

(2) Provided, however, that if the receiver section of the mobile or portable voice transceiver does not conform to the standards set out in paragraph (b) of this section, then that transceiver shall be deemed subject to unacceptable interference only at sites where the median desired signal satisfies the applicable threshold measured signal power in paragraph (a)(1)(i) of this section after an upward adjustment to account for the difference in receiver section performance. The upward adjustment shall be equal to the increase in the desired signal required to restore the receiver section of the subject transceiver to the 20 dB $C/(I + N)$ ratio of paragraph (a)(1)(ii)(B) of this section. The adjusted threshold levels shall then define the minimum measured signal power(s) in lieu of paragraph (a)(1)(i) of this section at which the licensee using such non-compliant transceiver is entitled to interference protection.

(b) *Minimum receiver requirements.* Voice transceivers capable of operating in the 806-824 MHz portion of the 800 MHz band, or in the 900 MHz narrowband segment, shall have the following minimum performance specifications in order for the system in which such transceivers are used to claim entitlement to full protection against unacceptable interference. (See paragraph (a)(2) of this section.)

(1) Voice units intended for mobile use: 75 dB intermodulation rejection ratio; 75 dB adjacent channel rejection ratio; -116 dBm reference sensitivity.

(2) Voice units intended for portable use: 70 dB intermodulation rejection ratio; 70 dB adjacent channel rejection ratio; -116 dBm reference sensitivity.

(3) Voice units intended for mobile or portable use in the 900 MHz narrowband segment: 60 dB intermodulation rejection ratio; 60 dB adjacent channel rejection ratio; -116 dBm reference sensitivity.