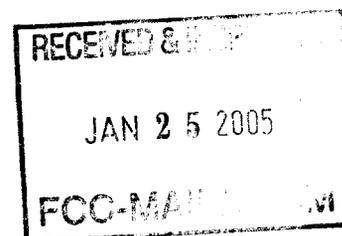


Before the
Federal Communications Commission
Washington, D.C. 20554



In the Matter of)
)
Amendment of the Commission's Rules) WT Docket No. 02-318
Concerning Airport Terminal Use Frequencies in) RM-10184
the 450-470 MHz Band of the Private Land)
Mobile Radio Services)

REPORT AND ORDER

Adopted: January 18, 2005

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By the Commission:

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I. INTRODUCTION

1. In this *Report and Order (R&O)*, we address comments received in response to a *Notice of Proposed Rulemaking (NPRM)*, released by the Commission on October 10, 2002, which sought comment on proposed revisions to the Commission's rules and policies regarding Airport Terminal Use (ATU) frequencies in the 450-470 MHz Private Land Mobile Radio (PLMR) Industrial Business (I/B) Pool.¹ The *NPRM* was issued in response to a Petition for Rulemaking filed on June 25, 2001 by the Personal Communications Industry Association, Inc. (PCIA),² an FCC-certified frequency coordinator.³ Generally, the *NPRM* considered PCIA's recommendations and proposed to revise the power limits on ATU frequencies in order to facilitate communications at large airports.

2. As discussed below, this *R&O* implements many of the proposals set forth in the *NPRM*, as well as additional changes related to operations on ATU frequencies. This *R&O* furthers the public interest by improving spectrum efficiency, both in and around airports, and by allowing airport personnel and other licensees on ATU frequencies to communicate with fewer restrictions. Moreover, licensees will benefit from increased power limits, which should result in more reliable radio communication, with fewer dead spots and greater communications range. These improvements are important to the general public because airports depend on reliable communications for conducting safe and efficient ground operations, and because they ensure the safety of passengers and airport employees.

II. EXECUTIVE SUMMARY

3. The major decisions in this *R&O* are as follows:

- We convert all power limits on ATU frequencies from transmitter power output (TPO) to effective radiated power (ERP).
- We increase the power limits for primary ATU mobile units operating at the 242 airports listed in Section 90.35(c)(61)(iv) of our rules.⁴
- We increase the power limits for mobile units operating on a secondary basis at locations more than fifty miles (eighty kilometers) from the 242 airports listed in Part 90 of our rules.

¹ Amendment of the Commission's Rules Concerning Airport Terminal Use Frequencies in the 450-470 MHz Band of the Private Land Mobile Radio Services, *Notice of Proposed Rulemaking*, RM-10184, 17 FCC Rcd 19904 (2002) (*NPRM*).

² See Petition for Amendment of Section 90.35 of the Commission's Rules Regarding the Airport Terminal Use Frequencies, RM-10184, filed by PCIA on June 25, 2001 (Petition). We issued a *Public Notice* seeking comment on PCIA's Petition. See *Public Notice*, Consumer Information Bureau, Reference Information Center, Petitions for Rulemaking Filed, Report No. 2496 (rel. Jul. 19, 2001) (*Public Notice*). While no comments were filed in response to the *Public Notice*, PCIA filed a supplement to its Petition. See Supplement to Petition for Rulemaking, RM-10184, filed by PCIA on May 21, 2002 (Supplement). Hereafter, we will refer to PCIA's Petition, as supplemented, as "proposal" or "proposals".

³ An FCC-certified frequency coordinator is a private-sector entity or organization that has been certified by the Commission to recommend the most appropriate frequencies for use by licensees. For the Part 90 definition of a frequency coordinator, see 47 C.F.R. § 90.7. See also, Frequency Coordination in the Private Land Mobile Radio Services, *Report and Order*, PR Docket No. 83-737, 103 FCC 2d 1093, 1094 ¶ 1 (1986).

⁴ 47 C.F.R. § 90.35(c)(61)(iv).

4. The following chart summarizes the power limits for ATU frequencies based on the decisions in this *R&O*.

POWER LIMITS FOR ATU FREQUENCIES

Service and Status	Distance from Protected Airports	Power Limits
ATU Primary	0 – 10 miles (0 – 16 km)	100 watts ERP for base stations (460 MHz side of pair) 40 watts ERP for mobile units (465 MHz side of pair)
I/B Secondary	10 – 50 miles (16 – 80 km)	10 watts ERP for base stations (460 MHz side of pair) 6 watts ERP for mobile units (465 MHz side of pair)
I/B Secondary	> 50 miles (80 km)	300 watts ERP for base stations (460 MHz side of pair) 120 watts ERP for mobile units (465 MHz side of pair)

III. BACKGROUND

5. The PLMR frequencies designated for ATU operations consist of forty frequency pairs from the 450-470 MHz band that are allotted for air terminal communications on a primary basis at 242 airports listed in our Part 90 rules.⁵ These ATU frequencies are also available for general I/B operations on a secondary basis at locations more than ten miles from the geographic coordinates of the identified airports.⁶

6. The ATU frequencies were originally allocated in 1968 when the Commission designated ten frequency pairs from the 450-470 MHz band for land mobile radio use at airports serving cities of

⁵ See 47 C.F.R. § 90.35(c)(61).

⁶ *Id.*

200,000 or more people.⁷ The Commission designated these ten frequency pairs for entities engaged in furnishing commercial air transportation service (or entities that provide communications services to such entities) to use for ground support operations and servicing and supplying of aircraft, but not for air traffic control communications.⁸ These frequencies were set aside for ATU use so that aircraft at designated airports could readily communicate with each existing air terminal system.⁹

7. In 1986, the Commission replaced the population criteria for determining where the ATU frequencies were available, with a definitive list of 160 ATU airports and reference coordinates.¹⁰ In 1995, as a result of the Commission's "channel spacing" decisions in the *Refarming Proceeding*,¹¹ the number of ATU frequency pairs increased to forty pairs as follows: the original ten pairs with 25 kHz bandwidth, ten pairs with 12.5 kHz bandwidth, and twenty pairs with 6.25 kHz bandwidth.¹² In 2002, the Commission revised Section 90.35(c)(61) of our Rules¹³ by, *inter alia*, adding the names of 82 airports to the ATU list to reflect increased air travel and shifting population patterns since 1986.¹⁴ As a result, our

⁷ See Amendment of Parts 89, 91, 93, and 95 (Formerly 10, 11, 16, and 19) of the Commission's Rules to Reduce the Separation Between the Assignable Frequencies in the 450-470 Mc/s Band; Amendment of Parts 2, 87 (Formerly 9), 89, 91, 93, 95, and 21 of the Commission's Rules to Reallocate Frequencies in the 460-470 Mc/s Band and to Make Additional Frequencies Available for Assignment in the 450-470 Mc/s Band; Amendment of Parts 89, 91, and 93 of the Commission's Rules to Prohibit the Use of Frequencies in the 450-470 Mc/s Band by Fixed Stations Other than Control Stations Used for the Secondary Control of Mobile Relay Stations; Amendment of Parts 2 and 11 of the Commission's Rules to Establish an Industrial Protection Radio Service by Allocating to it Certain Frequencies in the 450-470 Mc/s Band, and to Provide for Specific Rules to Govern Operations in that Service; Amendment of Part 2 of the Commission's Rules and Regulations; Reallocation of Certain Fixed, Land Mobile, and Maritime Mobile Bands Between 25 and 470 Mc/s; Amendment of Part 11, Rules Governing the Industrial Radio Services, to Delete, Modify, and Create Services, and to Effect Changes in the Availability of Frequencies; Complete Revision of Part 19, Rules Governing the Citizens Radio Service, and Reallocation of Frequencies in the Range 26.96-27.23 Mc/s From the Amateur Radio Service (Part 12) to the Citizens Radio Service, Docket Nos. 13847, 11959, 11991, 11994, *Second Report and Order*, 11 FCC 2d 648, 655 ¶ 20 (1968) (*1968 ATU Report and Order*).

⁸ *Id.* Under our current Part 90 rules, these frequencies are available for assignment to persons furnishing commercial air transportation service and to an entity furnishing radio communications service to persons so engaged, for stations located on or near the designated airports. 47 C.F.R. § 90.35(c)(61)(i). See 47 C.F.R. § 90.35(c)(61)(iv); see also 47 C.F.R. § 90.179. Stations will be authorized on a primary basis and may be used only in connection with the servicing and supplying of aircraft. *Id.*

⁹ See *1968 ATU Report and Order*, 11 FCC 2d at 655 ¶ 20.

¹⁰ Amendment of Part 90 of the Commission's Rules to Relax Restrictions on Certain Frequencies in the Business Radio Service, PR Docket No. 85-273, *Report and Order*, 60 Rad. Reg. 2d (P&F) 379, 382 ¶ 11 (1986).

¹¹ In the *Refarming Proceeding*, the Commission adopted a channelization plan based on narrowband (NB) channel spacing. Under this plan, the channels are spaced 6.25 kHz apart in the 450-470 MHz band, which provides users with the option of utilizing equipment designed to operate with 6.25, 12.5, or 25 kHz channel bandwidths. See Replacement of Part 90 by Part 88 to revise the Private Land Mobile Radio Services and Modify the Policies Governing Them, PR Docket No. 92-235, *Report and Order and Further Notice of Proposed Rulemaking*, 10 FCC Rcd 10076, 10092 ¶ 24 (1995), *Memorandum Opinion and Order*, 11 FCC Rcd 17676 (1996), and *Second Report and Order* 12 FCC Rcd 14307 (1997) (*Refarming Proceeding*).

¹² *Id.*

¹³ 47 C.F.R. § 90.35(c)(61).

¹⁴ See 1998 Biennial Regulatory Review – 47 C.F.R. Part 90 – Private Land Mobile Radio Services, WT Docket No. 98-182, RM-9222, *Memorandum Opinion and Order and Second Report and Order*, 17 FCC Rcd 9830, 9853 ¶ 49 (2002) (*Part 90 Biennial Review MO&O and Second R&O*). For purposes of the proceeding, we will hereinafter refer to the 242 airports collectively as the "protected airports."

Rules now protect ATU communications at 242 airports from interference from the operations of I/B users.

8. PCIA's Petition for Rulemaking, filed on June 25, 2001, requested that the maximum-output power limits be removed for ATU frequencies, and that the Commission initiate a rulemaking proceeding to revise Sections 90.35(c)(11), (48), and (68) of our Rules,¹⁵ which were originally established in 1968¹⁶ and currently govern the specific power limitations for operations on ATU frequencies.¹⁷ In response to PCIA's request, the Commission released the *NPRM* in this proceeding seeking comment on the proposed revisions.¹⁸

IV. DISCUSSION

A. Power Limitations

9. Currently, all primary and most secondary operations on ATU frequencies are subject to transmitter power output (TPO) limitations.¹⁹ In the *NPRM*, the Commission sought comment on whether it should adopt power limits that are based on effective radiated power (ERP) rather than TPO for all ATU operations.²⁰ Previously, the Commission concluded that ERP limits more precisely reflect the actual operating power of the radio system,²¹ given that ERP measures the TPO plus antenna gain minus any loss factors.²² Because ERP is a more accurate measure of operating power, the Commission concluded that limiting power in terms of ERP may result in a more efficient and effective frequency coordination process.²³ After considering all of the record evidence, we conclude that we will convert the TPO limit for all such operations to ERP.

10. All commenters who addressed this subject support the proposal to replace TPO restrictions with ERP limits for all ATU operations.²⁴ For instance, the Land Mobile Communications Council (LMCC) believes that ERP is a significantly more accurate measurement of actual operating power than

¹⁵ 47 C.F.R. §§ 90.35(c)(11), (48), and (68).

¹⁶ 1968 *ATU Report and Order*, 11 FCC 2d at 655 ¶ 20.

¹⁷ Petition at 1, citing 47 C.F.R. §§ 90.35(c)(11), (48) and (68).

¹⁸ Five parties filed comments. See Appendix C, *infra*.

¹⁹ 47 C.F.R. §§ 90.35(c)(11), (48), (61) and (68). Primary ATU users are limited to 20 watts TPO for base operations and 3 watts TPO for mobile operations. See 47 C.F.R. §§ 90.35(c)(48) and (68). Secondary I/B users operating at locations farther than sixteen kilometers (ten miles) but less than eighty kilometers (fifty miles) from the coordinates of protected airports are limited to 2 watts TPO for base or mobile operations. See 47 C.F.R. §§ 90.35(c)(11) and (61)(iii). Secondary I/B users operating at locations farther than eighty kilometers (fifty miles) from the coordinates of protected airports are limited to 2 watts TPO for mobile operations and 300 watts ERP for base operations. See 47 C.F.R. §§ 90.35(c)(11) and (61)(ii).

²⁰ *NPRM*, 17 FCC Rcd at 19910 ¶ 11.

²¹ See Amendment of Part 90 of the Commission's Rules and Policies for Applications and Licensing of Low Power Operations in the Private Land Mobile Radio 450-470 MHz Band, *Report and Order*, 18 FCC Rcd 3948, 3954 ¶ 13 (2003) (*Low Power R&O*).

²² *Id.* at 3954 ¶¶ 12-13.

²³ *Id.*

²⁴ LMCC Comments at 4; PCIA Comments at 2-3; and FIT/MRFAC Comments at 3 (supporting the LMCC Comments).

TPO.²⁵ In addition, the LMCC believes that switching to ERP limits would provide licensees with more technical flexibility by allowing ATU users to choose between higher gain antennas or higher power radios.²⁶ In this regard, PCIA notes that an ERP limitation will give ATU users the flexibility to design their systems for optimum airport ground coverage.²⁷

11. Accordingly, power limits for both primary ATU users and secondary I/B users operating on ATU frequencies must be expressed in terms of ERP. This decision is consistent with Commission precedent in other services.

1. ATU Mobile-Only Operations

12. In the *NPRM*, the Commission sought comment on whether to delete power limits for primary ATU mobile operations,²⁸ which are currently limited to 3 watts TPO.²⁹ In light of PCIA's contention that 3-watt mobile units are unable to communicate with other mobile units or associated repeaters³⁰ over large distances or through underground facilities,³¹ the Commission sought comment on whether the current 3-watt limit hampers air terminal communications.³² The Commission also sought comment on whether alternative methods – such as signal boosters and wireline connections – would be more appropriate for improving the communication capabilities of ATU mobile units.³³

13. The majority of commenters support increasing the power limit by deleting the 3-watt TPO limit for ATU mobile units, and none oppose modifying our rules in this manner.³⁴ The LMCC states that a 3-watt TPO limit no longer adequately serves the needs of licensees operating on ATU frequencies at many airports.³⁵ Because airports have expanded in size and built underground facilities, the LMCC indicates that current power restrictions limit the ability of mobile units to communicate with repeaters from such underground facilities or from the distant other side of the airports, thus hampering crucial

²⁵ LMCC Comments at 4.

²⁶ *Id.*

²⁷ PCIA Comments at 3. PCIA indicates that the actual coverage area (or “footprint”) of an ATU licensee is typically very small when compared to that of non-ATU licensees. Therefore, most airlines encourage the use of low gain antennas, which have radiation patterns that are more in line with local airport operations. High gain antennas fail to serve most airline needs because these antennas are optimized for distance and not ground coverage directly underneath the antenna. Since most ATU base station antennas are located on the airport grounds, the optimum case would be to use a low gain antenna in combination with a higher transmitter output power that would allow a more dense concentration of RF energy in the areas where radio coverage is needed most. *Id.* at 2.

²⁸ *NPRM*, 17 FCC Rcd at 19908 ¶ 7.

²⁹ 47 C.F.R. § 90.35(c)(68).

³⁰ “Repeaters” or “mobile relay stations” are base stations in the mobile service authorized to retransmit automatically, on a mobile service frequency, communications that originate on the transmitting frequency of a mobile station. See 47 C.F.R. § 90.7.

³¹ Petition at 3.

³² *NPRM*, 17 FCC Rcd at 19908 ¶ 7.

³³ *Id.* at 17 FCC Rcd at 19909 ¶ 8.

³⁴ LMCC Comments at 2-3; PCIA Comments at 4; Badgerland Comments at 1; and FIT/MRFAC Comments at 3 (supporting LMCC Comments).

³⁵ LMCC Comments at 3.

communications and increasing safety risks for airport workers.³⁶ No commenters support the use of alternative methods for improving ATU mobile communications. For example, PCIA notes that signal boosters are an expensive solution, and that installation requires extensive conduit modifications at a time when airports are increasingly restrictive in permitting additional construction.³⁷

14. Based on the record before us, we believe that a power limit increase for primary ATU mobile units is warranted. PCIA filed *ex parte* comments suggesting an ERP limit of 40 watts for ATU mobile units is appropriate.³⁸ We note that half of the commenters who support increasing the power limit also support replacing the TPO-based limit with a general ERP standard for ATU mobile units.³⁹ We also note that PCIA states such mobile units are readily available, and we agree that their use at a typical airport will properly balance the airport system's "talk-out" and "talk-in" range.⁴⁰ We agree with PCIA's contention that an ERP limit of 40 watts "will limit the possibility of airport systems interfering with co-channel users."⁴¹ Accordingly, we replace the 3-watt TPO limit with a 40-watt ERP limit for primary ATU mobile units. We believe that this decision is consistent with action that we have taken elsewhere.⁴² We also believe that setting a specific ERP limitation for ATU mobile units, rather than simply deleting the 3-watt TPO limit, is important given that Part 90 of the Commission's Rules⁴³ does not have a power limit for mobile units in the 450-470 MHz band; if we were to eliminate the TPO limitation without setting an ERP limit, such action could result in licensees operating at exceptionally high power levels, increased potential for interference, and inefficient use of spectrum.

2. Base/Mobile Operations on ATU Frequencies

15. In the *NPRM*, the Commission sought comment on an ERP limitation for primary ATU base stations.⁴⁴ In response to a PCIA recommendation,⁴⁵ the Commission sought comment on a 100-watt ERP limit in lieu of the current 20-watt TPO limit,⁴⁶ on whether a 100-watt limit would provide adequate service to airport facilities,⁴⁷ and on whether the high ERP could adversely affect services such as air-

³⁶ *Id.*

³⁷ PCIA Comments at 3.

³⁸ PCIA *ex parte* Comments at 2, dated Feb. 23, 2004 (PCIA Feb. 23 *Ex Parte*).

³⁹ LMCC Comments at 2; and FIT/MRFAC Comments at 3-4 (supporting LMCC Comments).

⁴⁰ PCIA *ex parte* Comments at 2, dated Feb. 23, 2004 (PCIA Feb. 23 *Ex Parte*).

⁴¹ *Id.*

⁴² See, e.g., Amendment of Section 90.21 of the Commission's Rules to Provide for Higher Power Output on Certain Fire Radio Service Frequencies, *Report and Order*, 7 FCC Rcd 3484, 3484-85 ¶¶ 6-9 (1992) (increased power limitation on Fire Radio Service frequency from 10 watts to 100 watts and restricted the frequency to mobile use only, thus promoting flexibility and efficiency in on-the-scene fire-fighting communications).

⁴³ 47 C.F.R. Part 90.

⁴⁴ *NPRM*, 17 FCC Rcd at 19910 ¶ 12. Primary ATU base stations are currently limited to 20 watts TPO. See 47 C.F.R. § 90.35(c)(48).

⁴⁵ See Supplement at 2. PCIA proposes that the 20-watt TPO limitation be replaced by a 100-watt ERP limitation.

⁴⁶ *NPRM*, 17 FCC Rcd at 19910 ¶ 12.

⁴⁷ *Id.*

ground communications controlling the operation of aircraft.⁴⁸

16. We concur with commenters that a 100-watt ERP limit is warranted for ATU primary base stations, and that this limit is sufficient to adequately accommodate ATU communications needs.⁴⁹ Additionally, we agree with PCIA that this limit will not have an adverse effect on other airport services.⁵⁰ We note that under the current limitation, a licensee could install a high-gain antenna with a 20-watt TPO transmitter to achieve an ERP well over 100 watts.⁵¹ Therefore, we are persuaded by LMCC and PCIA that replacing the current 20-watt TPO limit with a 100-watt ERP limit should not result in a net increase in the potential for interference to non-ATU related communications.⁵²

3. Industrial/Business Operations Licensed on Secondary Basis

a. Secondary I/B Operations Ten-Fifty Miles From Protected Airports

17. Secondary I/B users who operate on ATU frequencies at locations between ten and fifty miles (sixteen and eighty kilometers) of protected airports are currently limited in power to 2 watts TPO⁵³ for both base and mobile operations.⁵⁴ As we determined earlier, ERP limits – rather than TPO limits – more accurately define the actual operating power of a radio system,⁵⁵ and ERP limits also facilitate an effective frequency coordination process.⁵⁶ We therefore conclude that power limits should be expressed in terms of ERP for secondary I/B users operating between ten and fifty miles of protected airports.

18. In most cases, we believe that 6 watts ERP is the maximum achievable ERP for a mobile unit operating at the current 2 watts TPO power limit for both base and mobile operations.⁵⁷ Likewise, in most cases, we believe that 10 watts ERP is the maximum achievable ERP for a base station operating at 10 watts TPO.⁵⁸ Accordingly, we establish 6 watts and 10 watts as the maximum ERP limits for secondary I/B mobile units and base stations, respectively, that operate on ATU frequencies at locations between ten and fifty miles of protected airports.

⁴⁸ *Id.* at 19912 ¶ 15.

⁴⁹ See LMCC Comments at 4; FIT/MRFAC Comments at 3-4; Badgerland Comments at 1; and PCIA Comments at 2.

⁵⁰ See PCIA Comments at 4 n.1. PCIA indicates that ATU communications and other airport communications, such as air-to-ground communications, operate in different frequency bands.

⁵¹ See *NPRM*, 17 FCC Rcd at 19910 ¶ 11. As mentioned in the *NPRM*, a licensee who employs a 15 dB gain antenna with a 20-watt TPO could produce an ERP over 300 watts. *Id.*

⁵² LMCC Comments at 4; and PCIA Comments at 2.

⁵³ 47 C.F.R. §§ 90.35(c)(11) and (61)(iii).

⁵⁴ *Id.*

⁵⁵ See para. 9, *supra*.

⁵⁶ *Id.*

⁵⁷ See *Low Power R&O*, 18 FCC Rcd at 3954 ¶ 13.

⁵⁸ We believe that licensees can achieve a 10-watt ERP by combining a high-gain antenna with a 2-watt TPO base station transmitter. Any increase above a 10-watt ERP would likely require an increase in TPO, thus resulting in an increase in the current power limit. For instance, the Commission noted in the *Low Power R&O* that establishing a 20-watt ERP limit for fixed/base stations resulted in a slight increase in power over the previous 2-watt TPO limit. See *Low Power R&O*, 18 FCC Rcd at 3955 ¶ 15.

b. Secondary I/B Operations Greater Than Fifty Miles From Protected Airports

19. Secondary I/B users operating on ATU frequencies at locations greater than fifty miles (eighty kilometers) from protected airports are currently limited to 300 watts ERP for base stations and 2 watts TPO for mobile units. In the *NPRM*, the Commission sought comment on the impact that the ERP limits adopted for ATU units less than fifty miles from the relevant airports could have on other Commission licensees, including secondary users.⁵⁹ The record suggests that ERP rather than TPO is also the appropriate metric here and that any adverse effect that increased ERP of ATU units could have on an operation more than fifty miles away could be mitigated by also increasing the ERP limit for secondary, I/B mobile units operating more than fifty miles from the protected airports.⁶⁰ Currently, licensees that wish to operate in repeater configuration (*i.e.*, 460/465.xxx MHz)⁶¹ may have a repeater with up to 300 watts ERP and mobiles in a talk-around mode on a base station frequency (*i.e.*, 460.xxx MHz)⁶² with 100 watts ERP or more.⁶³ Mobile units talking through the repeater on the mobile-only frequency (*i.e.*, 465.xxx MHz),⁶⁴ however, are only allowed to operate at 2 watts,⁶⁵ which could severely restrict the talk-back range of the mobiles to just a few miles, even though the 300-watt ERP repeater may have a service contour of twenty or thirty miles.⁶⁶

20. To correct the disparity in mobile/base power, FIT and MRFAC recommend increasing the power limit to 120 watts ERP for secondary I/B mobile units on the mobile-only (*i.e.*, 465.xxx MHz) ATU frequencies when such units are located more than fifty miles from protected airports.⁶⁷ They state that this change should create no greater potential for interference to primary ATU operations than currently allowed high power simplex operations.⁶⁸ Since primary ATU mobiles, base stations, and control stations generally monitor the 460.xxx MHz side of the frequency pair, they are more likely to receive signals from a 300-watt ERP base or repeater station, which is typically on a tower structure or high ground.⁶⁹ FIT and MRFAC state that this recommended power level is consistent with mobile ERP levels on non-ATU, UHF, "full power" channels.⁷⁰

⁵⁹ *NPRM*, 17 FCC Rcd at 19912 ¶ 15. The Commission also sought comment on any measures that would minimize any adverse impact of the proposed rule changes for primary ATU users on secondary, I/B users, including those more than fifty miles from protected airports. *Id.* at 19912-13 ¶ 16.

⁶⁰ See FIT/MRFAC Comments at 4-5.

⁶¹ "460/465.xxx MHz" refers to any ATU frequency pair.

⁶² "460.xxx MHz" refers to any ATU frequency beginning with 460 MHz, or the lower side of a frequency pair used for base/mobile communications.

⁶³ FIT/MRFAC Comments at 4.

⁶⁴ "465.xxx MHz" refers to any ATU frequency beginning with 465 MHz, or the upper side of a frequency pair used for mobile-only communications.

⁶⁵ FIT/MRFAC Comments at 4.

⁶⁶ *Id.*

⁶⁷ *Id.* at 5.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.* at 6. A 120-watt ERP limit for mobile units is consistent with an ordinary 60-watt TPO transmitter and a 3.2 dB gain antenna. *Id.* at 5. See also, Badgerland comments at 1 (recommending that there should be no power restriction on I/B licensees located more than fifty meter (eighty kilometers) from the protected airports.)

21. We are substituting ERP for TPO in the rules that apply to secondary, I/B mobile units operating more than fifty miles from the protected airports.⁷¹ In addition, we are raising the power limit to 120 watts ERP for these secondary mobile units. We believe that raising the power limit to 120 watts ERP for secondary mobile units will result in more efficient and reliable communications. We agree with FIT and MRFAC that modifying the power restriction will satisfy PLMR spectrum needs by opening these channels to I/B Pool eligibles for high-power paired repeater operations.⁷² Indeed, the Commission has previously recognized the benefits of relaxing low power restrictions on secondary I/B users when it lifted the power restrictions for licensees using “dockside channels.”⁷³

22. Our relaxing the power limit for secondary I/B licensees will not increase the potential for interference to primary ATU users at protected airports, nor for secondary users located ten to fifty miles from protected airports. With regard to interference potential, the fifty-mile distance separation and 300-watt ERP limit balances the interference protection needs of ATU users with the spectrum capacity requirements of non-ATU users. The record also demonstrates that the 2-watt TPO limitation on secondary mobile units located fifty miles or more from protected airports is unnecessary, *inter alia*, because non-ATU licensees must operate on a secondary non-interference basis relative to ATU users. Further, because non-ATU licensees are licensed with a maximum ERP of 300 watts at base stations, increasing the power limit to 120 watts ERP for mobiles located more than fifty miles from protected airports is unlikely to increase the interference potential to primary ATU users or secondary users. We note that mobile units generally present less interference potential than base stations because mobiles are near ground level, where their signals are attenuated by foliage, buildings, and terrain.⁷⁴ Moreover, operation on these frequencies requires frequency coordination, and frequency coordinators must continue to protect primary ATU operations. Finally, we conclude that increasing the power limit of secondary, I/B mobile units that operate beyond fifty miles of protected airports is desirable because it will facilitate more robust and reliable communications that are less susceptible to interference. We note that our raising the power limit for these mobile units is consistent with FIT/MRFAC’s recommendation.⁷⁵

⁷¹ See para. 11, *supra*.

⁷² See FIT/MRFAC Comments at 5-6.

⁷³ “Dockside channels” are frequencies available for voice or non-voice communications concerned with cargo handling from a dock or cargo handling facility, a vessel alongside the dock, or cargo handling facility. See 47 C.F.R. § 90.35(c)(60)(i). In 1998 Biennial Regulatory Review – 47 C.F.R. Part 90 - Private Land Mobile Radio Services; Replacement of Part 90 by Part 88 to revise the Private Land Mobile Radio Services and Modify the Policies Governing Them; and Examination of Exclusivity and Frequency Assignment Policies of the Private Land Mobile Services, *Report and Order and Further Notice of Proposed Rule Making*, WT Docket No. 98-182, RM-9222, PR Docket No. 92-235, 15 FCC Rcd 16673 (2000) (*Part 90 Biennial Review R&O and FNPRM*), the Commission clarified that the thirty-one dockside channels are available to I/B Pool eligibles for use on a secondary basis to cargo handling operations at docksides based, in part, upon its finding that the need for these frequencies to be available at dockside for cargo handling does not preclude their availability for other purposes away from dockside locations. In this regard, it determined that to prohibit such broader use would create a regulatory regime in which spectrum would be underutilized, and that adoption of certain interference protection criteria would adequately protect primary cargo handling users. See *Part 90 Report and Order*, 15 FCC Rcd at 16675-77 ¶¶ 4-8 (2000). In the *Part 90 Biennial Review MO&O and Second R&O*, the Commission agreed with a proposal to eliminate the low power restriction on certain dockside channels available for secondary I/B users, finding that it would result in more efficient and reliable communications while affording interference protection to primary users. See *Part 90 Biennial Review MO&O and Second R&O*, 17 FCC Rcd at 9856-57 ¶¶ 55-56.

⁷⁴ FIT/MRFAC Comments at 5.

⁷⁵ *Id.* See also para. 20, *supra*.

c. **Secondary I/B Operations At The Fifty-Mile Boundary Around Protected Airports**

23. Because we have increased the power limit for secondary, I/B mobile units located fifty miles or more from protected airports, a disparity exists between the permitted base and mobile power levels on either side of the fifty-mile boundary. Between ten and fifty miles from protected airports, mobile units are limited to 6 watts ERP. Our decision to implement a 120-watt ERP limit for mobile units beyond fifty miles from protected airports requires that we adopt rules that will minimize the potential for interference to I/B operations located between ten and fifty miles of protected airports.

24. Determining whether a station is subject to the lower or higher power limits will be a function of the location of the base station and the operating area of any associated mobile units. Secondary I/B base stations located within the fifty-mile boundary are subject to the 10-watt ERP limit, while secondary I/B base stations located outside the fifty-mile boundary for 300 watts ERP. Any secondary I/B mobile units operating within the fifty-mile boundary will be subject to the lower 6-watt ERP limit. Only those licensees whose mobiles operate entirely outside the fifty-mile boundary will be eligible to employ 120 watts ERP. Under this approach, an applicant will be required to identify its mobile area of operation by a geographic center and, as a general matter, a distance not to exceed a fifty-mile radius from such geographical center. Any secondary I/B mobile unit using more than 6 watts ERP must not operate within the fifty-mile boundary of any protected airport.

25. We note that this approach is distinguished from an approach the Commission has taken in another Part 90 context, in which low-powered and high-powered stations are separated by a geographic boundary.⁷⁶ In that context, the Commission determines whether a mobile unit is inside or outside the boundary based on the center of the operating area of the mobile unit rather than the outermost portion of the operating area of the mobile unit.⁷⁷ Here, however, we believe that limiting high-powered secondary mobile units based on the periphery of the operating area is more appropriate in order to prevent such mobile units from encroaching on primary ATU operations. Further, as discussed herein, we believe that limiting high-powered secondary mobile units relative to the periphery of the operating area is necessary to minimize the potential for interference to secondary, non-ATU operations located ten to fifty miles from protected airports.

B. WMTS Operations

26. *Background.* In the *NPRM*, the Commission requested comment on whether adopting PCIA's proposals to increase power limits for ATU frequencies would cause harmful interference to Wireless Medical Telemetry Service (WMTS) operations.⁷⁸ Section 90.35(c)(69) of our Rules permits medical telemetry equipment to operate on certain ATU frequencies in the 460-470 MHz band on a

⁷⁶ See *Low Power R&O*, 18 FCC Rcd at 3963-64 ¶¶ 34-36.

⁷⁷ *Id.* In the *Low Power R&O*, the Commission specified that a mobile unit is subject to low power limits if the center of the operating area is within the boundary, while a mobile unit is eligible for higher powered limits if the center of the operating area is outside the boundary.

⁷⁸ *NPRM*, 17 FCC Rcd at 19912 ¶ 15.

secondary basis, relative to primary ATU users operating on these frequencies.⁷⁹

27. The Commission also sought comment on any measures that might be necessary to ensure that WMTS operations near ATU airports are not exposed to an increased risk of interference as a result of the rule changes.⁸⁰ In addition, the Commission sought comment on the appropriate date to promulgate new power limit rules on the ATU frequencies used by WMTS licensees.⁸¹ The Commission noted that although medical telemetry has no regulatory protection from interference on the current UHF frequencies, "the fact remains that the Commission has had to take steps to protect medical telemetry from interference because it is used to protect safety of life."⁸² Thus, the Commission tentatively concluded in the *NPRM* that any increase in the power limitations of ATU operations on WMTS frequencies should be effective only after October 16, 2003,⁸³ which was the scheduled date for the lifting of the freeze on high-power land mobile radio applications on certain channels in the 460-470 MHz band.⁸⁴ The Commission believed this date to be appropriate because it would facilitate an interference-free WMTS transition from the 460-470 MHz band to other bands.⁸⁵ However, since the release of the *NPRM*, the freeze has been extended to December 31, 2005, to provide hospitals and other health care providers that operate medical telemetry equipment in the 460-470 MHz band additional time to migrate to WMTS spectrum.⁸⁶

⁷⁹ See 47 C.F.R. § 90.35(c)(69). This section, which governs ten ATU frequency pairs (12.5 kHz frequencies), provides that such frequencies may be used on a secondary basis by a hospital or health care institution holding a license to operate a medical radio telemetry device with an output power not to exceed 20 milliwatts without specific authorization from the Commission. *Id.* ATU frequencies governed by 47 C.F.R. §§ 90.35(c)(61) and (69) are as follows: 460/465.6625 MHz, 460/465.6875 MHz, 460/465.7125 MHz, 460/465.7375 MHz, 460/465.7625 MHz, 460/465.7875 MHz, 460/465.8125 MHz, 460/465.8375 MHz, 460/465.8625 MHz, and 460/465.8875 MHz.

⁸⁰ *NPRM*, 17 FCC Rcd at 19912 ¶ 15.

⁸¹ *Id.*

⁸² See Amendment of Parts 2 and 95 of the Commission's Rules to Create a Wireless Medical Telemetry Service, *Report and Order*, 15 FCC Rcd 11206, 11225 ¶ 57 (2000) (*WMTS R&O*).

⁸³ *NPRM*, 17 FCC Rcd at 19912 ¶ 15.

⁸⁴ See Freeze on the Filing of High Power Applications for 12.5 kHz Offset Channels in the 450-470 MHz band, *Public Notice*, 10 FCC Rcd 9995 (WTB 1995) (*1995 Freeze Public Notice*). The freeze was instituted to reduce the probability of interference to medical telemetry equipment operating in these channels. In June 2000, the Commission established the Wireless Medical Telemetry Service and allotted fourteen Megahertz of spectrum on a primary basis. See *WMTS R&O*, 15 FCC Rcd at 11206 ¶ 1. In making this allocation, the Commission's goal was to provide spectrum where medical telemetry equipment can operate without interference, but also to encourage medical telemetry users to eventually migrate out of the current bands, including the 450-470 MHz band. See *id.* at 11225 ¶ 57. Based on the limited medical telemetry usage of the lower half of the band, 450-460 MHz, the Commission stated its intention to lift the freeze soon after the release of the *WMTS R&O*. See *id.* at 11227 ¶ 63. The freeze in the 450-460 MHz band was lifted on January 29, 2001. See Freeze on the Filing of High Power Applications for 12.5 kHz Offset Channels in the 450-460 MHz Band to be Lifted January 29, 2001, *Public Notice*, 15 FCC Rcd 9996 (WTB PSPWD 2000). Because most medical telemetry systems operated between 460-470 MHz, the Commission maintained the 460-470 MHz freeze. To accommodate the migration of medical telemetry users out of the 460-470 MHz band, the Commission stated its intention to lift the freeze on applications for high power use of offset channels within three years of the effective date of the WMTS rules. See *WMTS R&O*, 15 FCC Rcd at 11227-28 ¶ 65.

⁸⁵ *NPRM*, 17 FCC Rcd at 19912 ¶ 15.

⁸⁶ See The Wireless Telecommunications Bureau Extends the Freeze on High Powered Use of the 460-470 MHz Band Offset Channels until December 31, 2005, *Public Notice*, 19 FCC Rcd 12414 (2004).

28. *Decision.* We delay any power limit modifications on ATU frequencies (e.g., primary and secondary operations) subject to Section 90.35(c)(69)⁸⁷ until thirty days following the lifting of the freeze on high-power land mobile radio applications in the 460-470 MHz band.⁸⁸ We agree with the AHA Task Force's conclusion regarding the 460-470 MHz band: "[I]t should be anticipated that adoption of the PCIA proposal in this proceeding will have a negative impact on any wireless medical telemetry systems operating in the band (as any higher powered uses of the band will)."⁸⁹ We also agree with its rationale that because 460-470 MHz band spectrum used by medical telemetry equipment on an unlicensed or secondary basis under Parts 15 and 90 is increasingly being used more intensively by existing primary services, there exists an increased likelihood of interference to medical telemetry devices.⁹⁰ We will continue to take steps to protect medical telemetry from interference because it is used to protect safety of life. Under the circumstances, we are not persuaded by PCIA's contention that there are few hospitals in the vicinity of airports, particularly because PCIA failed to provide any data supporting its theory.⁹¹ Further, we do not believe that requiring ATU licensees to pledge interference protection to WMTS operations would be effective, given that no complete database of wireless medical telemetry operations in the 460-470 MHz band currently exists, as the AHA Task Force has acknowledged.⁹² In the absence of such a database, we believe it might prove difficult for PLMR licensees to determine where protection is required in an effective, expeditious and efficient manner. Thus, we believe that a delay in implementation of the revised power limits for ATU frequencies shared by WMTS is the preferred course here and consistent with previous actions designed to avoid increasing potential interference to WMTS pending its migration to new frequencies.⁹³

C. Station Class Codes

29. *Background.* In the *NPRM*, the Commission asked whether a new station class code in the Universal Licensing System (ULS)⁹⁴ should be established to distinguish primary users from secondary users on ATU frequencies.⁹⁵ ULS currently makes no distinction between primary and secondary users

⁸⁷ 47 C.F.R. § 90.35(c)(69).

⁸⁸ Stations operating on frequencies subject to 47 C.F.R. § 90.35(c)(69) will continue to be limited to a maximum power limit of 2 watts TPO until the lifting of the freeze on high-power land mobile radio applications in the 460-470 MHz band. See *1995 Freeze Public Notice* (indicating that maximum power limit on offset frequencies is 2 watts TPO during the freeze). The freeze has been extended to December 31, 2005. See para. 27, *supra*.

⁸⁹ AHA Task Force Comments at 2.

⁹⁰ See *WMTS R&O*, 15 FCC Rcd at 11207 ¶ 3.

⁹¹ PCIA Comments at 4-5.

⁹² See Letter from Rick Pollack, Executive Vice President, AHA, to John Muleta, Chief, Wireless Telecommunications Bureau, FCC at 3, dated Sept. 23, 2003. The AHA Task Force proposes that each hospital register its respective geographic location and channels being used in the 460-470 MHz band with the American Society for Health Care Engineering. *Id.* Frequency coordinators would then be required to pay for access to the database in order to determine which hospitals' telemetry systems need protection. *Id.* The AHA Task Force also proposes a forty-mile separation between a land mobile base station and a registered hospital on the same channel. *Id.*

⁹³ See notes 86 and 88 *supra*.

⁹⁴ ULS is an electronic filing system that simplifies the application and licensing process and provides secure, world-wide access through the Internet. This results in reduced filing time and financial savings for both customers and the federal government. ULS is also a powerful information tool that enables the research of applications, licenses, and antenna structures. To access ULS, go to <http://wireless.fcc.gov/uls/>.

⁹⁵ *NPRM*, 17 FCC Rcd at 19914 ¶ 20.

on these frequencies.⁹⁶ PCIA believes that new codes are warranted inasmuch as compliance with the power limitations on ATU frequencies is difficult because applicants currently cannot classify themselves as primary ATU users or secondary I/B users.⁹⁷ The Commission sought comment on whether such station class codes would improve processing of applications for ATU frequencies.⁹⁸

30. *Decision.* In common with the parties commenting on this issue,⁹⁹ we believe it prudent to distinguish between primary ATU users and secondary I/B users for the reasons that LMCC suggests.¹⁰⁰ The Commission has established station class codes in the past, in order to distinguish between licensees that are subject to different regulatory requirements (particularly operating parameters) on the same set of frequencies.¹⁰¹ Similarly, in this instance, establishing new ATU station class codes will assist interested stakeholders, as well as the Commission's licensing staff and FCC-certified PLMR frequency coordinators, to distinguish between licensees that are subject to the ATU power limits and eligibility requirements, and licensees that are subject to the secondary I/B power limits and operating restrictions.

31. Accordingly, we delegate to the Chief, Wireless Telecommunications Bureau, the authority to issue a Public Notice announcing the establishment of new ATU station class codes.¹⁰² The Public Notice will provide primary ATU licensees with instructions for modifying their authorizations to reflect the new station class codes. We recognize that there may be a substantial number of existing licensees that may seek modification of their authorizations to comply with the new station class codes. We will permit such licensees to modify their authorizations to reflect new ATU station class codes without requiring frequency coordination or payment of a fee so long as no other modifications are made to the license. Alternatively, licensees may request to have the station class codes added if they apply to modify their licenses in other ways. This approach is similar to our practice with other Part 90 radio service codes,¹⁰³ and the relief we provide with regard to frequency coordination and fees is consistent with the approach we adopted in the *Part 90 Biennial Review* proceeding concerning the filing of

⁹⁶ *Id.* at 19914 ¶ 19.

⁹⁷ See Petition at 4 n.10.

⁹⁸ *NPRM*, 17 FCC Rcd at 19914 ¶ 20.

⁹⁹ PCIA Comments at 4; and LMCC Comments at 4-5.

¹⁰⁰ See LMCC Comments at 4-5.

¹⁰¹ See *Part 90 Biennial Review R&O and FNPRM*, 15 FCC Rcd at 16686 ¶ 26 (2000). The Commission agreed that from a spectrum management perspective, it is important to identify which, if any, frequencies in a trunked system are exempt from monitoring requirements (*e.g.*, applicant/licensee has obtained necessary consent or, if operating in the 470-512 MHz band, has exclusive use), and that the class of station associated with each frequency must be provided. *Id.*

¹⁰² We note that the Wireless Telecommunications Bureau has previously exercised its delegated authority to establish station class codes. See *e.g.*, Wireless Telecommunications Bureau Establishes a New Station Class Code in Connection with Licensing Trunked Radio System Operating Between 150-512 MHz, *Public Notice*, 16 FCC Rcd 7515 (WTB 2001). As a general matter, the Commission in the *ULS Proceeding* and pursuant to section 5(c) of the Communications Act of 1934, 47 U.S.C. § 155(c), delegated authority to the Chief, Wireless Telecommunications Bureau to develop, implement, modify rules and procedures for the Universal Licensing System to the extent stated therein. See *Biennial Regulatory Review - Amendment of Parts 0, 1, 13, 22, 24, 26, 27, 80, 87, 90, 95, and 101 of the Commission's Rules to Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services, Report and Order*, 13 FCC Rcd 21027, 21117 ¶ 213 (1998) (*ULS Proceeding*).

¹⁰³ See *Part 90 Biennial Review R&O and FNPRM*, 15 FCC Rcd at 16686-87 ¶ 27.

applications to distinguish trunked operations.¹⁰⁴

D. Conversion of Licenses

32. In the *NPRM*, the Commission sought comment on whether to automatically convert the technical parameters of all ATU base station authorizations from 20 watts TPO to 100 watts ERP if such a maximum power limit increase were implemented.¹⁰⁵ We agree with PCIA and the LMCC, who were the only commenters on the automatic conversion issue,¹⁰⁶ that it would be difficult for the Commission's licensing staff to identify all of the ATU licenses that would be subject to automatic conversion without information from the subject licensees. Further, we are cognizant that different licensees may require different power levels. Indeed, many of the protected airport facilities are small airports that may not have underground facilities and thus may operate satisfactorily at modest power levels. We therefore conclude that converting the technical parameters of subject ATU authorizations from TPO to ERP should be done only in response to a license modification request initiated by the licensee. Therefore, any licensees seeking to take advantage of the new power limits must file modification applications. Primary ATU and secondary I/B licensees may submit modification applications to reflect new ERP levels in lieu of the current practice of specifying power in terms of TPO. To minimize interference potential for all users, we will require all power limit changes to be processed through the frequency coordination process. We impose no deadlines or requirements on those licensees of ATU frequencies that may wish to continue operating under their current power limits. As a result, such operations are grandfathered as currently authorized unless and until licensees choose to modify their respective licenses, at which point they must list operating power in terms of ERP and will be subject to the ERP-based power limits adopted herein.

E. Status of Non-Compliant Authorizations

33. *Background.* In the *NPRM*, the Commission sought comment on whether to grandfather stations that were authorized on ATU frequencies in excess of our current power limitations or to require such stations to reduce power to conform to the new rules.¹⁰⁷ The Commission noted that, according to PCIA, prior to the Commission's implementation of ULS for wireless services, the ATU power limits were "typically ignored" and that our licensing database is "replete with ATU licenses for additional power."¹⁰⁸

34. *Decision.* We agree with the commenters that licensees authorized on ATU frequencies in excess of current power limitations should be grandfathered at their existing power levels, particularly because such stations have not been a reported source of interference.¹⁰⁹ We note that the Commission grandfathered high-powered incumbent licensees pursuant to the rules adopted in the *Low Power R&O*, out of concern that application of the new rules could force many licensees to discontinue operation.¹¹⁰ With the implementation of new ATU station class codes, the technical rules for ATU frequencies will

¹⁰⁴ *Id.* (permitting licensees to apply for trunked service code without requiring frequency coordination or payment of a fee).

¹⁰⁵ *NPRM*, 17 FCC Rcd at 19910 ¶ 12.

¹⁰⁶ PCIA Comments at 4; and LMCC Comments at 4.

¹⁰⁷ *NPRM*, 17 FCC Rcd at 19914 ¶ 18.

¹⁰⁸ *Id.* at 19913 ¶ 17. See Petition at 4.

¹⁰⁹ See PCIA Comments at 5; Badgerland Comments at 1.

¹¹⁰ See *Low Power R&O*, 18 FCC Rcd at 3980 ¶ 80.

be codified in ULS. Thus, ULS will be able to identify parameters on applications that do not comply with our rules for ATU frequencies and bring such applications to the attention of Commission staff. Additionally, the Commission will investigate any reported cases of interference that arise from the grandfathered authorizations and take appropriate action.

V. PROCEDURAL MATTERS

A. Regulatory Flexibility Act Analysis

35. As required by Section 603 of the Regulatory Flexibility Act, 5 U.S.C. § 603, the Commission has prepared a Final Regulatory Flexibility Analysis (FRFA) of the expected impact on small entities of the proposals suggested in this document. The FRFA is set forth in Appendix A, *infra*.

B. Paperwork Reduction Act of 1995 Analysis

36. This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. § 3506(c)(4).

C. Congressional Review Act

37. The Commission will send a copy of this *Report and Order* in a report to be sent to Congress and the General Accounting Office pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

D. Alternative Formats

38. Alternate formats (computer diskette, large print, audio cassette and Braille) are available from Brian Millin, Consumer and Governmental Affairs Bureau, at (202) 418-7426, TTY (202) 418-7365, or at Brian.Millin@fcc.gov. This *Report and Order* can also be downloaded at <http://wireless.fcc.gov/releases.html>.

E. Further Information

39. For further information, contact Tom Eng, Public Safety and Critical Infrastructure Division, Wireless Telecommunications Bureau, (202) 418-0019, TTY (202) 418-7233, or at Thomas.Eng@fcc.gov.

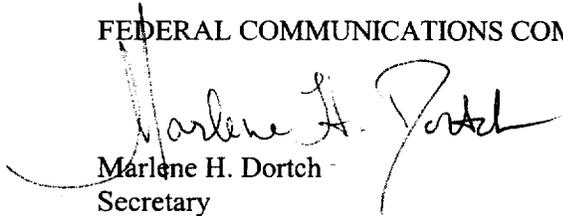
VI. ORDERING CLAUSES

40. Accordingly, pursuant to Sections 4(i), 303(f), 303(r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(f), 303(r) and 332, this *Report and Order* is ADOPTED.

41. IT IS FURTHER ORDERED that Part 90 of the Commission's Rules IS AMENDED as set forth in Appendix B, effective 30 days after publication in the Federal Register.

42. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the U.S. Small Business Administration in accordance with Section 603(a) of the Regulatory Flexibility Act, 5 U.S.C. §§ 601-612.¹¹¹

FEDERAL COMMUNICATIONS COMMISSION


Marlene H. Dortch
Secretary

¹¹¹ Pub. L. No. 96-354, 94 Stat. 1165, 5 U.S.C. §§ 601-612 (1980).

APPENDIX A

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980¹¹² as amended (RFA), an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Notice of Proposed Rule Making (NPRM)*.¹¹³ The Commission sought written public comment on the proposals in the *NPRM*, including comment on the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.¹¹⁴

A. Need for, and Objectives of, the Final Rules:

2. The rule changes implemented herein are needed in order to facilitate the communications needs of Airport Terminal Use (ATU) licensees in the 460-470 MHz band. We believe that certain rule modifications are in the public interest because they will enhance the efficient use of spectrum, permit greater efficiency in use of airport terminal communications, and facilitate Homeland Security measures at airports. We further believe that certain modifications are in the public interest because they will enhance the efficient use of spectrum for mobile units at fifty miles or more from protected airports.

3. In this *Report and Order (R&O)*, we convert all power limits on ATU frequencies from transmitter power output (TPO) to effective radiated power (ERP); we amend the maximum output power for ATU frequencies identified in 47 C.F.R. § 90.35(c)(48) to a 100-watt maximum ERP. We also amend the maximum output power for ATU frequencies identified in 47 C.F.R. § 90.35(c) and (68), from 3 watts TPO to 40 watts ERP; for ATU frequencies identified in 47 C.F.R. § 90.35(c)(11), we increase the power limit from 2 watts TPO to 120 watts ERP for mobile units operating on a secondary basis at locations more than fifty miles (eighty kilometers) from airports listed in 47 C.F.R. § 90.35(c)(61)(iv); we delay any increase or conversion in power on ATU frequencies subject to 47 C.F.R. § 90.35(c)(69) until the freeze on high-power applications for land mobile applications on 460-470 MHz band "offset" channels is lifted, in order to protect wireless medical telemetry systems (WMTS) that have yet to migrate out of the band; we delegate authority to the Wireless Telecommunications Bureau (WTB) to create new station class codes for the Universal Licensing System (ULS) that will identify primary ATU users; we will allow licensees to submit applications requesting the new ATU station class codes without requiring frequency coordination so long as no other modifications are made to the licenses; we grandfather stations authorized to operate on ATU frequencies at power levels in excess of our current rules; and we will allow licensees to submit applications voluntarily to convert power levels on licenses from TPO to ERP, but we require frequency coordination for such modifications.

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

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

C. Description and Estimate of the Number of Small Entities to Which the Final Rules Will Apply:

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

¹¹² See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996, Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

¹¹³ See *NPRM*, 17 FCC Rcd at 19915 ¶ 22.

¹¹⁴ See 5 U.S.C. § 604.

number of small entities that may be affected by the rules adopted herein.¹¹⁵ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹¹⁶ In addition, the term “small business” has the same meaning as “small business concern” under the Small Business Act.¹¹⁷ A “small business concern” is one that: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).¹¹⁸

6. *Estimates for Private Land Mobile Radio (PLMR) Licensees.* PLMR systems serve an essential role in a vast range of industrial, business, land transportation, and public safety activities. These radios are used by companies of all sizes operating in all U.S. business categories. Because of the vast array of PLMR users, the Commission has not developed a definition of small entities specifically applicable to PLMR users, nor has the SBA developed any such definition. The SBA rules do, however, contain a definition for Cellular and Other Wireless Telecommunications, which has the small business size standard of no more than 1,500 employees.¹¹⁹ According to Census Bureau data for 1997, in this category there was a total of 977 firms that operated for the entire year.¹²⁰ Of this total, 965 firms had employment of 999 or fewer employees, and an additional twelve firms had employment of 1,000 employees or more.¹²¹ Thus, under this size standard, the majority of firms can be considered small. Currently, the Commission’s licensing database indicates that there are approximately 174,000 active licenses in the PLMR bands below 512 MHz.¹²²

7. *Equipment Manufacturers.* The SBA has established a small business size standard for Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing. Under this standard, business firms are considered small if they have 750 or fewer employees.¹²³ Census data for 1997 indicate that, for that year, there were a total of 1,215 establishments¹²⁴ in this category.¹²⁵ Of

¹¹⁵ 5 U.S.C. § 604(a)(3).

¹¹⁶ 5 U.S.C. § 601(6).

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

¹¹⁸ 5 U.S.C. § 632.

¹¹⁹ 13 C.F.R. § 121.201, NAICS code 517212.

¹²⁰ U.S. Census Bureau, 1997 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization).”

¹²¹ *Id.* The census data do not provide a more precise estimate of the number of firms that have 1,500 or fewer employees; the largest category provided is “Firms with 1,000 employees or more.”

¹²² There is no information currently available about the number of entities to whom the 174,000 licenses are authorized. Further, there is no information currently available about the percentage of such entities that have less than 1,500 employees.

¹²³ 13 C.F.R. § 121.201, NAICS code 334220.

those, there were 1150 that had employment under 500, and an additional 37 that had employment of 500 to 999. The percentage of broadcast equipment manufacturers to others in this category is approximately 22%,¹²⁶ so we estimate that the number of broadcast equipment manufacturers with employment under 500 was actually closer to 253, with an additional eight establishments having employment of between 500 and 999.

D. Description of Projected Reporting, Recordkeeping and Other Compliance Requirements:

8. No new reporting, recordkeeping, or other compliance requirements would be imposed on applicants or licensees as a result of the rules adopted in this proceeding.

E. Steps Taken to Minimize Significant Economic Impact on Small Entities, and Significant Alternatives Considered:

9. The RFA requires an agency to describe any significant alternatives that it has considered in developing its approach, which may include the following four alternatives (among others): "(1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities; (3) the use of performance, rather than design standards; and (4) an exemption from coverage of the rule or any part thereof, for such small entities."¹²⁷

10. With respect to the conversion of units on power limits on ATU frequencies TPO to ERP, the Commission believes that small businesses will experience minimal impact and will benefit from improved frequency coordination. Licensees that choose to modify their licenses to take advantage of new power limits will need to report ERP values instead of TPO. Further, we require that applications for power modification on these channels be frequency coordinated, and this requirement will further minimize any impact our rule revisions impose on licensees. The combination of improved frequency coordination and new power limits will benefit both large and small businesses.

11. Admittedly, there may be some minor inconveniences during the transition to the new regulatory regime. First, we anticipate that small businesses may experience a minor inconvenience as a result of the change in power unit terminology. Second, small businesses may also view the modification as a minor administrative burden. Third, there may be a transition period where some licenses reflect TPO values while others reflect ERP.

12. Despite these inconveniences, we believe they are acceptable for the following reasons. We note that license modifications are voluntary. We encourage, but do not require, licensees to modify their licenses to take advantage of new power limits. We also note that modifications can be performed at the

(Continued from previous page) _____

¹²⁴ The number of "establishments" is a less helpful indicator of small business prevalence in this context than would be the number of "firms" or "companies," because the latter take into account the concept of common ownership or control. Any single physical location for an entity is an establishment, even though that location may be owned by a different establishment. Thus, the numbers given may reflect inflated numbers of businesses in this category, including the numbers of small businesses. In this category, the census breaks-out data for firms or companies only to give the total number of such entities for 1997, which was 1,089.

¹²⁵ U.S. Census Bureau, 1997 Economic Census, Industry Series: Manufacturing, "Industry Statistics by Employment Size," Table 4, NAICS code 334220 (issued Aug. 1999).

¹²⁶ *Id.* Table 5, "Industry Statistics by Industry and Primary Product Class Specialization: 1997."

¹²⁷ 5 U.S.C. § 603(c)(1)-(c)(4).

time of license renewal to minimize administrative costs. The incentives for more licenses to have ERP power values on ATU frequencies are: a better overall frequency coordination process, and having a power limit that more accurately represents station power than does TPO.¹²⁸ Improved frequency coordination results in better interference protection to all licensees, including small entities. We reject the alternative of leaving power limits in terms of TPO because the Commission noted that it generally favors ERP terminology¹²⁹ and because TPO values can result in a variety of actual power levels due to a variety of antenna gains. We believe that TPO limits frustrate the frequency coordination process, and therefore incumbent licensees would not be assured of interference protection.

13. The next rule change we adopt herein increases the power limits for ATU primary users at the protected airports. Although increasing the power limits on these channels could decrease the number of operators possible in a given area, thereby potentially reducing opportunities for smaller entities, nevertheless we believe that regardless of the possible impact on smaller entities, the need for higher power on these channels outweighs the potential for reduction of the number of licensees. Maintaining the current power limits as an alternative to these rule changes is unacceptable because it maintains the current power restriction of 20 watts output power for base stations and 3 watts output power for mobile units at protected airports. Thus, to retain lower power levels disserves the public interest by restricting efficient radio communications by primary licensees at airports.

14. A second alternative to the increased power limits adopted herein for ATU primary base/mobile frequencies would be to implement the power limits of Section 90.205.¹³⁰ We have considered but reject this option because Section 90.205 lowers power limits to unacceptably low levels or raises power limits to exceptionally high levels, depending on the size of the designated service area of a station. For service area radii smaller than three kilometers (approximately two miles), Section 90.205 limits power to 2 watts ERP, which is less than the 20 watts TPO that is currently authorized. Such a power reduction could further hamper the ability of airport personnel to communicate. Section 90.205 also allows 500 watts ERP for service areas between thirteen and sixteen kilometers (eight and ten miles). We believe that such a large power limit could subject secondary I/B users and small businesses to excessive interference at distances from ten to fifty miles from protected airports. We reject the implementation of Section 90.205 in favor of the more moderate power limit changes adopted herein, which strike a balance between enhancing wireless communications and providing interference protection.

15. We note, however, that our decision to raise power levels involved consideration of other alternatives that could improve the communications capabilities of mobiles on the ATU frequencies, such as signal boosters and wireline connections.¹³¹ These alternatives, however, do not address the need, especially at large airports, for enhanced wireless communications. Moreover, as the Personal Communications Industry Association, Inc. (PCIA) stated in its comments, there are other problems with signal boosters, which are expensive and require extensive electrical conduit modifications.¹³² Further, no commenters supported signal boosters and wireline connections in favor of increasing wireless power limits.

¹²⁸ See 1998 Biennial Review-47 C.F.R. Part 90-Private Land Mobile Radio Services, *Memorandum Opinion and Order and Second Report and Order*, 17 FCC Rcd 9830, 9841 ¶ 23 (2002).

¹²⁹ *Id.*

¹³⁰ 47 C.F.R. § 90.205.

¹³¹ *NPRM*, 17 FCC Rcd at 19909 ¶ 8.

¹³² PCIA Comments at 3.

16. The next rule change we adopt herein increases the power limit for Industrial/Business (I/B), secondary, mobile units operating on the forty ATU mobile channels at distances of fifty miles or more from protected airports. The mobile power limit increase from 3 watts TPO to 120 watts ERP lessens the incongruity with the power limit of base stations, which is 300 watts ERP. All licensees, including small businesses, will benefit from this mobile power limit increase because mobile units will have increased communications range within the service area footprint of their base stations. The power limit increase enables radio systems to make more efficient use of their assigned spectrum. At the same time, we anticipate little additional interference to primary ATU licensees and secondary non-ATU licensees within fifty miles of the protected airports because the base station power limit remains unchanged. The service area footprint is determined by the base station's ERP and antenna height. Maintaining the current mobile unit power limit as an alternative to this rule change is unacceptable because it maintains the current power restriction of 2 watts output power for mobile units at fifty miles or more from protected airports. Thus, to retain lower power levels disserves the public interest by restricting efficient radio communications by secondary licensees in designated areas around airports.

17. Our decision to delay the implementation date of the new rules on the ATU/wireless medical telemetry frequencies until thirty days after the lifting of the freeze on high power applications, scheduled for December 31, 2005, will protect wireless medical telemetry users in the 460-470 MHz band, which includes small businesses at hospitals and medical facilities. An alternative would be to implement the rules concurrently with the non-telemetry frequencies. However, we reject this alternative because it increases the risk of harmful interference to wireless medical telemetry users from the ATU primary and I/B secondary power limit increases.

18. We believe that the implementation of new station class codes is a benefit to all users that are licensed on ATU frequencies, including small businesses. We anticipate only a minor administrative burden in voluntarily modifying licenses to reflect new station class codes. We note that no fee will be charged and frequency coordination is not required for such modification. The station class codes will distinguish between primary ATU and secondary I/B licenses in ULS. The major benefits will be to allow licensees on ATU frequencies to take advantage of the appropriate new power limits and eliminate the ambiguity as to what rules apply to which licensees. The identification of ATU primary licenses through station class codes also facilitates the frequency coordination process and ensures interference protection to airport stations.

19. Our decision to grandfather stations authorized to operate on ATU frequencies at power levels in excess of our current rules will minimize the impact of our rules on such stations, including small entities. Such stations may continue to operate as usual and are not required to comply with the rules adopted herein. However, the Commission will investigate any reports of harmful interference from such stations and take appropriate action. Our decision allows such stations to avoid or defer the administrative burden of modifying their licenses. As discussed above, we do not require license modifications to take advantage of the new power limits. However, at such time when a grandfathered station desires to modify its license to take advantage of the power limits adopted herein, we will require compliance with the new rules, power levels in the form of ERP, and frequency coordination as discussed above. We have considered the alternative to grandfathering, which is requiring the compliance of all licensees on ATU frequencies. We reject this alternative because it imposes immediate administrative burdens on stations and small entities that do not want license modification, and we are concerned that it may force such entities to discontinue operations.

F. Report to Congress

20. The Commission will send a copy of this *Report and Order*, including this FRFA, in a report

to be sent to Congress pursuant to the Congressional Review Act.¹³³ In addition, the Commission will send a copy of this *Report and Order*, including this FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of this *Report and Order* and FRFA (or summaries thereof) will also be published in the Federal Register.¹³⁴

¹³³ See 5 U.S.C. § 801(a)(1)(A).

¹³⁴ See 5 U.S.C. § 604(b).

**APPENDIX B
FINAL RULES**

Part 90 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. 4(i), 11, 303(g), 303(r) and 332(c)(7).

2. Section 90.35 is amended by revising the table in paragraph (b)(3) to reflect a revised set of limitations on Airport Terminal Use (ATU) frequencies; paragraph (c)(48) to remove a cross-reference with paragraph (c)(61); and paragraphs (c)(61) and (c)(68) to reflect new power limitations on ATU frequencies.

§ 90.35 Industrial Business Pool.

* * * * *

(b) * * *

(3) * * *

INDUSTRIAL/BUSINESS POOL FREQUENCY TABLE

Frequency or band	Class of station(s)	Limitations	Coordinator
* * * * *	* * * * *	* * * * *	* * * * *
460.650 .....	.....do.....	61, 62.	
460.65625 .....	.....do.....	33, 61, 62.	
460.6625 .....	.....do.....	30, 61, 62, 69.	
460.66875 .....	.....do.....	33, 61, 62.	
460.675 .....	.....do.....	61, 62.	
460.68125 .....	.....do.....	33, 61, 62.	
460.6875 .....	.....do.....	30, 61, 62, 69.	
460.69375 .....	.....do.....	33, 61, 62.	
460.700 .....	.....do.....	61, 62.	
460.70625 .....	.....do.....	33, 61, 62.	
460.7125 .....	.....do.....	30, 61, 62, 69.	
460.71875 .....	.....do.....	33, 61, 62.	
460.725 .....	.....do.....	61, 62.	
460.73125 .....	.....do.....	33, 61, 62.	
460.7375 .....	.....do.....	30, 61, 62, 69.	
460.74375 .....	.....do.....	33, 61, 62.	
460.750 .....	.....do.....	61, 62.	
460.75625 .....	.....do.....	33, 61, 62.	
460.7625 .....	.....do.....	30, 61, 62, 69.	
460.76875 .....	.....do.....	33, 61, 62.	

460.775 .....	.....do.....	61, 62.	
460.78125 .....	.....do.....	33, 61, 62.	
460.7875 .....	.....do.....	30, 61, 62, 69.	
460.79375 .....	.....do.....	33, 61, 62.	
460.800 .....	.....do.....	61, 62.	
460.80625 .....	.....do.....	33, 61, 62.	
460.8125 .....	.....do.....	30, 61, 62, 69.	
460.81875 .....	.....do.....	33, 61, 62.	
460.825 .....	.....do.....	61, 62.	
460.83125 .....	.....do.....	33, 61, 62.	
460.8375 .....	.....do.....	30, 61, 62, 69.	
460.84375 .....	.....do.....	33, 61, 62.	
460.850 .....	.....do.....	61, 62.	
460.85625 .....	.....do.....	33, 61, 62.	
460.8625 .....	.....do.....	30, 61, 62, 69.	
460.86875 .....	.....do.....	33, 61, 62.	
460.875 .....	.....do.....	61, 62.	
460.88125 .....	.....do.....	33, 61, 62.	
460.8875 .....	.....do.....	30, 61, 62, 69.	
460.89375 .....	.....do.....	33, 61, 62.	
*****	*****	*****	*****
465.650 .....	.....do.....	62, 68.	
465.65625 .....	.....do.....	33, 62, 68.	
465.6625 .....	.....do.....	30, 62, 68, 69.	
465.66875 .....	.....do.....	33, 62, 68.	
465.675 .....	.....do.....	62, 68.	
465.68125 .....	.....do.....	33, 62, 68.	
465.6875 .....	.....do.....	30, 62, 68, 69.	
465.69375 .....	.....do.....	33, 62, 68.	
465.700 .....	.....do.....	62, 68.	
465.70625 .....	.....do.....	33, 62, 68.	
465.7125 .....	.....do.....	30, 62, 68, 69.	
465.71875 .....	.....do.....	33, 62, 68.	
465.725 .....	.....do.....	62, 68.	
465.73125 .....	.....do.....	33, 62, 68.	
465.7375 .....	.....do.....	30, 62, 68, 69.	
465.74375 .....	.....do.....	33, 62, 68.	
465.750 .....	.....do.....	62, 68.	
465.75625 .....	.....do.....	33, 62, 68.	
465.7625 .....	.....do.....	30, 62, 68, 69.	
465.76875 .....	.....do.....	33, 62, 68.	
465.775 .....	.....do.....	62, 68.	
465.78125 .....	.....do.....	33, 62, 68.	
465.7875 .....	.....do.....	30, 62, 68, 69.	
465.79375 .....	.....do.....	33, 62, 68.	
465.800 .....	.....do.....	62, 68.	
465.80625 .....	.....do.....	33, 62, 68.	
465.8125 .....	.....do.....	30, 62, 68, 69.	
465.81875 .....	.....do.....	33, 62, 68.	

465.825 .....	.....do.....	62, 68.	
465.83125 .....	.....do.....	33, 62, 68.	
465.8375 .....	.....do.....	30, 62, 68, 69.	
465.84375 .....	.....do.....	33, 62, 68.	
465.850 .....	.....do.....	62, 68.	
465.85625 .....	.....do.....	33, 62, 68.	
465.8625 .....	.....do.....	30, 62, 68, 69.	
465.86875 .....	.....do.....	33, 62, 68.	
465.875 .....	.....do.....	62, 68.	
465.88125 .....	.....do.....	33, 62, 68.	
465.8875 .....	.....do.....	30, 62, 68, 69.	
465.89375 .....	.....do.....	33, 62, 68.	
*****	*****	*****	*****

(c) ***

(48) Operation on this frequency is limited to a maximum output power of 20 watts.

(61) This frequency is available for assignment as follows:

(i) To persons furnishing commercial air transportation service or, pursuant to § 90.179, to an entity furnishing radio communications service to persons so engaged, for stations located on or near the airports listed in paragraph (c)(61)(iv) of this section. Stations will be authorized on a primary basis and may be used only in connection with servicing and supplying of aircraft. Operation on this frequency is limited to a maximum effective radiated power (ERP) of 100 watts at locations within 16 km (10 miles) of the coordinates of the listed airports.

(ii) To stations in the Industrial/Business Pool for secondary use at locations 80 km (approximately 50 miles) or more from the coordinates of the listed airports. Operation will be limited to a maximum ERP of 300 watts.

(iii) To stations in the Industrial/Business Pool for secondary use at locations greater than 16 km (approximately 10 miles) but less than 80 km (approximately 50 miles) from the coordinates of the listed airports. Operation will be limited to a maximum ERP of 10 watts. Use of this frequency is restricted to the confines of an industrial complex or manufacturing yard area. Stations licensed prior to **[30 days after publication in the Federal Register]** may continue to operate with facilities authorized as of that date.

(v) Stations operating on the frequencies subject to the provisions of § 90.35(b)(69) will be limited to a maximum output power of 2 watts until January 30, 2006, which is thirty days after the December 31, 2005 lifting of the freeze on the filing of high powered applications for 12.5 kHz offset channels in the 460-470 MHz band.

(68) Each station authorized on this frequency will be classified and licensed as a mobile station. Any units of such a station, however, may provide the operational functions of a base station on a secondary basis to mobile service operations provided that the vertical separation between control point or ground level and the center of the radiating portion of the antenna of any units so used does not exceed 8 meters (approximately 25 feet). This frequency is available for assignment as follows:

(i) To persons furnishing commercial air transportation service or, pursuant to § 90.179, to an entity furnishing radio communications service to persons so engaged, for stations located on or near the airports listed in paragraph (c)(61)(iv) of this section. Stations will be authorized on a primary basis and may be used only in connection with servicing and supplying of aircraft. Operation on this frequency is limited to a maximum effective radiated power (ERP) of 40 watts at locations within 16 km (approximately 10 miles) of the coordinates of the listed airports.

(ii) To stations in the Industrial/Business Pool for secondary use at locations 80 km (approximately 50 miles) or more from the coordinates of the listed airports. Operation will be limited to a maximum ERP of 120 watts. Wide area operation will not be permitted. The area of normal, day-to-day operations will be described in the application.

(iii) To stations in the Industrial/Business Pool for secondary use at locations greater than 16 km (approximately 10 miles) but less than 80 km (approximately 50 miles) from the coordinates of the listed airports. Operation will be limited to a maximum ERP of 6 watts. Use of this frequency is restricted to the confines of an industrial complex or manufacturing yard area. Stations licensed prior to **[30 days after publication in the Federal Register]** may continue to operate with facilities authorized as of that date.

(iv) Stations operating on the frequencies subject to the provisions of § 90.35(b)(69) will be limited to a maximum output power of 2 watts until January 30, 2006, which is thirty days after the December 31, 2005 lifting of the freeze on the filing of high powered applications for 12.5 kHz offset channels in the 460-470 MHz band.

* * * * *

APPENDIX C

Pleadings Filed in WT Docket 02-318

Comments

American Hospital Association Task Force on Medical Telemetry (AHA Task Force)

Badgerland Communications, Inc. (Badgerland)

Forest Industries Telecommunications (FIT) and MRFAC, Inc.

Land Mobile Communications Council (LMCC)

Personal Communications Industry Association, Inc. (PCIA)