

May 3, 2015

Via ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: RM-11738 - *Ex Parte* Comments
Proposed 900 MHz PEBB Allocation Rules

Dear Ms. Dortch:

The Enterprise Wireless Alliance (“EWA”) and Pacific DataVision, Inc. (“PDV”) (collectively the “Petitioners”), by their attorney, hereby submit proposed rules related to the Petitioners’ proposed realignment of the Part 90 900 MHz band to create a Private Enterprise Broadband (“PEBB”) allocation with priority access for critical infrastructure industry entities. The Petitioners have drafted proposed rules to provide interested parties with a more detailed description of how the PEBB allocation being considered in the above-identified proceeding might be implemented. The rules reflect constructive input from representatives of the American Association of Railroads, the American Petroleum Institute, the National Rural Telecommunications Cooperative, and the Utilities Telecom Council; however, those organizations have not endorsed these rules and likely will have further comments on them.

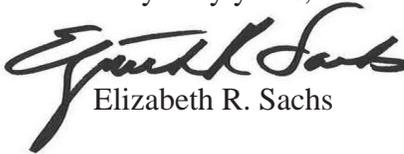
The proposed rules differ in two significant respects from the information submitted in the Petitioners’ March 25, 2015 technical *ex parte* presentation in this proceeding. That presentation included an emission mask that would provide an extraordinary level of protection to highly interference-susceptible fixed data systems using Sensus Spectrum, LLC (“Sensus”) equipment that operate in the adjacent Narrowband PCS (“NPCS”) 901-902/940-941 MHz band. The Petitioners have been in ongoing discussions with Sensus regarding appropriate interference mechanisms for several months and remain hopeful that they will reach agreement with Sensus on this issue. However, at present Sensus has advised that the proposed emission mask is not acceptable. Therefore, the proposed rules recommend a different approach. They propose a single emission mask for both the lower and upper ends of the PEBB allocation, a mask that the Petitioners are confident will provide the necessary protection to licensees in both the NPCS allocation and the adjacent 900 MHz narrowband allocation. Nonetheless, mirroring provisions adopted by the FCC in the 800 MHz band,¹ the proposed rules impose a rigorous, clearly defined obligation on the PEBB licensee to address interference complaints should they arise. Those provisions include criteria specifically intended to address the unique characteristics of Sensus-equipped systems.

¹ 47 C.F.R. §§ 90.672 *et seq.*

This letter is being filed electronically, in accordance with Section 1.1206(b) of the Commission's rules, 47 C.F.R. § 1.1206(b), for inclusion in the record in this proceeding.

Kindly refer any questions or correspondence regarding this matter to the undersigned.

Very truly yours,



Elizabeth R. Sachs

Attachment

**Realignment of the 896-901/935-940 MHz Band
To Create a Private Enterprise Broadband Allocation**

**Petition for Rulemaking
of the
Enterprise Wireless Alliance
and
Pacific DataVision, Inc.**

RM-11738

PROPOSED RULES

May 3, 2015

Part 90 of Subchapter D of Chapter 1 of Title 47 of the Code of Federal Regulations is amended as follows:

PART 90—PRIVATE LAND MOBILE RADIO SERVICES

1. The authority citation for Part 90 continues to read as follows:

AUTHORITY: Sections 4(i), 11, 303(g), 303(r), and 332(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 161, 303(g), 303(r), and 332(c)(7), and Title VI of the Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, 126 Stat. 156.

Subpart I—General Technical Standards

2. Amend Section 90.209(b) by adding a new paragraph (b)(8) to read as follows:

(8) Private Enterprise Broadband licensees (as defined in § 90.1403(h)) operating in frequencies in the 898-901/937-940 MHz band pursuant to the provisions of subpart AA of this part, may exceed the standard channel spacing and authorized bandwidth listed in paragraph (b)(5) of this section.

3. Amend the Table (Applicable Emission Masks) in Section 90.210, in the row relating to the 896-901/935-940 MHz frequency band, by adding a footnote 6 to read as follows:

⁶Equipment used in this frequency band licensed for operations in the 898-901/937-940 MHz band pursuant to subpart AA of this part shall comply with the emission limitation provisions of § 90.1419.

Subpart S—Regulations Governing Licensing and Use of Frequencies in the 806-824, 851-869, 896-901, and 935-940 MHz Bands

4. Amend Section 90.635 by adding at the end thereof the following new paragraph (c) to read as follows:

(c) The following power limits apply to the 898-901/937-940 MHz band systems when transmitting a signal with an emission bandwidth greater than 1 MHz:

(1) Fixed and base stations must not exceed an ERP of 120 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 120 watts/MHz ERP in accordance with Table 1.

TABLE 1—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 937-940 MHz BAND TRANSMITTING A SIGNAL WITH AN EMISSION BANDWIDTH GREATER THAN 1 MHz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP)
Above 1372 (4500)	23
Above 1220 (4000) to 1372 (4500)	25
Above 1067 (3500) to 1220 (4000)	27
Above 915 (3000) to 1067 (3500)	36
Above 763 (2500) to 915 (3000)	50
Above 610 (2000) to 763 (2500)	72
Above 458 (1500) to 610 (2000)	126
Above 305 (1000) to 458 (1500)	216
Up to 305 (1000)	360

(2) Fixed and base stations located in a county with population density of 100 or fewer persons per square mile, based upon the most recently available population statistics issued by the U.S. Census Bureau, must not exceed an ERP of 240 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 240 watts/MHz ERP in accordance with Table 2.

TABLE 2—PERMISSIBLE POWER AND ANTENNA HEIGHTS FOR BASE AND FIXED STATIONS IN THE 937-940 MHz BAND TRANSMITTING A SIGNAL WITH AN EMISSION BANDWIDTH GREATER THAN 1 MHz

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP)
Above 1372 (4500)	47
Above 1220 (4000) to 1372 (4500)	50
Above 1067 (3500) to 1220 (4000)	54
Above 915 (3000) to 1067 (3500)	72
Above 763 (2500) to 915 (3000)	101
Above 610 (2000) to 763 (2500)	144

Antenna height (AAT) in meters (feet)	Effective radiated power (ERP)
Above 458 (1500) to 610 (2000)	252
Above 305 (1000) to 458 (1500)	432
Up to 305 (1000)	720

(3) Mobile stations transmitting in the 898-901 MHz band are limited to 3 Watts ERP.

(4) Portable stations (hand-held devices) transmitting in the 898-901 MHz band are limited to 1 Watt ERP.

(5) For transmissions in the 898-901/937-940 MHz band, licensees may employ equipment operating in compliance with either of the following measurement techniques:

(i) The maximum composite transmit power shall be measured over any interval of continuous transmission using instrumentation calibrated in terms of 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, etc., so as to obtain a true maximum composite measurement for the emission in question over the full bandwidth of the channel.

(ii) A Commission-approved average power technique.

5. Amend Section 90.669 by striking out “On” in paragraph (a) and inserting in lieu thereof “Except as provided in paragraph (c), on” and by adding at the end thereof the following new paragraph (c) to read as follows:

(c) Operations in the 898-901/937-940 MHz band shall be subject to the emission limitations specified in § 90.1419.

6. Amend Part 90 by adding at the end thereof a new Subpart AA to read as follows:

Subpart AA—Policies Governing the Licensing and Use of MTA-Based Private Enterprise Broadband Systems in the 898-901/937-940 MHz Band

- § 90.1401 Scope; application of rules
- § 90.1403 Definitions
- § 90.1405 Licensing of the 898-901/937-940 MHz band
- § 90.1407 Management and sequence of the realignment process
- § 90.1409 Realignment agreements between the PEBB licensee and incumbent licensees
- § 90.1411 Involuntary realignments
- § 90.1413 Reimbursement of retuning costs; comparable facilities
- § 90.1415 Broadband systems requested by CII or other PE entities; priority access for CII entities

- § 90.1417 Band plan
- § 90.1419 Emission limitations
- § 90.1421 Interference protection rights
- § 90.1423 Field strength limits

§ 90.1401 Scope; application of rules.

(a) *Scope.* This subpart sets out the regulations governing the licensing and use of Private Enterprise Broadband systems in the 898-901/937-940 MHz band.

(b) *Application of Rules.* The rules in this subpart are to be read in conjunction with the applicable requirements contained elsewhere in this part. In the case of any conflict, the provisions of this subpart shall govern with respect to licensing and operations in this band.

§ 90.1403 Definitions.

Terms used in this subpart shall have the following meanings:

(a) *Base station.* The term “base station” shall have the meaning given it in § 90.7.

(b) *Incumbent Licensee.* The term “incumbent licensee” shall mean:

(1) Any site-based business/industrial/land transportation (B/ILT), including critical infrastructure industry (CII) (as defined in § 90.7), or Specialized Mobile Radio (SMR) (as defined in § 90.7) entity holding a license authorizing it to operate in the Private Enterprise Broadband allocation; and

(2) Any entity holding a Major Trading Area (MTA) license authorizing it to operate in the Private Enterprise Broadband allocation;

that, as of the effective date of this subpart, has constructed facilities and commenced operations pursuant to and in compliance with its license authorizations.

(c) *Mobile Station.* The term “mobile station” shall have the meaning given it in § 90.7.

(d) *MTA License.* The term “MTA license” shall have the meaning given it in § 90.7.

(e) *Priority Access.* The term “priority access” shall mean that access provided to CII entities in accordance with the provisions of § 90.1415(b).

(f) *Private Enterprise (PE).* The term “Private Enterprise” shall mean the private enterprise user community, including B/ILT and CII users.

(g) *Private Enterprise Broadband (PEBB).* The term “Private Enterprise Broadband” shall mean the MTA-Based Private Enterprise Broadband systems in the 898-901/937-940 MHz band licensed by the Commission pursuant to the provisions of this subpart.

(h) *Private Enterprise Broadband (PEBB) Licensee.* The term “Private Enterprise Broadband licensee” shall mean any entity that is issued a PEBB license by the Commission pursuant to § 90.1405(b)(3) or § 90.1405(b)(4).

§ 90.1405 Licensing of the 898-901/937-940 MHz band.

(a) *In General.* The Commission will issue a single two hundred forty (240)-channel license for the 898-901/937-940 MHz band for Private Enterprise Broadband in each MTA. The Commission will continue to license spectrum in the 896-898/935-937 MHz band for site-based and geographic narrowband operations and services in accordance with the provisions of subpart S of this part.

(b) *Private Enterprise Broadband Authorizations.*—(1) Spectrum licenses in the 898-901/937-940 MHz band shall be allocated for Private Enterprise Broadband, and shall have the following conditions:

(i) Compliance with mandatory negotiation obligations pursuant to § 90.1409(b);

(ii) Compliance with reimbursement obligations pursuant to § 90.1413(b);

(iii) Compliance with requirements for the provision of comparable facilities to incumbent licensees retuning their systems to spectrum frequencies below 898/937 MHz, pursuant to § 90.1413(c);

(iv) The offering of broadband arrangements and solutions to any requesting CII or other PE entity, which shall include the provision of priority access to any requesting CII entity, pursuant to § 90.1415; and

(v) Compliance with interference protection obligations pursuant to § 90.1421.

(2) The Commission will:

(i) As soon as practicable after the effective date of this subpart, issue a Public Notice that:

(A) lists each MTA in which a single entity is the licensee for fifteen (15) or more geographic licenses in such MTA, identifies each such entity, and designates it as the entity to be awarded the PEBB license in the MTA; and

(B) lists each MTA in which there is no single entity that is the licensee for fifteen (15) or more geographic licenses in such MTA, and requires that incumbent MTA licensees that intend to participate in the negotiations specified in paragraph (b)(4) of this section notify the Commission of such intent not later than thirty (30) days after the date of the issuance of the Public Notice; and

(ii) As soon as practicable after the close of the thirty (30)-day period specified in paragraph (b)(2)(i)(B) of this section, issue a second Public Notice that lists each incumbent licensee that has notified the Commission of its intention to participate in the negotiations specified in paragraph (b)(4) of this section.

Any interested party may comment on the Public Notices issued by the Commission pursuant to this paragraph (b)(2) not later than the end of the 30-day period following the date of the issuance of the Public Notice specified in paragraph (b)(2)(ii) of this section.

(3) The Commission will, as soon as practicable after the close of the comment period specified in paragraph (b)(2) of this section, issue a PEBB license in accordance with this section to each PEBB licensee listed in the Public Notice issued by the Commission pursuant to paragraph (b)(2)(i) of this section, unless the Commission determines, based upon comments filed pursuant to paragraph (b)(2) of this section or for any other reason, that there is good cause for not issuing such license. In the case of any such determination, the Commission will take such further actions as may be necessary or appropriate to ensure that each such PEBB license is issued as expeditiously as possible.

(4) In any MTA in which there is no single entity that is the licensee for fifteen (15) or more geographic licenses in such MTA, all entities that hold MTA licenses in such MTA, and that have been listed by the Commission in the Public Notice issued pursuant to paragraph (b)(2)(ii) of this section, shall collectively engage in good faith negotiations for the purpose of selecting the entity that shall seek the issuance of a Private Enterprise Broadband license by the Commission. If the entities engaging in negotiations pursuant to this paragraph (b)(4) fail to agree, within a reasonable period of time (as determined by the Commission), upon the selection of an entity that will seek the PEBB license, then no such license will be issued by the Commission for the MTA involved, and spectrum in such MTA shall continue to be authorized in accordance with subpart S of this part.

(c) *License Term.* Private Enterprise Broadband licenses authorized under this subpart will be issued for a term not to exceed ten (10) years from the date of the original issuance or renewal, as specified in § 90.149.

(d) *License Renewal.* Prior to the expiration of the term of an initial Private Enterprise Broadband license, the PEBB licensee shall submit to the Commission an application for the renewal of such license. Such renewal application shall demonstrate that, during the preceding license term, the PEBB licensee has satisfied the PEBB license conditions set forth in paragraph (b)(1) of this section and has complied with any other requirements or obligations applicable to the PEBB license.

§ 90.1407 Administration and sequence of the realignment process.

(a) *Administration of the Realignment Process.*—(1) Subject to the provisions of paragraph (a)(2) of this section, the PEBB licensee shall take such actions as it determines, in its discretion, to be necessary or appropriate to provide for the management, administration, and oversight of the

process by which appropriate replacement frequencies will be identified and designated for use by incumbent licensees that are operating in the Private Enterprise Broadband allocation and that will be transitioned to frequencies below 898/937 MHz available for site-based and geographic narrowband operations and services.

(2) Each PEBB licensee shall enter into a contract with a third party (referred to as the “realignment manager”), pursuant to which the realignment manager shall be responsible for the identification of replacement frequencies consistent with applicable Commission rules, including coordination with the realignment manager, if any, in any adjacent MTA.

(3) The realignment manager shall conduct a replacement frequency analysis for each incumbent licensee that holds a license in the Private Enterprise Broadband allocation and that elects not to migrate its operations to broadband service in the Private Enterprise Broadband allocation. The realignment manager shall provide such incumbent licensee with a description of the co-channel environment in which such incumbent licensee operated before the spectrum license realignment process began, and in which such incumbent licensee will operate upon completion of the spectrum license realignment process (referred to as the “realignment proposal”).

(b) *Sequence of the Realignment Process.* The transition for the retuning of systems operated by incumbent licensees shall proceed in the following sequence:

(1) PEBB licenses will be issued by the Commission in accordance with § 90.1405(b)(3) and § 90.1405(b)(4).

(2) MTA licensees operating in the Private Enterprise Broadband allocation that have not been issued PEBB licenses pursuant to § 90.1405(b)(3) or § 90.1405(b)(4) shall elect:

(i) To contribute their spectrum rights to the PEBB licensee in the MTA involved, pursuant to an agreement negotiated with such PEBB licensee and approved by the Commission; or

(ii) To negotiate a realignment agreement with such PEBB licensee in accordance with the provisions of § 90.1409.

(3) The realignment manager shall provide each incumbent B/ILT, CII, and SMR licensee operating in the Private Enterprise Broadband allocation, and each incumbent MTA licensee operating in such allocation that makes the election specified in paragraph (b)(2)(ii) of this section, with the analysis specified in paragraph (a)(3) of this section that identifies the frequencies below 898/937 MHz with respect to which the system of any such licensee is proposed to be retuned pursuant to realignment agreements negotiated with the PEBB licensee in accordance with § 90.1409, or pursuant to the involuntary realignment provisions specified in § 90.1411.

§ 90.1409 Realignment agreements between the PEBB licensee and incumbent licensees.

(a) *Voluntary Negotiations*.—(1) Either an incumbent licensee or the PEBB licensee may initiate voluntary negotiations for an agreement providing for the retuning of such incumbent licensee's system to frequencies below 898/937 MHz by delivering written notification to the non-initiating party.

(2) The non-initiating party shall respond to the notification not later than thirty (30) days following the date of receipt. Such voluntary negotiations shall occur during the one-year period following the date of such notification.

(b) *Mandatory Negotiations*.—(1) A one-year period for the mandatory negotiation of an agreement between the PEBB licensee and any incumbent licensee operating in a particular MTA in the Private Enterprise Broadband allocation, for the retuning of such incumbent licensee's system to frequencies below 898/937 MHz, shall commence—

(i) at the close of the one-year period specified in paragraph (a)(2) of this section, if voluntary negotiations pursuant to paragraph (a) of this section have not resulted in an agreement by the close of such one-year period; or

(ii) at the close of the thirty (30)-day period specified in paragraph (a)(2) of this section, if the non-initiating party does not respond to the request of the initiating party within such thirty (30)-day period.

(2) Upon the commencement of the mandatory negotiation period specified in paragraph (b)(1) of this section, neither the PEBB licensee nor the incumbent licensee may refuse to negotiate, and each party to a mandatory negotiation is required to negotiate in good faith. Good faith requires each party to provide information to the other party that is reasonably necessary to facilitate the retuning process. In evaluating claims that a party has not negotiated in good faith, the Commission will consider various factors, including the following:

(i) Whether the PEBB licensee has made a *bona fide* offer to retune the incumbent licensee's system to comparable facilities, and to provide for the reimbursement of costs associated with such retuning, in accordance with § 90.1413;

(ii) If the incumbent licensee has demanded a premium, the type of premium requested, and whether the value of the premium as compared to the cost of providing comparable facilities is disproportionate;

(iii) What steps the parties have taken to determine the actual cost of retuning the incumbent licensee's system to comparable facilities; and

(iv) Whether either party has withheld information requested by the other party that is necessary to estimate retuning costs or to facilitate the retuning process.

(3) Any party alleging a violation of the good faith requirement established in paragraph (b)(2) of this section shall provide, as part of any documentation filed with the Commission in support of its claim, an independent estimate of the retuning costs at issue in the negotiations. Such

independent estimate shall include a specification for the comparable facilities and a statement of the costs associated with providing such facilities to the incumbent licensee.

(c) *Mediation.*—(1) In any case in which—

(i) Mandatory negotiations pursuant to paragraph (b) of this section do not result in an agreement between the PEBB licensee and an incumbent licensee by the close of the one-year period specified in paragraph (b)(1) of this section; and

(ii) The incumbent licensee believes the PEBB realignment proposal will not provide it with comparable facilities and/or does not address all costs reasonably associated with realignment;

such incumbent licensee may initiate mediation pursuant to this paragraph by preparing a detailed written explanation of its objections for consideration by a mediator (“Mediator”). Such explanation shall be submitted to each of the three organizations specified in paragraph (c)(2) of this section not later than thirty (30) days after the close of the one-year period specified in paragraph (b)(1) of this section. If such incumbent licensee elects not to initiate mediation, then such incumbent licensee shall be subject to involuntary realignment pursuant to § 90.1411.

(2) If an incumbent licensee initiates a mediation pursuant to paragraph (c)(1) of this section, then the incumbent licensee and the PEBB licensee may by mutual agreement select a Mediator from among persons designated for that purpose by the American Petroleum Institute (API), the Enterprise Wireless Alliance (EWA), and the Utilities Telecom Council (UTC) (with each such organization designating one person), to mediate the dispute. In the absence of such mutual agreement, a Mediator shall be selected in accordance with alphabetical order rotation. Pursuant to this selection process, the first such Mediator selected to resolve a dispute shall be the person designated by API, the Mediator selected to resolve the next dispute shall be the person designated by EWA, and the Mediator selected to resolve the next dispute shall be the person designated by UTC, with the order then repeating from the beginning as required for successive disputes.

(3) All Mediator decisions shall be final and non-appealable, except that Mediator decisions shall not preclude or otherwise affect the filing of a claim by any party with the Commission pursuant to paragraph (b)(2) and paragraph (b)(3) of this section, alleging the violation of the good faith requirement specified in paragraph (b)(2) of this section.

(4) Mediation costs shall be paid by the PEBB licensee.

§ 90.1411 Involuntary realignments.

In any case in which—

(1) No agreement is reached between the PEBB licensee and an incumbent licensee pursuant to mandatory negotiations required by § 90.1409(b); and

(2) either (i) the Mediator has approved a realignment proposal in a decision issued in accordance with § 90.1409(c), or (ii) such incumbent licensee has elected not to initiate mediation within the time period specified in § 90.1409(c);

the PEBB licensee may request the Commission to initiate involuntary retuning procedures consistent with the Mediator's decision (in the circumstances described in paragraph(2)(i)) of this section or consistent with the PEBB licensee's final realignment proposal to the incumbent licensee involved (in the circumstances described in paragraph (2)(ii) of this section), as appropriate. Under such procedures, the incumbent licensee is required to retune its system to replacement frequencies below 898/937 MHz, if the PEBB licensee guarantees payment of retuning costs and the provision of comparable facilities in accordance with § 90.1413.

§ 90.1413 Reimbursement of retuning costs; comparable facilities.

(a) *In General.* Any incumbent licensee that retunes its system to spectrum below 898/937 MHz pursuant to the provisions of § 90.1409 or § 90.1411 shall have the costs associated with such retuning paid by the PEBB licensee, and shall be provided with facilities comparable to those it utilized in spectrum it vacates in the Private Enterprise Broadband allocation, in accordance with the provisions of this section.

(b) *Retuning Costs.* (1) Any PEBB licensee that is a party to a mandatory negotiation agreement made pursuant to § 90.1409(b), or that holds the PEBB license for an MTA in which any incumbent licensee is subject to an involuntary retuning pursuant to § 90.1411, is responsible for paying all costs (as specified in paragraph (b)(2) of this section) incurred in connection with:

(i) Retuning the system of such incumbent licensee to frequencies below 898/937 MHz; and

(ii) Ensuring that the replacement frequencies provide the incumbent licensee with comparable facilities as defined by the factors specified in paragraph (c) of this section.

(2) The costs referenced in paragraph (b)(1) of this section shall include all internal, engineering, equipment, and site-related costs, Commission fees, and any legitimate and prudent transaction expenses incurred by an incumbent licensee that are directly attributable to:

(i) A retuning effectuated by a mandatory negotiation agreement made pursuant to § 90.1409(b); or

(ii) An involuntary retuning pursuant to § 90.1411.

(c) *Comparable Facilities.*—(1) The retuned system provided to an incumbent licensee pursuant to § 90.1409(b) or § 90.1411 shall be at least equivalent to the existing system operated by such incumbent licensee in the Private Enterprise Broadband allocation with respect to the following factors:

(i) For purposes of paragraph (c)(1) of this section, the retuned “system” shall be defined functionally from the point of view of the end user, and shall be comprised of base station facilities that operate on an integrated basis to provide service to a common end user, and all mobile stations or portable stations associated with such base stations. A system may include multiple-licensed facilities that share a common switch or are otherwise operated as a unitary system, provided that the end user has the ability to access all such facilities.

(ii) To meet the comparable facilities requirement, the incumbent licensee shall be provided with facilities that provide equivalent channel capacity. For purposes of this paragraph (c)(1)(ii), “channel capacity” shall mean the same number of channels with the same bandwidth that is currently available to the incumbent licensee. If a different channel configuration is used by the realigned system, such channel configuration shall have the same overall capacity as the original configuration used by the incumbent licensee. Comparable channel capacity requires equivalent signaling capability, baud rate, and access time. The geographic coverage of the channels shall be at least coextensive with that of the original system.

(iii) Comparable facilities shall provide the same quality of service as the facilities being retuned. For purposes of paragraph (c)(1) of this section:

(A) “Quality of service” shall mean that the end user receives the same level of interference protection and the same reliability of service; and

(B) “Reliability” shall mean the degree to which information is transferred accurately within the system. Reliability is a function of equipment failures, and the availability of the frequency channel due to propagation characteristics. For digital data systems, reliability shall be measured by the percentage of time the bit error rate exceeds the desired value.

(iv) For purposes of paragraph (c)(1) of this section, “operating costs” shall mean those costs that affect the delivery of services to the end user. The following provisions shall govern the treatment of operating costs:

(A) If the retuned system entails higher operating costs than those associated with the original system, and if the cost increase is a direct result of the retuning, then the PEBB licensee shall compensate the incumbent licensee for the difference in costs;

(B) The incumbent licensee shall be compensated by the PEBB licensee for any increased recurring costs associated with the retuned system, such as additional rental payments or increased utility fees;

(C) Increased maintenance costs shall be taken into consideration when determining whether operating costs are comparable; and

(D) The obligation of the PEBB licensee to pay any increase in the operating costs shall terminate at the end of the five (5)-year period following the retuning of the system operated by the incumbent licensee.

(2) In any case in which the PEBB licensee is not able to provide a replacement system to an incumbent licensee pursuant to § 90.1409(b) or § 90.1411 that would be at least equivalent to the existing system operated by such incumbent licensee in the Private Enterprise Broadband allocation, the incumbent licensee shall not be required to retune its existing system and shall receive appropriate interference protection from PEBB licensees operating Private Enterprise Broadband systems in the MTA in which the incumbent system operates and in adjacent MTAs, in accordance with the requirements of subpart S of this part.

§ 90.1415 Broadband systems requested by CII or other PE entities; priority access for CII entities.

(a) *Broadband System Contracts.*—(1) Upon request from any CII or other PE entity (referred to as a “PE/CII” entity), the PEBB licensee shall engage in good faith negotiations with such PE/CII entity for a contract that will provide for the construction and operation of a PEBB broadband system in the Private Enterprise Broadband allocation within the coverage area requested by the PE/CII entity, in accordance with the terms of this section.

(2) The scope and terms of any contract negotiated pursuant to this section shall be wholly within the discretion and control of the negotiating parties, subject to the requirement of paragraph (a) of this section. The PEBB licensee shall take all reasonable, practicable, and financially viable actions to accommodate arrangements proposed by the PE/CII entity for construction and operation of a PEBB broadband system. Such arrangements shall ensure that such system meets coverage, operability, reliability, resiliency, redundancy, site hardening and sustainability, scalability, adaptability, security and information assurance, and other requirements that the PE/CII entity deems necessary to meet its legal obligations and operational needs.

(3) The arrangements referenced in paragraph (a)(2) of this section may include:

(i) Long-term *de facto* lease arrangements between the PE/CII entity and the PEBB licensee, pursuant to which the PE/CII entity exercises autonomous control over the construction and operation of the PEBB broadband system;

(ii) Outsource arrangements pursuant to which the PEBB licensee performs such functions and operations as may be agreed upon by the parties, including network design and construction requirements and service level agreements that may specify bandwidth availability, problem resolution protocols and requirements, and other functions and performance specifications; and

(iii) Any other functions, responsibilities, or other provisions as may be agreed upon by the parties, based upon the unique circumstances and requirements of the PE/CII entity involved.

(4) An entity that enters into a broadband system contract with a PEBB licensee pursuant to paragraph (a) of this section shall not be subject to the requirements of paragraph (b) of this section.

(b) *Priority Access.*—(1) Upon request from any CII entity, any contract for the construction and operation of a PEBB broadband system in the 898-901/937-940 MHz band, negotiated between such CII entity and the PEBB licensee pursuant to paragraph (a) of this section, shall include the provision of priority access to such CII entity in accordance with the provisions of this paragraph (b), and in accordance with any more specific provisions related thereto set out in the contract.

(2) Transmissions of a CII entity on a PEBB broadband system constructed and operated pursuant to a contract negotiated between such CII entity and the PEBB licensee shall be given preemptive priority to spectrum frequencies in the 898-901/937-940 MHz band to the extent necessary to ensure that service is continuously available to such CII entity.

(3) In emergency situations, access to such frequencies by the lowest priority users shall be suspended to the extent necessary to provide continuously available spectrum resources for transmissions by such CII entity on its PEBB broadband system.

§ 90.1417 Band plan.

[To be inserted prior to adoption]

§ 90.1419 Emission limitations.

For operations in the 898-901/937-940 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, in accordance with the following:

(a) On all frequencies between 937-940 MHz, by a factor not less than $55 + 10 \log$ (P) dB in a 30 kHz band segment, for base and fixed stations.

(b) On all frequencies between 898-901 MHz, by a factor not less than $55 + 10 \log$ (P) dB in a 30 kHz band segment, for mobile stations and portable stations.

Compliance with the provisions of paragraphs (a) and (b) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 30 kHz segment.

§ 90.1421 Interference protection rights.

(a) *In General.*—Harmful interference from a PEBB licensee to systems operating on frequencies in the 896-898/935-937 MHz band and to systems operating on frequencies in the 901-902/940-941 MHz band (pursuant to the provisions of subpart D of Part 24) will be deemed to occur when a transceiver at a site at which interference is encountered—

(1) Is in good repair and operating condition;

(2) Is receiving—

(i) A median desired signal strength of -88 dBm or higher if operating in the 896-898/935-937 MHz band, as measured at the R.F. input of the receiver of a mobile unit;

(ii) A median desired signal strength of -85 dBm if operating in the 896-898/935-937 MHz band, as measured at the R.F. input of the receiver of a portable station (hand-held device); or

(iii) A median desired signal strength of -85 dBm if operating in the 901-902/940-941 MHz band (pursuant to the provisions of subpart D of Part 24), as measured at the R.F. input of the receiver of a base station; and

(3) Is either—

(i) 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 such voice transceiver to be less than 17 dB if operating on frequencies in the 896-898/935-937 MHz band, or

(ii) 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 such non-voice transceiver to be more than—

(A) The value reasonably designated by the manufacturer for transceivers operating on frequencies in the 896-898/935-937 MHz band; or

(B) A bit error rate (BER) of 10^{-2} for systems operating on frequencies in the 901-902/940-941 MHz band (pursuant to the provisions of subpart D of Part 24);

except 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 such voice transceiver shall be deemed subject to harmful interference only at sites where the median desired signal satisfies the applicable threshold measured signal power specified in paragraph (a)(2)(i), paragraph (a)(2)(ii), or paragraph

(a)(2)(iii) 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 17 dB C/(I+N) ratio specified in paragraph (a)(3)(i)(B) of this section. The adjusted threshold levels shall then define the minimum measured signal power(s), in lieu of the signal powers specified in paragraph (a)(2)(i), paragraph (a)(2)(ii), and paragraph (a)(2)(iii) 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 on frequencies in the 896-898/935-937 MHz band 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 harmful interference. Voice units intended for mobile or portable use in the 896-898/935-937 MHz band: 60 dB intermodulation rejection ratio; 60 dB adjacent channel rejection ratio; -116 dBm reference sensitivity.

(c) *Harmful Interference Claims; Mitigation Steps.*—(1) If there is a claim of harmful interference related to PEBB licensee equipment that is certified and operated in compliance with the emission limitations in paragraph (a) of this section, the claimant shall have the right to submit its complaint to a website to be established and maintained by PEBB licensees collectively. The complaint, at a minimum, shall include the following information:

- (i) The coordinates, street address, county, and state of the location where the interference is experienced, and the time or times at which it occurred;
- (ii) A description of the scope and severity of the issue, including the source, if known;
- (iii) The affected party's call sign(s); and
- (iv) A single point of contact for the complainant.

(2) If the PEBB licensee is responsible for causing any harmful interference, the PEBB licensee shall resolve such interference in the shortest time practicable. The PEBB licensee shall provide all necessary test apparatus and technical personnel skilled in the operation of such equipment as may be necessary to determine the most appropriate means of timely eliminating the interference. However, the means whereby interference is abated or the cell parameters that may need to be adjusted is left to the discretion of the PEBB licensee, whose affirmative measures may include, but not be limited to, the following techniques:

- (i) Increasing the desired power of the claimant's signal;
- (ii) Decreasing the power of the signal generated by the PEBB licensee's equipment;
- (iii) Modifying the height of antennas utilized by the PEBB licensee's system;

- (iv) Modifying the characteristics of such antennas;
- (v) Incorporating filters into the PEBB licensee's transmission equipment; and
- (vi) Supplying interference-resistant receivers to the claimant.

(3) If the technique described in paragraph (b)(2)(vi) is used, then, in all circumstances, the PEBB licensee shall be responsible for all costs thereof.

(4) Whenever short-term interference abatement measures prove inadequate, the incumbent licensee shall, consistent with but not compromising safety, make all necessary concessions to accepting interference until a longer-term remedy can be implemented.

§ 90.1423 Field strength limits.

Operations in the 898-901/937-940 MHz band shall be subject to the provisions of § 90.671 relating to field strength limits.