

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

In the Matter of)
)
 Improving Public Safety Communications in) WT Docket 02-55
 the 800 MHz Band)
)
 New 800 MHz Band Plan for U.S. – Canada)
 Border Regions)

SECOND REPORT AND ORDER

Adopted: May 9, 2008

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By the Chief, Public Safety and Homeland Security Bureau:

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I. INTRODUCTION

1. By this order, the Federal Communications Commission's Public Safety and Homeland Security Bureau (PSHSB), on delegated authority, establishes a reconfigured 800 MHz band plan in the U.S. - Canada border regions in order to accomplish the Commission's goals for band reconfiguration. We also establish a 30-month transition period for completion of rebanding in the U.S. - Canada border regions, which will commence 60 days after the effective date of this order.

II. BACKGROUND

2. The U.S. and Canada operate along their common border in the 800 MHz band pursuant to a bilateral agreement (Arrangement F) that distributes primary spectrum in the U.S. - Canada border region between the two countries.¹ This agreement creates a border area extending 140 kilometers from the border on either side, and divided into eight geographic regions.² In four of the regions (Regions 1, 4, 5, 6), the U.S. and Canada divide the 800 MHz band evenly. In two other regions, the spectrum is divided unevenly: in Region 2 (Buffalo/Toronto), the U.S. is primary on 30 percent of the channels and Canada is primary on 70 percent, while in Region 3 (Detroit/Windsor) the U.S. is primary on 70 to 85 percent of the channels and Canada is primary on 15 to 30 percent, depending on the band segment. The remaining two regions (Regions 7 and 8) are "buffer zones" starting at 100 kilometers from the border and extending to 140 kilometers from the border. In these regions in the U.S., U.S. licensees have access to 100 percent of the channels on a primary basis, subject to power and antenna height limits designed to limit signal strength at the border.

3. In July 2004, the Commission reconfigured the 800 MHz band to eliminate interference to public safety and other land mobile communication systems operating in the band.³ However, the Commission deferred consideration of band reconfiguration plans for the border areas, noting that "implementing the band plan in areas of the United States bordering Mexico and Canada will require modifications to international agreements for use of the 800 MHz band in the border areas."⁴ The Commission stated that "the details of the border plans will be determined in our ongoing discussions with the Mexican and Canadian governments."⁵ The

¹ See Arrangement Between the Dept. of Communications of Canada and the FCC of the United States Concerning the Use Along the US-Canada Border of the Band 806-890 MHz (Jan. 1994, addendum, Dec. 1994) (Arrangement F). See also Arrangement Between the Dept. of Communications of Canada and the FCC of the United States Concerning the Use Along the US-Canada Border of the Bands 821-824 MHz and 866-869 MHz (Sep. 1990, addendum, Dec. 1994).

² The eight border regions are displayed in Appendix B.

³ See Improving Public Safety Communications in the 800 MHz Band, *Report and Order*, WT Docket No. 02-55, 19 FCC Red 14969 (2004) (*800 MHz R&O*).

⁴ *Id.* at 14895-96 ¶ 25.

⁵ *Id.* at 15063 ¶ 176.

Commission also noted that international negotiations could cause rebanding in the border regions to take longer than the 36-month period established for rebanding in non-border regions.⁶ In May 2007, the Commission delegated authority to the Bureau to propose and adopt border area band plans once agreements are reached with Canada and Mexico.⁷

4. In July 2007, the U.S. and Canada reached an agreement on a process that enables the U.S. to proceed with rebanding in the border region prior to formal revision of Arrangement F.⁸ Under this agreement:

- The countries will maintain the current allocation of 800 MHz primary spectrum between the U.S. and Canada set forth in Arrangement F, but recognize the necessity of making minor revisions to Arrangement F.
- The U.S. will proceed with developing an 800 MHz rebanding band plan for U.S. border area licensees based on the current allocation of primary spectrum.
- Upon finalization of the U.S. band plan and after the 800 MHz Transition Administrator issues frequency assignments to border area licensees, the U.S. and Canada will discuss minor revisions to Arrangement F.
- These revisions will address: (1) whether to grandfather certain Canadian facilities authorized on U.S. primary spectrum under Specialized Coordination Procedures (SCP), and (2) how to avoid any adverse impact on Canadian radio operations that will support the 2010 Winter Olympics in Vancouver, British Columbia.⁹

5. On November 1, 2007, the Bureau issued a *Further Notice of Proposed Rulemaking (FNPRM)* seeking comment on a reconfigured 800 MHz band plan for the U.S. – Canada border.¹⁰ In the *FNPRM*, the Bureau sought comment on a region-by-region approach to reconfiguring the 800 MHz band plan along the U.S. – Canada border.¹¹ The Bureau based its plan on a number of proposals received during the course of the 800 MHz rebanding proceeding.¹² We received ten comments and eight reply comments in response to the *FNPRM*.¹³

⁶ *Id.* at 15063 ¶ 176 n. 471, 15125 ¶ 332.

⁷ Improving Public Safety Communications in the 800 MHz Band, *Second Memorandum Opinion and Order*, WT Docket No. 02-55, 22 FCC Rcd 10467, 10494-95 ¶¶ 67-68 (2007) (*800 MHz 2nd MO&O*).

⁸ See Letter from Michael Binder, Assistant Deputy Minister, Spectrum, Information Technologies and Telecommunications, Industry Canada, to Kevin J. Martin, Chairman, Federal Communications Commission (September 7, 2007); Letter from Kevin J. Martin, Chairman, Federal Communications Commission, to Michael Binder, Assistant Deputy Minister, Spectrum, Information Technologies and Telecommunications, Industry Canada (October 31, 2007) (attached as Appendix F).

⁹ *Id.*

¹⁰ Improving Public Safety Communications in the 800 MHz Band, *Further Notice of Proposed Rulemaking*, WT Docket No. 02-55, 22 FCC Rcd 19266 (2007) (*FNPRM*).

¹¹ *Id.* at 19270-72 ¶¶ 8-16.

¹² *Id.* at 19268 ¶ 6.

¹³ Parties filing comments and reply comments are listed in Appendix E.

III. DISCUSSION

6. In the *FNPRM*, we sought comment on a number of global issues that affect all of the U.S. - Canada border regions¹⁴ and proposed specific reconfigured band plans for each of the eight border regions.¹⁵ We will address the global issues first and then discuss the specific band plans we adopt for each of the border regions.

A. Band Plan Elements Applicable to All Border Regions

7. As in the 800 MHz rebanding plan previously adopted for non-border areas, the band plans we adopt for the U.S. – Canada border regions are designed to separate—to the greatest extent possible—public safety and other non-cellular licensees from licensees that employ cellular technology in the band. The band plans also ensure that all relocating licensees will receive comparable facilities as defined in prior Commission orders in this proceeding.¹⁶ Accordingly, each of the regional band plans adopted in this order contains the following elements:

- Non-NPSPAC public safety systems in the 806-809/851-854 MHz portion of the band will relocate, to the extent feasible, to immediately adjacent U.S. primary spectrum above 809/854 MHz.¹⁷
- Non-NPSPAC public safety systems that cannot be relocated above the 806-809/851-854 MHz band will remain in this segment but will be converted to operate with 12.5 kHz channel spacing.¹⁸
- NPSPAC systems currently on U.S. primary spectrum will move to the 806-809/851-854 MHz band, so that they are assigned channels that are contiguous with new NPSPAC operations in non-border areas.¹⁹
- NPSPAC systems that currently operate on Canadian primary spectrum will relocate to the 806-809/851-854 MHz band to the extent feasible after all public safety licensees on U.S. primary spectrum have been accommodated. NPSPAC systems that cannot be relocated from Canada primary spectrum to U.S. primary spectrum will relocate to the lowest available Canadian primary spectrum and will continue to operate on a secondary basis to licensees in Canada.²⁰
- Non-public safety (B/ILT and SMR) systems in the lowest block of U.S. primary spectrum will relocate to U.S. primary spectrum above the lowest block of Canadian primary spectrum. In this upper portion of the band, ESMR and non-ESMR systems

¹⁴ *FNPRM*, 22 FCC Rcd at 19268-69 ¶ 7.

¹⁵ *Id.* at 19270-72 ¶¶ 8-16.

¹⁶ *See* 47 C.F.R. § 90.677(f).

¹⁷ *See* ¶ 11, *infra*.

¹⁸ *Id.*

¹⁹ *See* ¶ 14, *infra*.

²⁰ *Id.*

(high-site B/ILT and SMR) will be separated rather than interleaved, but non-ESMR systems will have the option of remaining interleaved with ESMR under certain conditions. The dividing line between ESMR and non-ESMR spectrum will vary by region depending on the number of incumbent non-ESMR systems that must be accommodated.²¹

- The dividing line between Regions 2 and 3 will be revised to align with the Pennsylvania-Ohio border for the entire 800 MHz band.²²
- At the conclusion of rebanding in each border region, if Sprint Nextel Corporation (Sprint) retains any spectrum in the non-ESMR portion of the band (as determined for that region) that has not been used for relocation of incumbent licensees, this spectrum will be made exclusively available to public safety entities for three years and to both public safety and critical infrastructure entities in the fourth and fifth years.²³
- Sprint's licenses will be amended to include the former NPSPAC band (821-824/866-869 MHz), which will be designated for ESMR operation.²⁴ Sprint will be able to operate throughout the border regions on U.S. primary channels in this band, and will be allowed to operate on Canadian primary channels subject to the Arrangement F limitations on signal strength at the border.

8. In general, commenting parties supported the Bureau's band plan proposals.²⁵ However, some commenters had concerns about particular issues that we address below in more detail.

²¹ See ¶¶ 17-19, *infra*.

²² This change will result in Ohio being wholly within Region 3 for the entire 800 MHz band. Previously, the Ohio-Pennsylvania border was the dividing line between Regions 2 and 3 for the 821-824/866-869 MHz band only, while the Region 2/Region 3 dividing line for the remainder of the 800 MHz band was at 81 degrees west longitude, which placed a portion of Ohio in Region 2. See Arrangement Between the Dept. of Communications of Canada and the FCC of the United States Concerning the Use Along the US-Canada Border of the Bands 821-824 MHz and 866-869 MHz (Sep. 1990, addendum, Dec. 1994).

²³ See *800 MHz R&O*, 19 FCC Rcd at 14984 ¶ 23. Due to the limited availability and current heavy use of spectrum in the U.S. - Canada border regions, we anticipate that there will be relatively little vacated spectrum available for new licensing in comparison to non-border regions.

²⁴ During the transition, Sprint's rights to operate in the 821-824/866-869 MHz band in the border regions will be conditioned on its providing protection to any NPSPAC licensees that have not yet relocated out of the band. See Letter from David L. Furth, Associate Chief, Public Safety and Homeland Security Bureau, and Joel D. Taubenblatt, Acting Deputy Chief, Wireless Telecommunications Bureau, to Lawrence R. Krevor and James B. Goldstein, Sprint Nextel Corporation, DA 08-1074 (May 6, 2008).

²⁵ See Comments of APCO, IACP and IAFC at 2; Comments of the Enterprise Wireless Alliance at 1 (EWA Comments); Comments of Sprint Nextel Corporation at 4 (Sprint Comments); Comments by the State of Michigan at 6 (Michigan Comments).

1. Non-NPSPAC Public Safety Systems in the 806-809/851-854 MHz Band.

9. In the *FNPRM*, we proposed that in the Canadian border areas, the 806-809/851-854 MHz block would be shared by non-NPSPAC public safety licensees that were originally licensed in the block and NPSPAC licensees relocating from the former NPSPAC block at 821-824/866-869 MHz.²⁶ Because non-NPSPAC public safety systems operate on channels with 25 kHz spacing, while NPSPAC systems operate on 12.5 kHz-spaced channels, we sought comment on alternatives for accommodating both NPSPAC and non-NPSPAC public safety systems in the same spectrum block.²⁷ Our proposed channel plan for this portion of the band provided for a combination of 25 kHz and 12.5 kHz spaced channels.²⁸ We also asked whether special technical rules were needed to reduce the possibility of interference between NPSPAC and non-NPSPAC licensees, and whether we should permit non-NPSPAC licensees to operate on 12.5 kHz spaced channels if they satisfied the relevant emission mask requirements.²⁹

10. The overwhelming majority of commenters oppose non-uniform channelization of the 806-809/851-854 MHz band, and instead urge us to adopt a uniform band plan of 12.5 kHz-spaced channels for this block with the tighter emission masks applicable to NPSPAC channels.³⁰ These commenters argue that a uniform band plan will improve spectrum efficiency, avoid the complexities caused by intermingling public safety licensees operating on differing channel plans with differing emission masks, and be more compatible with the NPSPAC channelization plan in adjacent non-border regions.³¹ Commenters suggest that non-NPSPAC licensees operating with 25 kHz channel spacing should either be relocated above the 806-809/851-854 MHz block or should be converted to 12.5 kHz spacing.³²

11. Based on the comments received in response to our proposal, we have decided to create a uniform 12.5 kHz-spaced channel plan for the 806-809/851-854 MHz block in the border regions. Although this will require more non-NPSPAC incumbents to reband or reconfigure their systems than would have been required under our original proposal, we are persuaded by the commenters that a uniform band plan is more spectrum-efficient and will better facilitate future coordination and interoperability among public safety systems that operate in this block. To facilitate implementation of this channel plan, we direct the 800 MHz Transition Administrator (TA) to relocate as many non-NPSPAC public safety systems as feasible from the 806-809/851-854 MHz portion of the band to U.S. primary spectrum above 809/854 MHz but

²⁶ *FNPRM*, 22 FCC Rcd at 19270-71 ¶¶ 9-10, 13.

²⁷ *Id.* at 19269 ¶ 7.

²⁸ *Id.* at 19280-82, Appendix C.

²⁹ *Id.* at 19270-71 ¶¶ 9, 12-13.

³⁰ See Comments by NPSPAC Planning Region 43 at 4 (Region 43 Comments); Michigan Comments at 8-9; Reply Comments of Region 33 at 4 (Region 33 Reply Comments); Reply Comments of APCO Region 21 Frequency Advisory Committee at 3 (Region 21 Reply Comments).

³¹ Michigan Comments at 10; Region 33 Reply Comments at 4-5.

³² Michigan Comments at 8-9; Region 43 Comments at 4; Reply Comments of the State of Michigan at 2 (Michigan Reply Comments); Region 33 Reply Comments at 4-5.

below the lowest block of Canada primary spectrum.³³ These systems will retain 25 kHz spaced channels. When assigning replacement channels above 809/854 MHz to non-NPSPAC licensees, the TA should give priority to licensees that operate data systems requiring a wider emission mask.³⁴ If insufficient spectrum exists to relocate all non-NPSPAC licensees in this manner, we direct the TA to provide non-NPSPAC licensees that remain in the 806-809/851-854 MHz band with 12.5 kHz-spaced channels. Sprint will bear the reasonable cost of implementing these measures, including the cost of reconfiguring the equipment of non-NPSPAC licensees that remain in the 806-809/851-854 MHz band to comply with the band's new 12.5 kHz spacing and emission mask requirements. In addition, licensees operating 25 kHz systems in the 806-809/851-854 MHz band may request waivers to continue to operate on a 25 kHz bandwidth basis provided they obtain the approval of the applicable NPSPAC Regional Planning Committee.

12. New York State expresses concern that adopting uniform 12.5 kHz channel spacing and tighter emission masks in the 806-809/851-854 MHz band could reduce the signal coverage of non-NPSPAC facilities that previously operated with 25 kHz channel spacing.³⁵ We believe that the comparable facilities standard addresses New York State's concern, because it entitles a rebanding licensee to post-rebanding facilities that provide comparable signal coverage to the licensee's pre-rebanding system.³⁶ Consequently, we clarify that licensees that convert from 25 kHz to 12.5 kHz spacing are entitled to recover the reasonable cost of any technical adjustments needed to ensure that their systems will maintain the same signal coverage that existed prior to the conversion.³⁷

2. NPSPAC Facilities on Canada Primary Channels

13. In the *FNPRM*, we sought comment on how to accommodate U.S. NPSPAC licensees that currently operate on a secondary basis to licensees in Canada in the Canadian primary portion of the NPSPAC band.³⁸ We suggested placing these licensees on the lowest available Canada primary channels in the band.³⁹ Many NPSPAC commenters, however, advocate relocating these facilities to U.S. primary spectrum, *i.e.*, relocating them 15 megahertz downward to the 806-809/851-854 MHz band, which is U.S. primary spectrum.⁴⁰ These commenters note that many NPSPAC licensees in the border regions use both U.S. primary and

³³ See final band plans in Appendix C.

³⁴ Licensees that operate in the NPSPAC portion of the band are subject to tighter emission mask requirements (Emission Mask G) than licensees that operate outside of the NPSPAC band (Emission Mask H). See 47 C.F.R. § 90.210.

³⁵ Letter from Hanford Thomas, Director, Statewide Wireless Network Office, New York State Office for Technology, to Ms. Marlene Dortch, Secretary, Federal Communications Commission, at 2 (New York State Comments).

³⁶ 47 C.F.R. § 90.677(f).

³⁷ 47 C.F.R. § 90.699(d).

³⁸ *FNPRM*, 22 FCC Rcd at 19272 ¶ 17.

³⁹ *Id.*

⁴⁰ Michigan Comments at 9; Michigan Reply Comments at 3-4; Region 33 Reply Comments at 5.

Canada primary NPSPAC channels in their systems and operate seamlessly across the entire NPSPAC block despite the fact that some of their channels are on Canada primary spectrum.⁴¹

14. We agree with commenters that uniformly relocating all border-area NPSPAC facilities to the 806-809/851-854 MHz band offers significant potential public interest benefits, including greater spectrum efficiency and improved ability to interoperate with NPSPAC systems outside the border area.⁴² However, rebanding of U.S. NPSPAC operations on Canadian primary channels must give way in priority to rebanding of facilities on U.S. primary spectrum. We therefore direct the TA to assign public safety channels in the following order of priority: First, as discussed in Section III.A.1 above, the TA shall reassign non-NPSPAC public safety systems, to the extent feasible, from the 806-809/851-854 MHz portion of the band to U.S. primary spectrum above 809/854 MHz, and shall assign 12.5 kHz channels to any non-NPSPAC licensee that remains in the 806-809/851-854 MHz band. Second, the TA shall relocate U.S. primary NPSPAC facilities from their current channel assignments to channel assignments in the 806-809/851-854 MHz band. Third, to the extent additional channels remain available in the 806-809/851-854 MHz band, the TA will assign these to NPSPAC facilities currently operating on Canada primary channels. If there are insufficient U.S. primary channels to accommodate all NPSPAC facilities that operate on Canada primary channels, the TA will relocate the remaining facilities to the lowest available Canada primary channels, where they will continue to operate on a secondary basis to licensees in Canada. In this eventuality, we instruct the TA to work with the Regional Planning Committees to determine which NPSPAC facilities will relocate to U.S. primary channels and which facilities will relocate to Canada primary channels.

3. Separation of Non-ESMR (High-Site B/ILT and SMR) and ESMR Systems

15. In the *FNPRM*, the Bureau sought to separate business and commercial non-ESMR (high-site B/ILT and SMR) from ESMR systems to the extent feasible, but noted that some continued interleaving of non-ESMR and ESMR systems might be necessary in Regions 1-6 due to the limited amount of available U.S. primary spectrum.⁴³ The Bureau sought comment on the degree to which the new band plan should accommodate such interleaving, and whether other technical rules would be required to mitigate potential interference.⁴⁴

16. Most commenters oppose continued interleaving of non-ESMR and ESMR systems.⁴⁵ For instance, Boeing states that the continued interleaving of incompatible systems would perpetuate the existing interference situation.⁴⁶ Consumers Energy argues that allowing

⁴¹ Michigan Comments at 11.

⁴² Michigan Comments at 9; Region 33 Reply Comments at 4; Michigan Reply Comments at 3.

⁴³ *FNPRM*, 22 FCC Rcd at 19268-69 ¶ 7.

⁴⁴ *Id.*

⁴⁵ Comments of Consumers Energy Company at 7-11 (Consumers Energy Comments); Initial Comments of the Boeing Company at 7-8 (Boeing Comments); Region 43 Comments at 6; Reply Comments of the Boeing Company at 6-9 (Boeing Reply Comments); Reply Comments of the Utilities Telecom Council at 4-5 (UTC Reply Comments).

⁴⁶ Boeing Comments at 7-8.

continued interleaving will subject it to increased risk of interference, and that in Region 3, Sprint should be relocated out of the 800 MHz band entirely and operate solely in the 900 MHz band.⁴⁷ These commenters also contend that they should receive the same degree of interference protection from ESMR systems as non-border licensees.⁴⁸ Sprint responds that it may not be possible to completely segregate non-ESMR and ESMR systems. Instead, Sprint calls for a more “flexible” approach in which non-ESMR licensees may elect to retune to lower channels if they are available after mandatory retuning of public safety has been completed.⁴⁹ EWA contends that requiring non-ESMRs to reband to eliminate interleaving may cause loss of customers or resource burdens that outweigh the interference protection benefits.⁵⁰ Sprint and EWA also contend that in order to reflect a continued interleaved environment, the Commission should maintain its interim interference protection rules in the Canada border regions on a permanent basis.⁵¹ Finally, Sprint rejects Consumers Energy’s proposal that it relocate out of the 800 MHz band in Region 3.⁵²

17. We are persuaded by the comments that the border area band plan should provide for maximum feasible separation of ESMR and non-ESMR systems in order to minimize interleaving, but that non-ESMRs should have the option to remain on their existing channels subject to certain conditions. We also agree with commenters that the size of the ESMR and non-ESMR band segments in each region should be based on actual channel usage rather than pre-rebanding pool allocations.⁵³ Consequently, in Regions 1 through 6, we direct the TA to separate non-ESMR from ESMR licensees by assigning non-ESMR licensees replacement channels in the lower portion of the upper block of U.S. primary spectrum below 821/866 MHz.⁵⁴ Once all B/ILT and high site SMR licensees have been assigned replacement channels, the remaining U.S. primary channels in the higher portion of the band will be available for ESMR operations, subject to the limitations discussed below. Since the number of channels occupied by B/ILT and high site SMR licensees will vary from region to region, the dividing line between the ESMR and non-ESMR portions of the band will also vary by region.⁵⁵

18. Because of the limited amount of U.S. primary spectrum available in the Canadian border regions, we do not create an Expansion Band or Guard Band in Regions 1-6. However, upon completion of rebanding in each border region, licensees operating in the non-

⁴⁷ Consumers Energy Comments at 7-8.

⁴⁸ Boeing Comments at 8; Consumers Energy Comments at 8. *See also* Comments of Smart-Link Communications, Inc. at 2-3.

⁴⁹ Sprint Comments at 6-7.

⁵⁰ EWA Comments at 6-7.

⁵¹ Sprint Comments at 7; EWA Comments at 7-8.

⁵² Sprint Reply Comments at 3-4.

⁵³ Most commenting parties supported assigning pool channels based on actual use in the border regions. EWA Comments at 5-6; Michigan Comments at 7; Sprint Reply Comments at 4-5.

⁵⁴ *See* Appendix C.

⁵⁵ The TA may wait until replacement frequencies have been assigned and negotiations are complete before identifying the dividing line between the ESMR and non-ESMR portions of the band for Regions 1 through 6.

ESMR portion of the band (as determined by the TA) will be entitled to full interference protection from Sprint's ESMR operations under the same post-rebanding interference standard that applies outside the border regions.⁵⁶ We do not adopt Sprint and EWA's proposal to retain the interim interference standard on a permanent basis throughout the Canadian border region. We agree with commenters that applying the full interference standard is key to alleviating the interference situation that necessitated rebanding in the first instance. The Commission only adopted the interim standard as a transitional measure—it did not contemplate that the interim standard would be made permanent in any region, even where spectrum capacity is limited.⁵⁷ However, we decline to adopt Consumers Energy's proposal that Sprint be relocated out of the 800 MHz band in Region 3 or any other border region. We believe the steps we have taken above to protect non-ESMR systems from harmful interference are sufficient to address Consumers Energy's concerns regarding spectral separation.

19. We recognize that assigning replacement channels to non-ESMR licensees in the manner described above will reduce the potential separation between the upper and lower bounds of available frequencies in the non-ESMR pool, which may require some non-ESMR licensees to make use of more efficient combiners in order to compensate for decreased frequency separation. We note that where more efficient combiners are required for this reason, Sprint must pay the reasonable cost of such combiners under its obligation to provide relocating licensees with comparable facilities.⁵⁸ We also will permit non-ESMR licensees in Regions 1-6 to voluntarily elect to maintain existing facilities on an interleaved basis in the ESMR portion of the band in order to avoid reduced channel separation, subject to Sprint's consent.⁵⁹ Non-ESMR licensees that make this election will not be required to operate as ESMR systems, but because they are electing to operate in an interleaved environment, such elections will be conditioned on accepting a lesser degree of interference protection for their facilities operating in the ESMR band. For this limited purpose, we will permanently apply the -85 dBm/-88 dBm interference standard, not the full post-rebanding interference standard.⁶⁰

4. B/ILT, High-Site SMR, and ESMR Operations on Canada Primary Channels

a. B/ILT and High-Site SMR Licensees

20. As discussed above, the current allocation of 800 MHz primary spectrum between the U.S. and Canada will remain unchanged. Thus, Canada will remain primary on half of the

⁵⁶ See 47 C.F.R. § 90.672.

⁵⁷ For example, in the Atlanta region, where the Commission eliminated the Guard Band and reduced the Expansion Band by half, licensees in the Expansion Band are entitled to full interference protection from immediately adjacent ESMR operations. Improving Public Safety Communications in the 800 MHz Band, *Memorandum Opinion and Order*, 20 FCC Rcd 16015, 16034-16035 ¶¶46-49 (2005).

⁵⁸ *FNPRM*, 22 FCC Rcd at 19268-69 ¶ 7.

⁵⁹ Thus, if a non-ESMR licensee makes this election, Sprint has the option of either consenting to the election or not consenting and relocating the licensee to the non-ESMR band. If Sprint chooses relocation, it must provide interference protection to the non-ESMR licensee under the full interference standard.

⁶⁰ See Improving Public Safety Communications in the 800 MHz Band, *Supplemental Order and Order on Reconsideration*, WT Docket No. 02-55, 22 FCC Rcd 25120, 25137 ¶ 39 (2007).

800 MHz band channels in Regions 1, 4, 5, and 6. Canada will also continue to be primary on 70 percent of the channels in Region 2 and 15 to 30 percent of the channels in Region 3 depending on the band segment. U.S. licensees may continue to be licensed on Canada primary channels, provided the maximum power flux density (PFD) per 25 kHz from their systems does not exceed -107 dB(W/m²) at or beyond the border.⁶¹ Accordingly, B/ILT and high-site SMR licensees that currently use Canada primary channels in Regions 1 through 6 may remain on these channels subject to the above PFD limits.

b. Sprint Operations Under Special Coordination Procedures

21. Under the band plan we adopt above, Sprint will be required to vacate all U.S. primary spectrum below the ESMR/non-ESMR dividing line in each border region. However, as we noted in the *FNPRM*, Sprint also operates on some Canada primary channels pursuant to Special Coordination Procedures (SCPs).⁶² This provides Sprint with additional spectrum capacity in the border areas and also facilitates cross-border roaming with TELUS, Sprint's roaming partner in Canada.⁶³ In the *FNPRM*, the Bureau sought comment on whether Sprint should be permitted to remain on Canada primary spectrum below the ESMR/non-ESMR line under these SCP arrangements.⁶⁴

22. Sprint contends that it should be allowed to maintain its SCP operations on Canadian primary channels.⁶⁵ Sprint states that it relies extensively on these channels to provide wireless services to its subscribers and to provide cross-border access to spectrum for TELUS.⁶⁶ Region 33 opposes allowing Sprint to continue operating on any spectrum below 817/862 MHz, including Canadian primary spectrum.⁶⁷ Region 33 contends that Sprint's continued use of Canada primary channels below 817/862 MHz in border Regions 3 and 4 will impede the relocation of public safety users in those regions and result in a shortage of frequencies needed to accommodate existing U.S. incumbents.⁶⁸ Other commenting regions and licensees state that they would not object to Sprint's continued operation in the Canadian primary portion of the band as long as full interference protection is provided to adjacent public safety and other non-ESMR operations.⁶⁹ These commenters contend that if Sprint is allowed to remain in the

⁶¹ See 47 C.F.R. § 90.619(c)(4) in Appendix D, *infra*.

⁶² *FNPRM*, 22 FCC Rcd at 19272 ¶17.

⁶³ Sprint Comments at 4; Sprint Reply Comments at 10-11.

⁶⁴ *FNPRM*, 22 FCC Rcd at 19272 ¶ 17.

⁶⁵ Sprint Comments at 4-5; Sprint Reply Comments at 10-11.

⁶⁶ Sprint Reply Comments at 10-11.

⁶⁷ Region 33 Reply Comments at 2.

⁶⁸ *Id.*

⁶⁹ Region 43 Comments at 6 (Sprint could continue operating below 817/862 MHz as long as a guard band is created between Sprint's operations and lower-adjacent public safety operations); Boeing Comments at 10-11 (Sprint operations on SCP channels must be shifted into channel groupings that provide non-ESMR systems the same degree of protection against harmful interference as that provided in other segments of the larger 800 MHz band); Boeing Reply Comments at 11 (reiterating stance on Sprint's SCP operations); Region 21 Reply Comments

(continued....)

Canadian primary band segment, it must reconfigure its channel use to create a guard band or similar buffer between its operations and those of non-ESMR systems.⁷⁰

23. We recognize that these Canada primary channels provide Sprint with important spectrum capacity and also facilitate cross-border roaming on the Sprint and TELUS networks.⁷¹ We also seek to ensure that Sprint's continued operation on Canada primary channels below the ESMR/non-ESMR line will not cause harmful interference to public safety, B/ILT, or high-site SMR licensees. Consequently, based on the record before us, we will permit Sprint to remain on Canada primary channels below the ESMR/non-ESMR line under the following conditions.

24. First, Sprint may remain on Canada primary channels pursuant to existing SCPs through the end of rebanding in each border region. This will enable Sprint to maintain spectrum capacity and existing cross-border roaming arrangements with TELUS while the transition is ongoing. During the rebanding process, Sprint must protect all public safety and other non-ESMR licensees from interference by such SCP operations under the interim interference standard.

25. Second, once rebanding is complete in any region, Sprint may operate under SCPs on Canada primary channels in the non-ESMR portion of the band subject to the following limitations. Sprint must provide full interference protection under the post-rebanding interference standard to all public safety and other non-ESMR systems operating on both U.S. primary and Canada primary spectrum.⁷² We agree with those parties who argue that in order to provide such interference protection, Sprint may need to amend its existing SCPs and reconfigure its use of Canadian primary channels in order to create guard bands or similar buffers between its operations and those of non-ESMR systems.⁷³ In particular, because some NPSPAC public safety licensees may be relocated to Canada primary channels,⁷⁴ we direct Sprint in each border region to maintain at least one MHz separation from the highest Canada primary channel used by public safety licensees in the region.⁷⁵ We also require Sprint to pre-coordinate any new or modified operations on Canada primary spectrum.⁷⁶

(...continued from previous page)

at 3 (Sprint could continue operating below 817/862 MHz as long as that continued use does not impede the relocation of public safety users in those areas).

⁷⁰ *Id.*

⁷¹ Sprint Comments at 4; Sprint Reply Comments at 10-11.

⁷² While B/ILT and high-site SMR licensees that operate on Canada primary spectrum are secondary to stations in Canada, these licensees are co-primary to domestic stations and thus entitled to the full interference protection provided in Section 90.672 of the Commission rules. *See* 47 C.F.R. § 90.672.

⁷³ *See* note 69, *supra*.

⁷⁴ *See* ¶ 14, *supra*.

⁷⁵ *See* Region 43 Comments at 6.

⁷⁶ This condition is similar to the conditions imposed upon ESMR licensees that did not wish to relocate to the ESMR band. *See* 800 MHz R&O, 19 FCC Rcd at 15056-57 ¶ 162.

5. Mutual Aid Channels

26. In the *FNPRM*, we proposed to establish mutual aid channels in the new border area NPSPAC band to match the mutual aid channels in the new non-border NPSPAC band.⁷⁷ We also proposed to maintain the existing cross-border mutual aid channels in the former NPSPAC band that are situated on U.S. primary spectrum so that they could continue to be used for mutual aid on the Canadian side of the border.⁷⁸ Accordingly, we proposed that these existing channels be kept “clear and protected” from ESMR operations in the border regions.⁷⁹ Commenting parties supported the establishment of new mutual aid channels⁸⁰ and maintaining existing mutual aid channels as proposed,⁸¹ but Sprint sought clarification whether maintaining the existing channels would prevent it from using them for ESMR operations.⁸²

27. As proposed in the *FNPRM*, we establish new mutual aid channels with 25 kHz spacing in the new border area NPSPAC band plan to match the mutual aid channels in the non-border NPSPAC band plan. In addition, we will maintain the existing cross-border mutual aid channels in the former NPSPAC band that are situated on U.S. primary spectrum for continued mutual aid use on the Canadian side of the border.⁸³ These channels will be designated as Canadian primary channels, so that Canadian public safety systems can continue using them on the Canadian side of the border for interoperability. We clarify, however, that Sprint may use these channels for ESMR operations in the U.S., so long as it protects Canadian primary use by not exceeding the applicable PFD limit (-107 dB(W/m²) per 25 kHz) at or beyond the border.⁸⁴

6. TELUS Operations on U.S. Primary Channels

28. In the *FNPRM*, we noted that the Commission had reached an agreement with Industry Canada on a process that enables the U.S. to proceed with rebanding in the border region.⁸⁵ As part of this agreement, the U.S. and Canada will discuss whether certain TELUS facilities previously authorized on U.S. primary spectrum under SCP can be grandfathered.⁸⁶

⁷⁷ *FNPRM*, 22 FCC Rcd at 19280-85 Appendix C.

⁷⁸ *Id.* at 19268-69 ¶ 7.

⁷⁹ *Id.*

⁸⁰ *See, e.g.*, Region 43 Letter, Attachment at 1.

⁸¹ *See* Sprint Comments at 8; Michigan Comments at 15-16; Reply Comments by NPSPAC Region 43 at 8 (Region 43 Reply Comments); Sprint Reply Comments at 9-10; Boeing Reply Comments at 12; Region 33 Reply Comments at 6.

⁸² *See* Sprint Comments at 8; Sprint Reply Comments at 9-10.

⁸³ In regions 1, 4, 5 and 6, the existing cross-border mutual aid channels that will be maintained are 822.5125/867.5125 MHz and 823.0125/868.0125 MHz. In Region 3, the existing mutual aid channels that will be maintained are 821.5125/866.5125 MHz, 822.0125/867.0125 MHz, 822.5125/867.5125 MHz, and 823.0125/868.0125 MHz. There are no cross-border mutual aid channels on U.S primary spectrum in Regions 2, 7, or 8.

⁸⁴ *See* 47 C.F.R. § 90.619(c)(4) in Appendix D, *infra*.

⁸⁵ *FNPRM*, 22 FCC Rcd at 19267 ¶ 5.

⁸⁶ *Id.* at 19268 ¶ 5.

Several commenting parties expressed concern about the potential impact to U.S. licensees of grandfathering TELUS stations on U.S. primary spectrum.⁸⁷ We emphasize that no decision has been made on whether any specific facilities should be grandfathered, and that any such discussion will take into account the need to avoid grandfathering any facilities that would have a negative impact on rebanded U.S. licensees. Once the TA has determined the replacement channel assignments for U.S. licensees in the border regions, only TELUS stations that would create no conflicts with rebanded U.S. licensees on those channels will be considered for grandfathering.

B. Region-Specific Band Plans

29. We now discuss the final band plans we adopt for the individual border regions. As discussed in Section III.A., *supra*, we have made certain changes to all of these band plans that vary from the band plan proposals in the *FNPRM*.⁸⁸ In all other respects, we have adopted each band plan as proposed.

1. Regions 1, 4, 5, 6

30. We adopt a common post-reconfiguration band plan for Regions 1, 4, 5, and 6 as set forth in Appendix C-1. The new NPSPAC band for these regions will match the new NPSPAC band outside the border regions, *i.e.*, it will consist of 230 channels in the 806-809/851-854 MHz portion of the band.⁸⁹ In addition, we establish 30 public safety channels above the NPSPAC band in the 809-809.75/854-854.75 MHz portion of the band.⁹⁰ Commenting parties supported this distribution of public safety spectrum in these regions.⁹¹

31. We assign the block of U.S. primary channels at 817.25-821/862.25-866 MHz to the General Category. As discussed in Section III.A.3, *supra*, non-ESMR licensees will occupy the lower portion of this block while ESMR licensees will occupy the upper portion of this block.⁹²

2. Region 2

32. We adopt the post-reconfiguration band plan for Region 2 set forth in Appendix C-2. The NPSPAC band for this region will consist of 170 U.S. primary channels in the 806-808.25/851-853.25 MHz portion of the band and 60 Canada primary channels in the 808.25-809 MHz/853.25-854 MHz portion of the band. Public safety commenters from Region 2 generally support placing only public safety licensees in this band segment.⁹³ U.S. primary channels in the

⁸⁷ EWA Comments at 8; Michigan Comments at 12; UTC Reply Comments at 5.

⁸⁸ See Section III, A. *supra*.

⁸⁹ These channels are spaced every 12.5 kHz except for the five mutual aid channels, which are spaced every 25 kHz. See 47 C.F.R. § 90.613.

⁹⁰ These channels are spaced every 25 kHz. See 47 C.F.R. § 90.613.

⁹¹ See NPSPAC Region 43 Comments, Attachment B; Michigan Comments, Appendix A at 2.

⁹² See ¶ 17, *supra*.

⁹³ See Dec. 3, 2007 New York Statewide Wireless Network Comments at 10, (attaching Presentation entitled "Wave 4 Rebanding Detail," presented at Wave 4 Rebanding Summit, Cleveland, OH, June 7, 2007).. No non-public safety entity commented on this specific band plan.

818.75-821/863.75-866 MHz band segment will be classified as General Category and contain a mixture of B/ILT and SMR licensees. As with the regions discussed above, non-ESMR licensees will occupy the lower portion of the band segment and ESMR licensees will occupy the upper portion.

3. Region 3

33. We adopt the post-reconfiguration band plan for Region 3 set forth in Appendix C-3. The NPSPAC band for this region matches the NPSPAC band outside the border regions and consists of 230 channels with 12.5 kHz spacing (other than the five mutual aid channels) in the 806-809/851-854 MHz portion of the band. We establish 90 conventionally spaced (25 kHz) public safety channels above the NPSPAC band in the 809-811.25/854-856.25 MHz band segment. In addition, as we proposed in the *FNPRM*, we assign eight 25 kHz channels immediately above 815.75/860.75 MHz to the public safety pool. Commenting parties from Region 3 generally supported this distribution of public safety spectrum for this region.⁹⁴

34. Except for the eight public safety channels established above 815.75/860.75 MHz, all U.S. primary channels in the 815.75-821/860.75-866 MHz band segment will be assigned to the General Category. Non-ESMR licensees will occupy the lower portion of this band segment while ESMR licensees will occupy the upper portion.

4. Regions 7 and 8

35. We adopt the post-reconfiguration band plans for Regions 7 and 8 set forth in Appendix C-4. In Regions 7 and 8, the U.S. has access to the entire 800 MHz band on a primary basis, subject to technical limits designed to limit the signal strength at the border.⁹⁵ As we proposed in the *FNPRM*, we will divide Region 7 into Region 7A and Region 7B. Region 7B will consist of the portion of Region 7 that is adjacent to Region 2. Region 7A will consist of the remainder of Region 7.⁹⁶

36. For Region 7A and Region 8, we adopt a band plan identical to the 800 MHz non-border band plan. For Region 7B, as proposed in the *FNPRM*, we create a band plan that mirrors the non-border band plan, except that we establish additional public safety channels in the interleaved portion of the band and eliminate the Expansion Band. This slightly modified band plan for Region 7B will provide flexibility for relocating licensees in Region 2, where the U.S. is primary on only 30 percent of the channels. We agree with commenting parties from Region 2 who stressed the importance of establishing an alternative band plan for the portion of Region 7 adjacent to Region 2 in order to allow licensees within Region 2 to complete band reconfiguration given the limited amount of primary spectrum in that region.⁹⁷

C. Implementation Issues

37. In the *FNPRM*, we sought comment on the sequence and timing of rebanding activity in the Canadian border region once a final band plan is adopted and the 800 MHz

⁹⁴ Michigan Comments at Appendix A, page 1.

⁹⁵ See 47 C.F.R. § 90.619(c) (2), Table C2 in Appendix D.

⁹⁶ See Appendix B.

⁹⁷ New York State Comments at 2-3.

Transition Administrator issues rebanding channel assignments to border area licensees.⁹⁸ We anticipated that rebanding in the border region would proceed in stages similar to Stage 1 and Stage 2 in non-border areas, *i.e.*, a first stage consisting of clearing and relocation of lower-band incumbents from channels needed for NPSPAC relocation, and a second stage in which NPSPAC licensees relocate to their new channel assignments. We sought comment on this staged approach, the amount of time that should be allotted for each stage, and whether any adjustments to this approach would be needed due to the unique disposition of 800 MHz licensees in the border areas.⁹⁹ We also sought comment on the sequence and timing of licensee planning activity, negotiations, and mediation of Frequency Reconfiguration Agreements (FRAs) between border area licensees and Sprint. In general, we proposed to establish expedited timelines for planning, negotiations, and mediation similar to those established in the Commission's September 2007 *Public Notice* for non-border licensees.¹⁰⁰

38. Most commenters support a 12-month period for licensees to complete planning, negotiation, and mediation, followed by an 18 to 24-month period for rebanding implementation.¹⁰¹ Sprint contends that Stage 1 implementation should be divided into two phases and will require a combined total of 18 to 24 months before Stage 2 can occur.¹⁰² As discussed below, we establish a 30-month transition period for completion of rebanding in the border area, inclusive of both planning/negotiation/mediation and implementation. The 30-month transition period will begin 60 days after the effective date of this order.

1. Planning, Negotiation, and Mediation

39. Although commenters have suggested a 12-month planning, negotiation, and mediation period, we are not persuaded that this length of time is required for the planning and negotiation process. The Commission has encouraged Wave 4 border area licensees to proceed with non-frequency-specific planning activities in advance of a final agreement with Canada, and many Wave 4 licensees have already begun the planning process.¹⁰³ In addition, as a result of experience gained in non-border area rebanding, the Commission and the TA have developed more efficient procedures for licensees to obtain planning funding, conduct planning and prepare cost estimates, and negotiate FRAs. As a result, we believe that border area licensees can complete the planning and negotiation process in considerably less than 12 months. Accordingly, based on the record before us, we adopt the following timelines for planning, negotiations, and mediation, consistent with the expedited timelines that the Commission established in the *September 2007 Public Notice* for non-border licensees

⁹⁸ *FNPRM*, 22 FCC Rcd at 19272-73 ¶ 17.

⁹⁹ *Id.*

¹⁰⁰ *Id.* See FCC Announces Supplemental Procedures and Provides Guidance for Completion of 800 MHz Rebanding, WT Docket 02-55, *Public Notice*, 22 FCC Rcd 17227, 17231 (2007) (*September 2007 Public Notice*).

¹⁰¹ Region 43 Comments at 8; Boeing Comments at 12; Boeing Reply Comments at 13-14.

¹⁰² Sprint Comments at 10-11.

¹⁰³ *September 2007 Public Notice*, 22 FCC Rcd at 17227. The Commission also clarified that Sprint would reimburse licensee costs incurred in reasonable anticipation of rebanding. *Id.* at n.13.

40. First, we direct the TA to proceed as quickly as possible with the assignment of replacement frequencies to border area licensees in conformity with the requirements of this order.¹⁰⁴ In addition, within 60 days of the effective date of this order, each border area licensee that intends to negotiate a Planning Funding Agreement (PFA) with Sprint must submit a Request for Planning Funding (RFPF) to Sprint, after which the parties will have 30 days to negotiate a PFA. Upon TA approval of the PFA (or an equivalent starting date designated by the TA for licensees without a PFA), the licensee must complete planning and submit a cost estimate to Sprint within 90 to 110 days, depending on the number of units in the licensee's system.¹⁰⁵ If the licensee has not received its replacement channel assignment by the TA approval date of its PFA, the 90 to 110 day planning period will run from the date the licensee receives its replacement channel assignment. A licensee may request that PSHSB allow additional time for planning, but any such request must explain why more time is necessary as well as demonstrate that the licensee has exercised diligence in the time already allotted.¹⁰⁶

41. Following completion of planning and submission of a cost estimate to Sprint by the licensee, parties shall have 30 days to negotiate the FRA. Negotiations will be subject to monitoring by a TA mediator, but the mediator is not required to participate in negotiations. If the parties are unable to negotiate an FRA within 30 days, the parties will participate in mediation for 20 days. The TA will refer any remaining disputed issues to PSHSB within 10 days of the close of the mediation period. In referring such disputes, the TA mediator shall provide a record summary to PSHSB, and shall provide a Recommended Resolution unless the Bureau notifies the mediator that a mediator recommendation is not required.¹⁰⁷

2. Rebanding Implementation

42. Under the above timetable, the planning and negotiation process for licensees in the Canadian border region should take approximately seven to eight months, which leaves approximately 22 to 23 months for rebanding implementation under the 30-month transition timetable established by this order. We believe this amount of time is sufficient and consistent with the view of commenters that proposed an 18 to 24-month period for implementation. We further direct the TA, within 60 days of the effective date of this order, to develop a more detailed region-by-region timetable with sequential milestones for completion of each stage of the implementation process. This timetable should take into account both variations in border region band plans and the specific steps required in each border region to implement both Stage 1 relocation of lower-band licensees and Stage 2 relocation of NPSPAC licensees. These elements are described in greater detail below.

¹⁰⁴ The TA will also provide replacement frequency assignments to those licensees adjacent to Canadian border regions that have not previously been assigned frequencies due to their proximity to the border regions. For purposes of planning, negotiation, and implementation, these licensees are subject to the same rebanding deadlines set forth in this order that apply to licensees within the border regions.

¹⁰⁵ *Id.* For licensees with up to 5,000 units, the period to complete planning and submit a cost estimate is 90 days; for licensees with 5,001-10,000 units, the period is 100 days, and for licensees with more than 10,000 units, the period is 110 days.

¹⁰⁶ *See id.*, 22 FCC Rcd at 17228.

¹⁰⁷ *Id.*

43. The following band chart in Figure 1 represents the various band segments in Regions 1, 3, 4, 5 and 6. The actual frequencies denoting the boundaries between the blocks vary by region and are defined in Table 1 below.

Figure 1: Canadian Region Band Plan

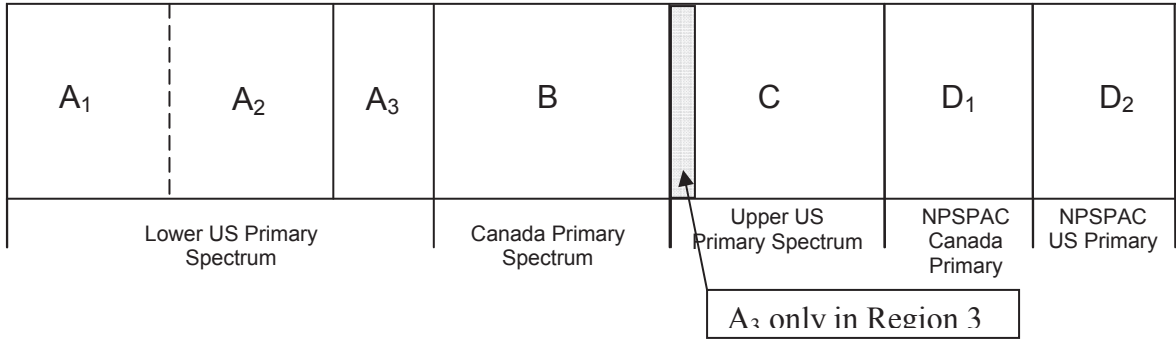


Table 1 - Band Segments for Regions 1, 3, 4, 5 and 6

Band Segment	Regions 1, 4, 5 and 6	Region 3
A ₁	806-807.5 MHz/ 851-852.5 MHz (Ch 1-114)	806-806.45 MHz/ 851-851.45 MHz (Ch 1-35)
A ₂	807.5-809 MHz/ 852.5-854 MHz (Ch 115-230)	806.45-809 MHz/ 851.45-854 MHz (Ch 36-230)
A ₃	809-809.75 MHz/ 854-854.75 MHz (Ch 231-260)	809-811.25 MHz/ 854-856.25 MHz (Ch 231-320) 815.75-815.95 MHz/ 860.75-860.95 MHz (Ch 501-508)
B	809.75-817.25 MHz/ 854.75-862.25 MHz (Ch 261-560)	811.25-815.75 MHz/ 856.25-860.75 MHz (Ch 321-500)
C	817.25-821 MHz/ 862.25-866 MHz (Ch 561-710)	815.95-821 MHz/ 860.95-866 MHz (Ch 509-710)
D ₁	821-822.5 MHz/ 866-867.5 MHz (Ch 711-770)	821-821.45 MHz/ 866-866.45 MHz (Ch 711-728)
D ₂	822.5-824 MHz/ 867.5-869 MHz (Ch 771-830)	821.45-824 MHz/ 866.45-869 MHz (Ch 729-830)

44. We envision that the sequence of band reconfiguration in Regions 1, 3, 4, 5 and 6 will occur in the following steps. All of the relocations described below will occur through spectrum swaps between relocating 800 MHz licensees and Sprint:

Stage 1

- B/ILT and high-site SMR incumbents relocate from the Lower US Primary Spectrum (Blocks A₁, A₂, and A₃) to the Upper US Primary Spectrum (Block C).
- Public Safety incumbents in Block A₂ relocate to Block A₃. If Block A₃ cannot accommodate all the Block A₂ incumbents, then the remaining Block A₂ incumbents will relocate to Block A₁ and have their equipment reconfigured to accommodate a 12.5 kHz band plan.
- Public Safety incumbents in Block A₁ relocate to Block A₃. If Block A₃ cannot accommodate all the Block A₁ incumbents, then the remaining Block A₁ incumbents

will remain in Block A₁ and have their equipment reflashed to accommodate a 12.5 kHz band plan.

- Non-ESMR licensees in the upper portion of the Upper US Primary Spectrum (Block C) will relocate to the lower, non-ESMR, portion of Block C.

Stage 2

- NPSPAC licensees in Block D₂ relocate 15 MHz down to Block A₂.
- NPSPAC licensees in Block D₁ relocate 15 MHz down to Block A₁. If Block A₁ cannot accommodate all the Block D₁ incumbents, then the remaining Block D₁ incumbents will relocate to Block B (starting from the bottom of Block B and moving upward).

45. The following band chart in Figure 2 represents the various band segments in Region 2. The actual frequencies denoting the boundaries between the blocks are defined in Table 2 below.

Figure 2: Canadian Region 2 Band Plan

A	B	C	D ₁	D ₂
Lower US Primary Spectrum	Canada Primary Spectrum	Upper US Primary Spectrum	NPSPAC Canada Primary	NPSPAC US Primary

Table 2 - Band Segments for Region 2

Band Segment	Region 2
A	806-808.25 MHz/ 851-853.25 MHz (Ch 1-170)
B	808.25-818.75 MHz/ 853.25-863.75 MHz (Ch 171-620)
C	818.75-821 MHz/ 863.75-866 MHz (Ch 621-710)

D ₁	821-823.1 MHz/ 866-868.1 MHz (Ch 711-794)
D ₂	823.1-824 MHz/ 868.1-869 MHz (Ch 795-830)

46. We envision the sequence of band reconfiguration in Region 2 will occur in the following steps. All of the relocations described below occur through spectrum swaps between relocating 800 MHz licensees and Sprint or assignment of available “white space” spectrum as may also be needed by the TA for replacement frequencies:

Stage 1

- B/ILT incumbents will relocate from the Lower US Primary Spectrum (Blocks A) to the Upper US Primary Spectrum (Block C).
- Public Safety incumbents in Block A will remain in Block A and have their equipment reflashed to accommodate a 12.5 kHz band plan.
- Non-ESMR licensees in the upper portion of the Upper US Primary Spectrum (Block C) will relocate to the lower, non-ESMR, portion of Block C.

Stage 2

- NPSPAC licensees in Block D₂ are relocated to vacant channels in Block A. This will likely require repacking of the NPSPAC licensees.
- NPSPAC licensees in Block D₁ are relocated to vacant channels in Block A if any vacant channels are available. If Block A can not accommodate all the Block D₁ incumbents, then the remaining Block D₁ incumbents will relocate to Block B (starting from the bottom of Block B and moving upward).

47. We envision that band reconfiguration in Regions 7A, 7B and 8 will occur in a two-stage process similar to the process for non-border regions. We instruct the TA to coordinate the reconfiguration of Regions 7A, 7B, and 8 in a manner that will minimize conflict with the rebanding of incumbents in Canada Border Regions 1 through 6.

IV. PROCEDURAL MATTERS

48. **Report to Congress.** The Commission will send a copy of this *Second Report and Order* in a report to be sent to Congress and the Government Accountability Office pursuant to the Congressional Review Act.¹⁰⁸

49. **Paperwork Reduction Act Analysis.** 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 burden for small business concerns with fewer than 25 employees,” pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198.¹⁰⁹

V. ORDERING CLAUSES

50. Accordingly, IT IS ORDERED, pursuant to Sections 4(i) and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 332, this Second Report and Order IS ADOPTED.

¹⁰⁸ See 5 U.S.C. § 801(a)(1)(A).

¹⁰⁹ See 44 U.S.C. 3506(c)(4).

51. IT IS FURTHER ORDERED that the amendments of the Commission's Rules set forth in Appendix D ARE ADOPTED, effective thirty days from the date of publication in the Federal Register.

52. IT IS FURTHER ORDERED that the Final Regulatory Flexibility required by Section 604 of the Regulatory Flexibility Act, 5 U.S.C. § 604, and as set forth in Appendix A herein is ADOPTED.

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

FEDERAL COMMUNICATIONS COMMISSION

Derek K. Poarch
Chief
Public Safety and Homeland Security Bureau

APPENDIX A

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act (RFA),¹¹⁰ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Further Notice of Proposed Rulemaking (FNPRM)* in WT Docket 02-55.¹¹¹ The Commission sought written public comment on the proposals in the *FNPRM*, including comment on the IRFA.¹¹² This Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.

A. Need for, and Objectives of, this Action

2. This *Second Report and Order* continues the Commission's efforts to reconfigure the 800 MHz band to eliminate an ongoing and growing problem of interference to public safety and other land mobile communications systems in the 800 MHz band. Specifically, in this order, the Commission's Public Safety and Homeland Security Bureau (Bureau) adopts post-rebanding band plans for the regions of the U.S. immediately adjacent to the U.S. – Canada border. These post-rebanding band plans include region specific variations. The reconfiguration of the 800 MHz band in the U.S. – Canada border regions is in the public interest because it will allow the Commission to eliminate interference in these regions to public safety and other land mobile communication systems. Interference is eliminated by separating—to the greatest extent possible—public safety and other non-cellular licensees from licensees that employ cellular technology in the 800 MHz band.

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

3. No parties have raised significant issues in response to the IRFA.

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

4. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules.¹¹³ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹¹⁴ In addition, the term “small business” has the same meaning as the term “small business concern” under the Small

¹¹⁰ See 5 U.S.C. § 603. The RFA, *see* 5 U.S.C. § 601-612., has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) (CWAAA). Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA).

¹¹¹ Improving Public Safety Communications in the 800 MHz Band, *Further Notice of Proposed Rulemaking*, WT Docket No. 02-55, 22 FCC Rcd 19266, 19276-78 (2007) (*FNPRM*).

¹¹² *Id.* at 19276 ¶ 1.

¹¹³ 5 U.S.C. §§ 603(b)(3), 604(a)(3).

¹¹⁴ 5 U.S.C. § 601(6).

Business Act.¹¹⁵ A small business concern is one which: (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).¹¹⁶

5. Nationwide, there are a total of approximately 22.4 million small businesses, according to SBA data.¹¹⁷ A “small organization” is generally “any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.”¹¹⁸ Nationwide, as of 2002, there were approximately 1.6 million small organizations.¹¹⁹ The term “small governmental jurisdiction” is defined generally as “governments of cities, towns, townships, villages, school districts, or special districts, with a population of less than fifty thousand.”¹²⁰ Census Bureau data for 2002 indicate that there were 87,525 local governmental jurisdictions in the United States.¹²¹ We estimate that, of this total, 84,377 entities were “small governmental jurisdictions.”¹²² Thus, we estimate that most governmental jurisdictions are small. Below, we further describe and estimate the number of small entities - - applicants and licensees - - that may be affected by our action.

6. *Wireless Telecommunications Carriers (except Satellite)*. Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.¹²³ Prior to that time, such firms were within the now-superseded categories of “Paging” and “Cellular and Other Wireless Telecommunications.”¹²⁴ Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.¹²⁵ Because Census Bureau data are not yet available for the new category, we will estimate small business

¹¹⁵ 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 or more definitions of such terms which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

¹¹⁶ 15 U.S.C. § 632.

¹¹⁷ See SBA, Programs and Services, SBA Pamphlet No. CO-0028, at page 40 (July 2002).

¹¹⁸ 5 U.S.C. § 601(4).

¹¹⁹ Independent Sector, *The New Nonprofit Almanac & Desk Reference* (2002).

¹²⁰ 5 U.S.C. § 601(5).

¹²¹ U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, Section 8, page 272, Table 415.

¹²² We assume that the villages, school districts, and special districts are small, and total 48,558. See U.S. Census Bureau, *Statistical Abstract of the United States: 2006*, section 8, page 273, Table 417. For 2002, Census Bureau data indicate that the total number of county, municipal, and township governments nationwide was 38,967, of which 35,819 were small. *Id.*

¹²³ U.S. Census Bureau, 2007 NAICS Definitions, “517210 Wireless Telecommunications Categories (Except Satellite)”; <http://www.census.gov/naics/2007/def/ND517210.HTM#N517210>.

¹²⁴ U.S. Census Bureau, 2002 NAICS Definitions, “517211 Paging”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>; U.S. Census Bureau, 2002 NAICS Definitions, “517212 Cellular and Other Wireless Telecommunications”; <http://www.census.gov/epcd/naics02/def/NDEF517.HTM>.

¹²⁵ 13 C.F.R. § 121.201, NAICS code 517210 (2007 NAICS). The now-superseded, pre-2007 C.F.R. citations were 13 C.F.R. § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

prevalence using the prior categories and associated data. For the category of Paging, data for 2002 show that there were 807 firms that operated for the entire year.¹²⁶ Of this total, 804 firms had employment of 999 or fewer employees, and three firms had employment of 1,000 employees or more.¹²⁷ For the category of Cellular and Other Wireless Telecommunications, data for 2002 show that there were 1,397 firms that operated for the entire year.¹²⁸ Of this total, 1,378 firms had employment of 999 or fewer employees, and 19 firms had employment of 1,000 employees or more.¹²⁹ Thus, we estimate that the majority of wireless firms are small.

7. *Public Safety Radio Licensees.* Public safety licensees who operate 800 MHz systems in the U.S. – Canada border region will be required to relocate their station facilities according to the post-rebanding plans listed in this *Second Report and Order*.¹³⁰ As indicated above, all governmental entities with populations of less than 50,000 fall within the definition of a small entity.¹³¹

8. *Business, I/ILT, and SMR licensees.* Business and Industrial Land Transportation (B/ILT) and Special Mobile Radio (SMR) licensees who operate 800 MHz systems in the U.S. – Canada border region will be required to relocate their station facilities according to the band plans proposed in this *Second Report and Order*. Neither the Commission nor the SBA has developed a definition of small businesses directed specifically toward these licensees. Therefore we will use the SBA size standard for wireless firms, *supra*, and incorporate that analysis by reference here.

9. Also, Sprint Nextel Corporation (Sprint) will be affected by the post-rebanding band plans in this *Second Report and Order* but it is not a small carrier.

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

10. We adopt no new reporting, recordkeeping or other compliance requirements in this *Second Report and Order*. As noted in Section B of the *Second Report and Order*, *supra*, public safety, B/ILT, SMR licensees and wireless service providers who operate 800 MHz systems in the U.S. – Canada border region will be required to relocate their station facilities according to the post-rebanding band plans specified in this *Second Report and Order*. Also, Sprint Corporation will pay the cost of relocating incumbent licensees.

¹²⁶ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization,” Table 5, NAICS code 517211 (issued Nov. 2005).

¹²⁷ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

¹²⁸ U.S. Census Bureau, 2002 Economic Census, Subject Series: Information, “Establishment and Firm Size (Including Legal Form of Organization,” Table 5, NAICS code 517212 (issued Nov. 2005).

¹²⁹ *Id.* The census data do not provide a more precise estimate of the number of firms that have employment of 1,500 or fewer employees; the largest category provided is for firms with “1000 employees or more.”

¹³⁰ The U.S. – Canada border region extends 140 kilometers into the U.S. from the border.

¹³¹ 5 U.S.C. § 601(5).

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

11. The RFA requires an agency to describe any significant, specifically small business alternatives that it has considered in reaching its proposed 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 or reporting requirements under the rule for small entities; (3) the use of performance, rather than design, standards; and (4) and exemption from coverage of the rule, or any part thereof, for small entities.”¹³²

12. Non-NPSPAC Public Safety Systems in the 806-809/851-854 MHz Band. In the *FNPRM*, we proposed that in the border areas, the 806-809/851-854 MHz block would be shared by non-NPSPAC public safety licensees that were originally licensed in the block and NPSPAC licensees relocating from the former NPSPAC block at 821-824/866-869 MHz. Because non-NPSPAC public safety systems operate on channels with 25 kHz spacing, while NPSPAC systems operate on 12.5 kHz-spaced channels, we sought comment on alternatives for accommodating both NPSPAC and non-NPSPAC public safety systems in the same spectrum block. Our proposed channel plan for this portion of the band provided for a combination of 25 kHz and 12.5 kHz spaced channels. The overwhelming majority of commenters in the record oppose non-uniform channelization of the 806-809/851-854 MHz band, and instead urge us to adopt a uniform band plan of 12.5 kHz-spaced channels for this block with the tighter emission masks applicable to NPSPAC channels. These commenters argue that a uniform band plan would improve spectrum efficiency, avoid the complexities caused by intermingling public safety licensees operating on differing channel plans with differing emission masks, and would be more compatible with the NPSPAC channelization plan in adjacent non-border regions. Commenters suggest that non-NPSPAC licensees operating with 25 kHz channel spacing should either be relocated above the 806-809/851-854 MHz bloc or should be converted to 12.5 kHz spacing.

13. Based on the comments received in response to our proposal, we have decided to create a uniform 12.5 kHz-spaced channel plan for the 806-809/851-854 MHz block in the border regions. Thus, public safety licensees will benefit from the increased spectrum efficiency created by a uniform channel plan for this portion of the band. Furthermore, Sprint will bear the cost of any changes needed to accommodate public safety licensees with equipment capable of operating according to the channel plan for the 806-809/851-854 MHz portion of the band.

14. NPSPAC Facilities on Canada Primary Channels. In the *FNPRM*, we sought comment on how to accommodate U.S. NPSPAC licensees that currently operate on a secondary basis to licensees in Canada in the Canadian primary portion of the NPSPAC band. We suggested placing these licensees on the lowest available Canada primary channels in the band. Many NPSPAC commenters, however, advocate relocating these facilities to U.S. primary spectrum, i.e., relocating them 15 megahertz downward to the 806-809/851-854 MHz band, which is U.S. primary spectrum. These commenters note that many NPSPAC licensees in the

¹³² 5 U.S.C. §§ 603(c)(1)-(c)(4).

border regions use both U.S. primary and Canada primary NPSPAC channels in their systems and operate seamlessly across the entire NPSPAC block despite the fact that some of their channels are on Canada primary spectrum. Consequently, we have instructed the Transition Administrator (TA) to accommodate these systems on U.S. primary spectrum in the 806-809/851-854 MHz portion of the band whenever possible. Relocating these systems to U.S. primary spectrum in the 806-809/851-854 MHz portion of the band will provide border area public safety NPSPAC licensees with the capability to interoperate with public safety NPSPAC licensees outside the border area. In addition, Sprint will bear the cost of relocating these systems.

15. Separation of Non-ESMR (High-Site B/ILT and SMR) and ESMR Systems. In the FNPRM, we sought to separate non ESMR (high-site B/ILT and SMR) from ESMR systems to the extent feasible, but noted that some continued interleaving of non-ESMR and ESMR systems might be necessary in the border regions (Regions 1-6) due to the limited amount of available U.S. primary spectrum. We sought comment on the degree to which the new band plan should accommodate such interleaving, and whether other technical rules would be required to mitigate potential interference. Commenters overwhelmingly oppose continued interleaving of B/ILT and high site SMR systems with ESMR systems. Consequently, we have instructed the Transition Administrator to assign replacement channels to B/ILT and high-site SMR licensees in Canada Border Regions 1 through 6 in a manner which separates these licensees from ESMR systems. B/ILT and high-site SMR licensees will benefit from our decision because these licensees will be subject to less interference than if they remained interleaved with ESMR systems. In making this decision, we have reminded Sprint of its obligation to provide all relocating licensees with comparable facilities including B/ILT and high site SMR licensees in the Canada border even if this means replacing some combiners in order to compensate for the decreased frequency separation between channels for these licensees.

16. B/ILT, High-Site SMR and ESMR Operations on Canada Primary Channels. U.S. licensees may continue to be licensed on Canada primary channels, provided the maximum power flux density (PFD) per 25 kHz from their systems does not exceed -107 dB(W/m²) at or beyond the border. Accordingly, B/ILT and high-site SMR licensees that currently use Canada primary channels in Regions 1 through 6 may remain on these channels subject to the above PFD limits. B/ILT and high-site SMR licensees will benefit from our decision here because these licensees will continue to have access to Canada primary spectrum along the border.

17. In the FNPRM, we also sought comment on whether Sprint should be permitted to remain on Canada primary spectrum below 817/862 MHz. Sprint states that it extensively relies on these channels to provide wireless services to its subscribers and to provide access to spectrum for its roaming partner in Canada TELUS. Other commenting parties state that they would not object to Sprint's continued operation in the Canadian primary portion below 817/862 MHz as long as full interference protection is provided to adjacent non-ESMR operations. We will permit Sprint to remain grandfathered on these channels in the non-ESMR portion of the band as long as they provide full interference protection to all non-ESMR licensees. Public safety, B/ILT and high-site SMR licensees will benefit from our decision because they will be eligible for interference protection from these grandfathered facilities.

18. Mutual Aid Channels. As proposed in the FNPRM, we establish new mutual aid channels with 25 kHz spacing in the new border area NPSPAC band plan to match the mutual

aid channels in the non-border NPSPAC band plan. Public safety licensees in the Canada border will benefit from this decision because they will be able to interoperate with public safety licensees outside the Canada border region.

19. TELUS Operations on U.S. Primary Channels. In the *FNPRM*, we noted that Commission had reached an agreement with Industry Canada on a process that enables the U.S. to proceed with rebanding in the border region. As part of this agreement, we noted that the U.S. and Canada will discuss whether certain Canadian facilities authorized on U.S. primary spectrum under SCP can be grandfathered. Several commenting parties expressed concern about the impact to U.S. licensees from grandfathering stations in Canada on U.S. primary spectrum. Therefore, in this *Second Report and Order*, we clarify that once the TA has assigned replacement channels to all U.S. licensees, we will examine whether certain TELUS facilities operating today on U.S. primary spectrum under SCP can be grandfathered without negatively impacting U.S. licensees. Only those TELUS stations which would create no conflicts with reconfigured U.S. licensees will be considered for grandfathering. Consequently, the grandfathering of TELUS stations on U.S. primary spectrum will have no negative impact on public safety, B/ILT or high-site SMR licensees.

20. Region-Specific Band Plans. In the *FNPRM*, we sought comment on region specific band plans for reconfiguring the 800 MHz band in the Canada Border in order to eliminate an ongoing and growing problem of interference to public safety and other land mobile communications systems in this band. Commenting parties generally supported our band plan proposals. Consequently, in this *Second Report and Order*, we adopt reconfigured band plans for licensees in the 800 MHz band along the U.S. – Canada border. Under these band plans, public safety systems will relocate to U.S. primary spectrum in the lower portion of the band. Commenting parties supported relocating public safety systems to the lowest portion of the band to maximize the spectral separation between public safety and ESMR systems. In addition, B/ILT, high-site SMR and ESMR systems will relocate higher in the band on U.S. primary spectrum above 815/860 MHz. These band plans contain certain region-specific variations. Because the reconfiguration of the 800 MHz band in the U.S. – Canada border regions seeks to eliminate interference to public safety, B/ILT and high-site SMR licensees, these band plans will minimize the cost that these licensees would otherwise incur to resolve interference. Further, Sprint will pay the cost of relocating incumbent licensees.

21. Planning, Negotiation, and Mediation. In the *FNPRM*, we proposed establishing expedited timelines for planning, negotiations, and mediation similar to those established in the Commission's September 2007 Public Notice for non-border licensees. While some commenters supported a 12 month planning period, we are not persuaded that rebanding in the Border areas requires such a lengthy period that could unduly delay rebanding implementation. We establish planning limits of 90, 100, and 110 days which correspond to the number of units in a licensee's system. We also establish a process under which licensees may request additional planning time. With regard to negotiation and mediation, we establish a 30 day period for licensees to negotiate Frequency Reconfiguration Agreements with Sprint and if necessary a 20 day period within which licensees and Sprint may mediate unresolved issues. If licensees are unable to resolve issues with Sprint after the 20 day mediation period, then the 800 MHz Transition Administrator shall transmit such matters to the Public Safety and Homeland Security Bureau for review within

10 days after the end of the mediation period. Sprint, however, bears the costs of band reconfiguration.

22. Rebanding Implementation. In the *FNPRM*, we sought comment on the sequence and timing of rebanding activity in the Canadian border region once a final band plan is adopted and the 800 MHz Transition Administrator issues replacement channel assignments to border area licensees. In this *Second Report and Order*, we envision the sequence of band reconfiguration in all Regions will occur in two-stage process that will take into account regional variations. All of the relocations will occur through spectrum swaps with Sprint and Sprint will bear the costs of reconfiguration.

F. Report to Congress

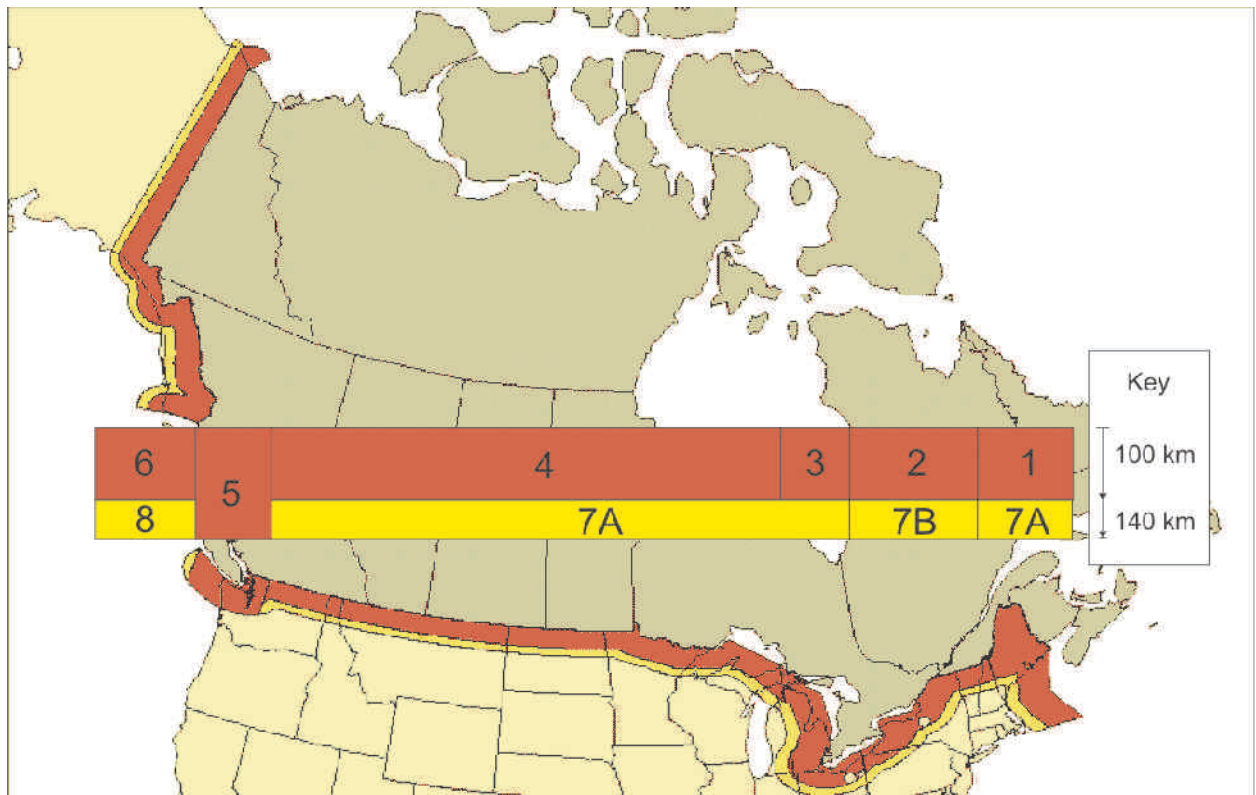
23. The Commission will send a copy of the *Second Report and Order*, including this FRFA, in a report to be sent to Congress and the Government Accountability Office pursuant to the SBREFA.¹³³ In addition, the Commission will send a copy of the *Second Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Second Report and Order* and the 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).

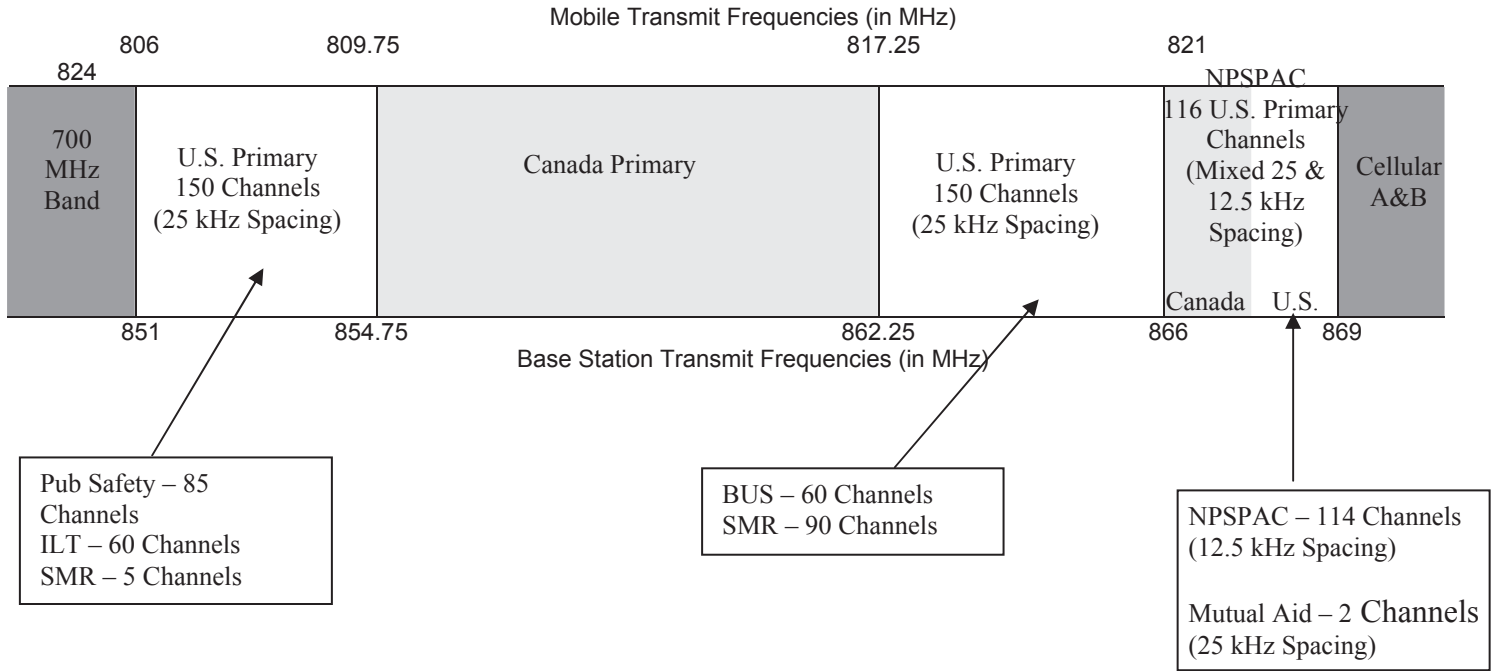
APPENDIX B

US - Canada Border Regions

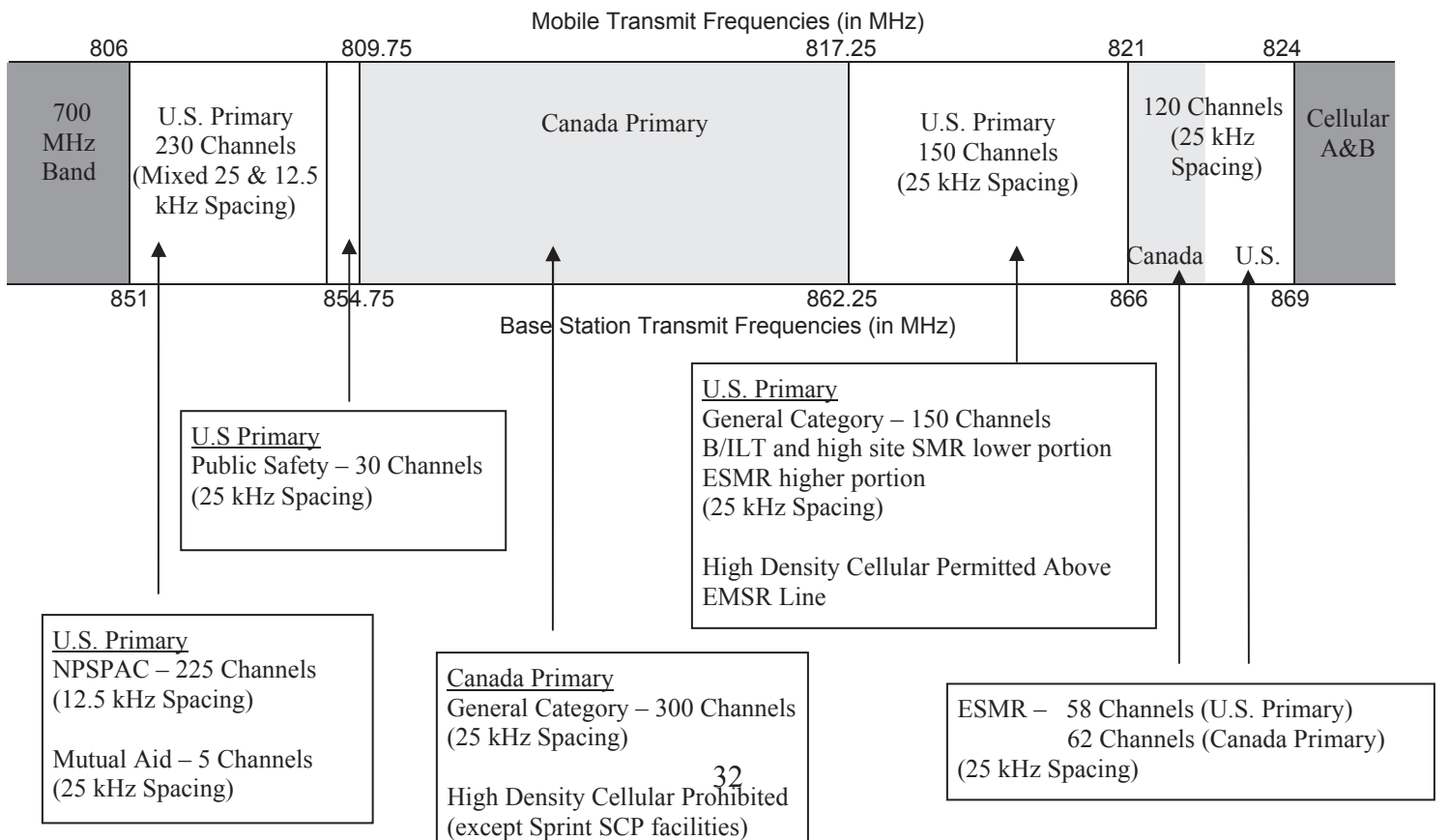


APPENDIX C-1

Pre-Rebanding Band Plan – Canadian Border Regions 1, 4, 5 and 6

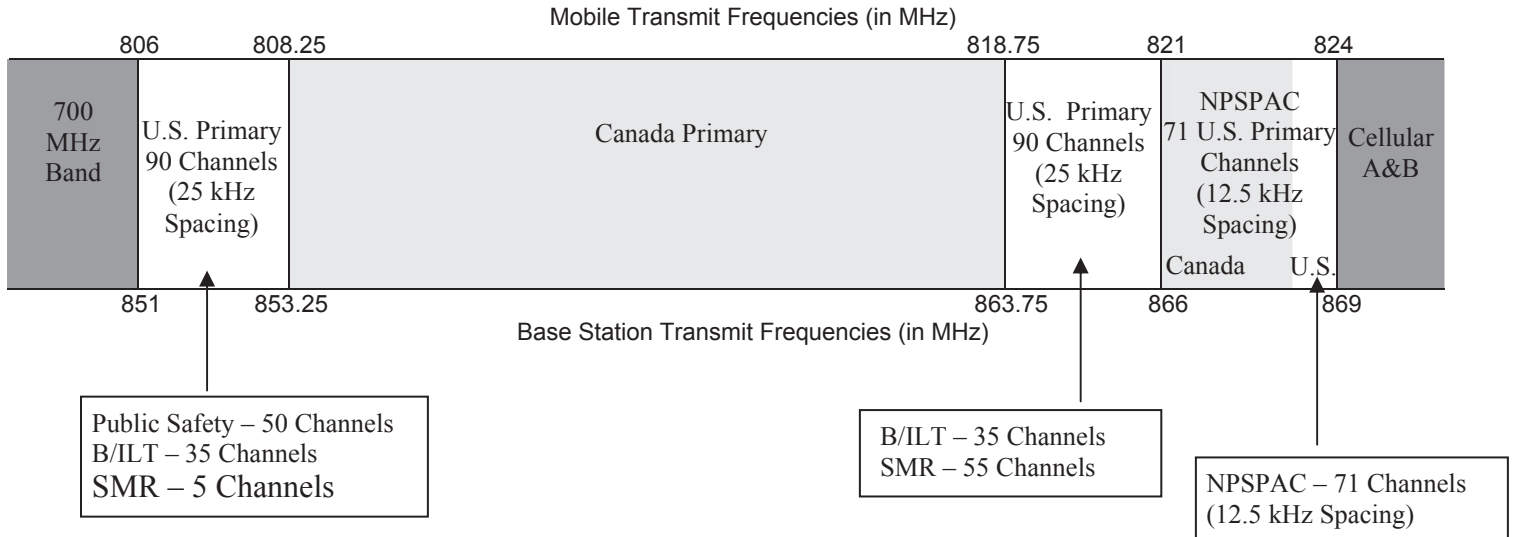


Post Rebanding Band Plan – Canadian Border Regions 1, 4, 5 and 6

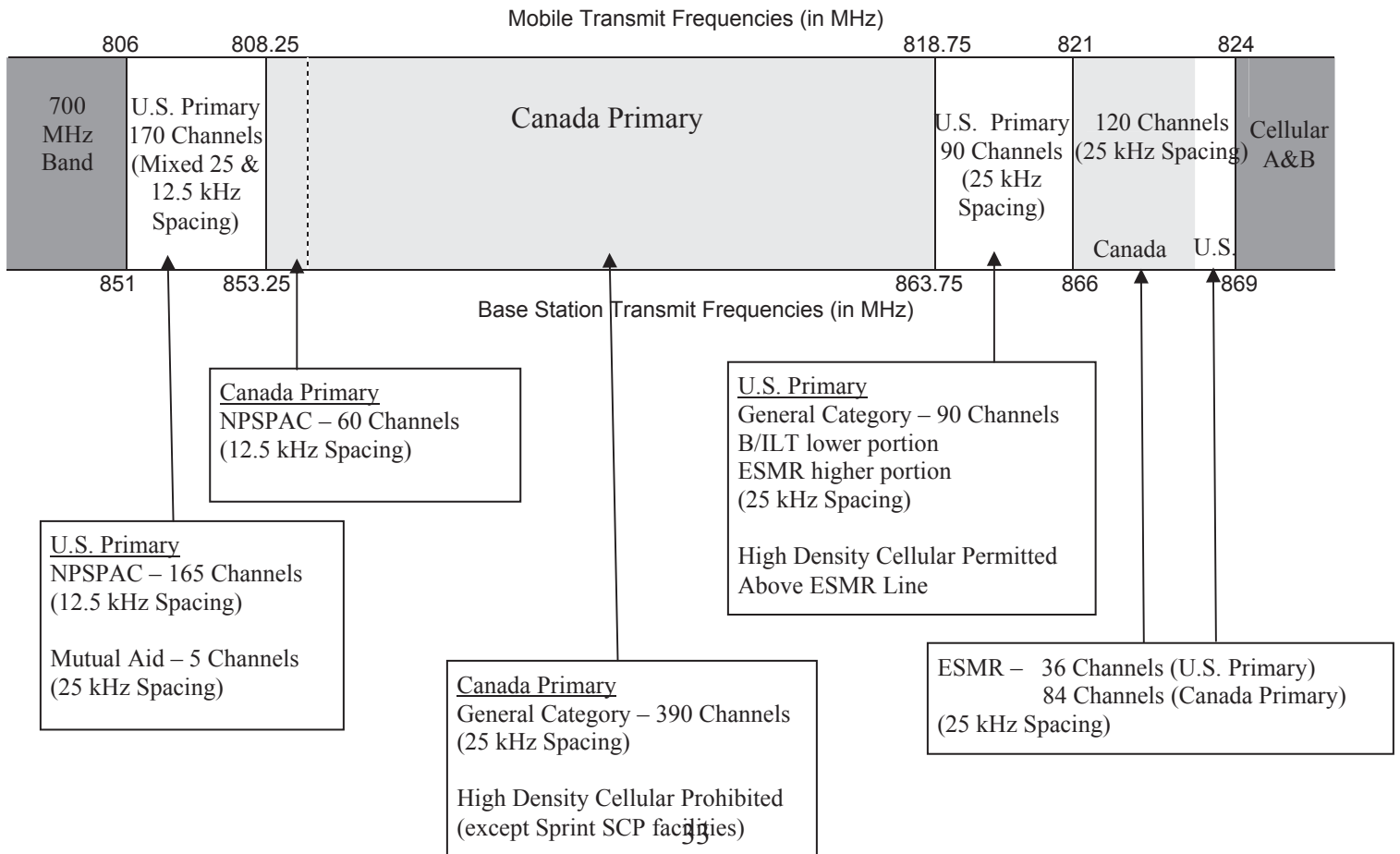


APPENDIX C-2

Pre-Rebanding Band Plan – Canadian Border Region 2

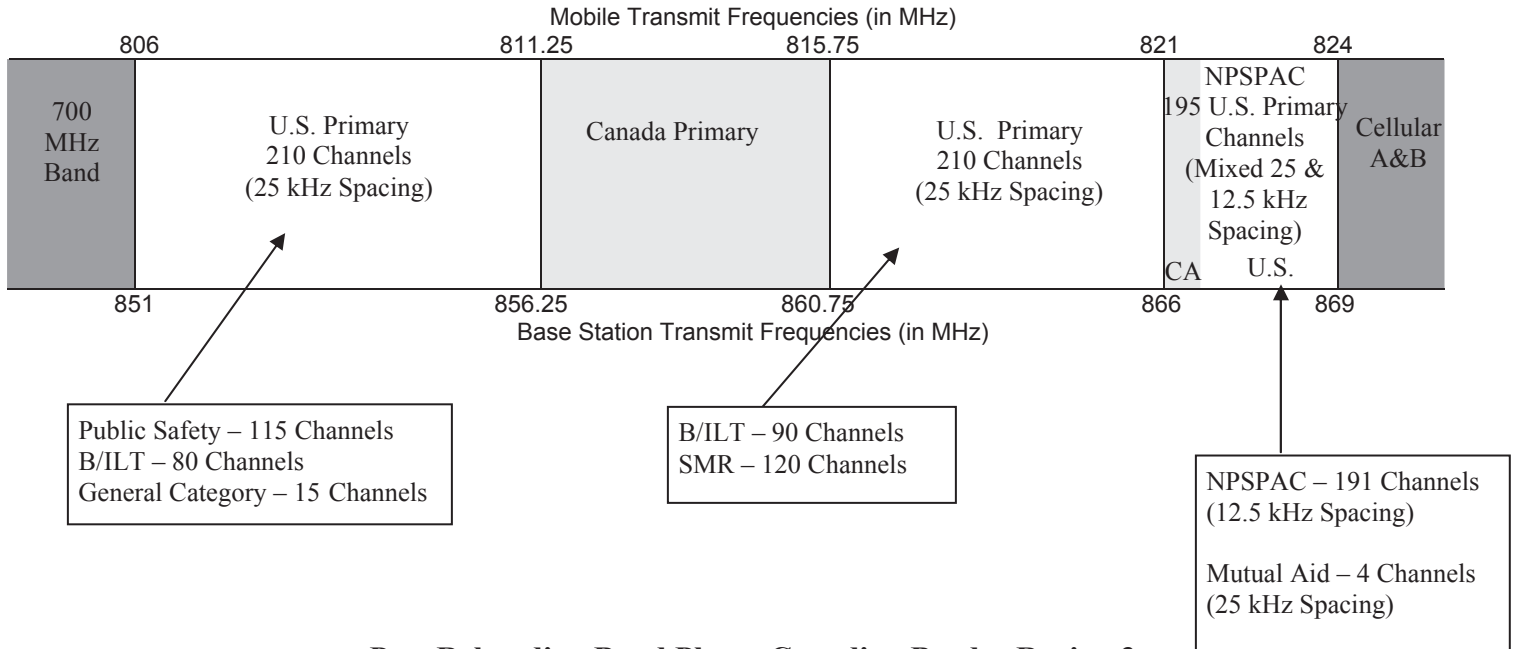


Post Rebanding Band Plan – Canadian Border Region 2

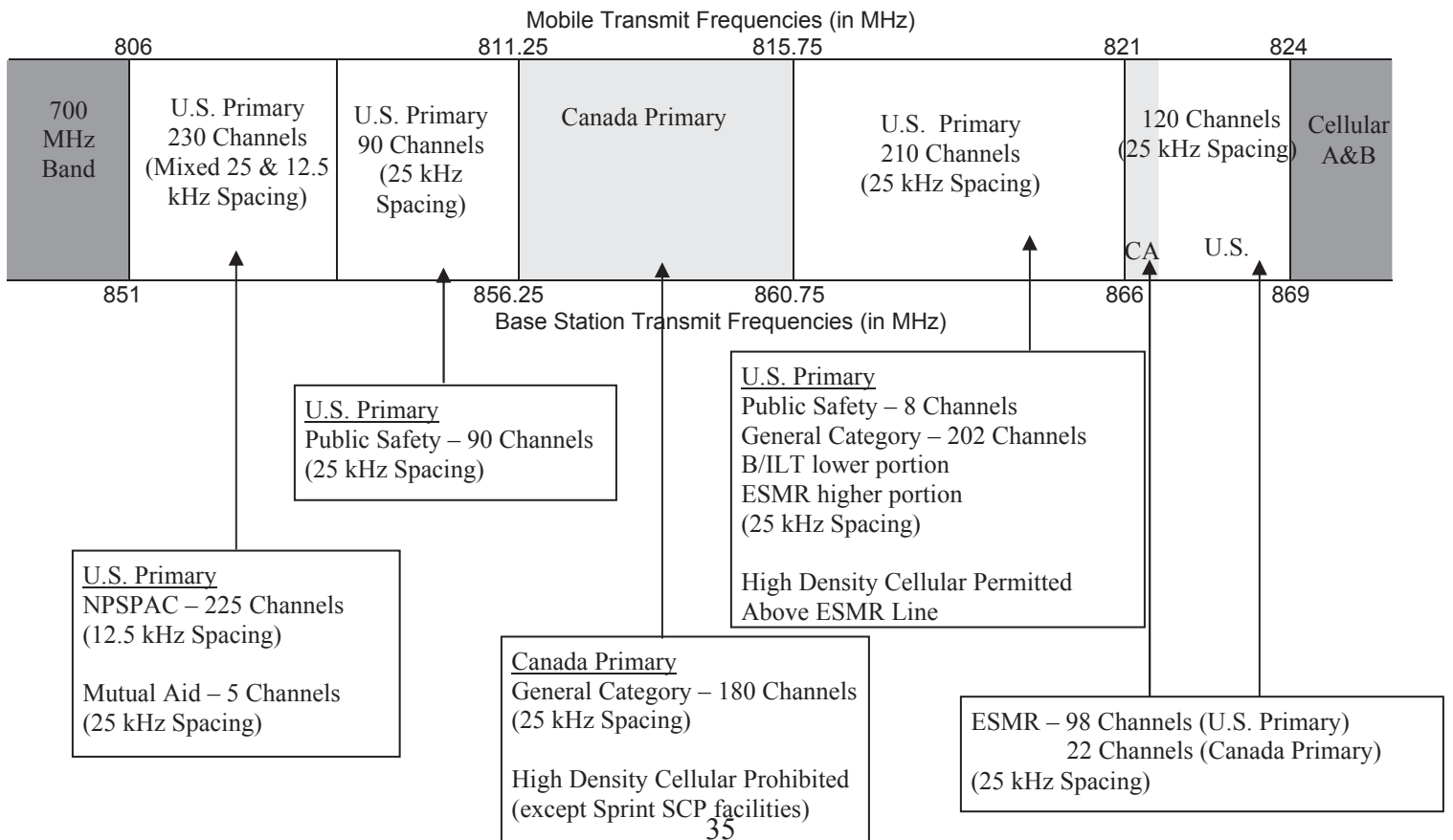


APPENDIX C-3

Pre-Rebanding Band Plan – Canadian Border Region 3

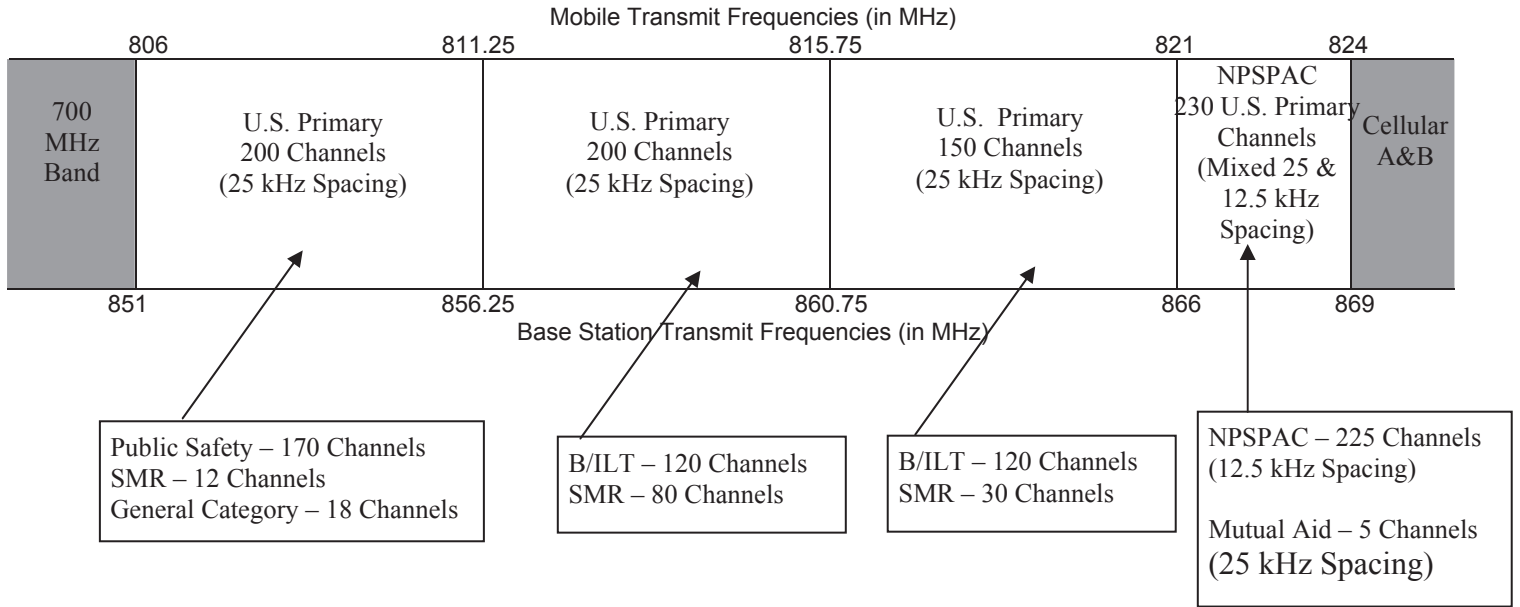


Post Rebanding Band Plan – Canadian Border Region 3

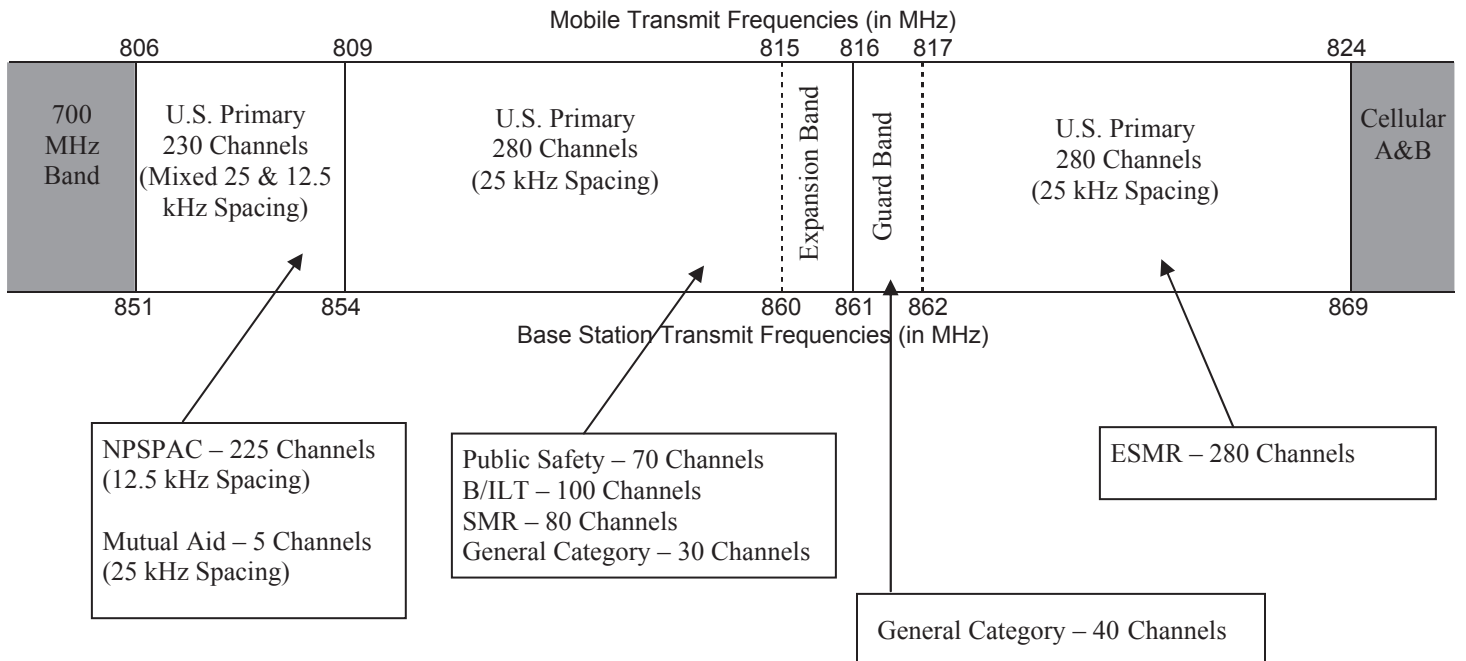


APPENDIX C-4 (cont.)

Pre-Rebanding Band Plan – Canadian Border Region 7

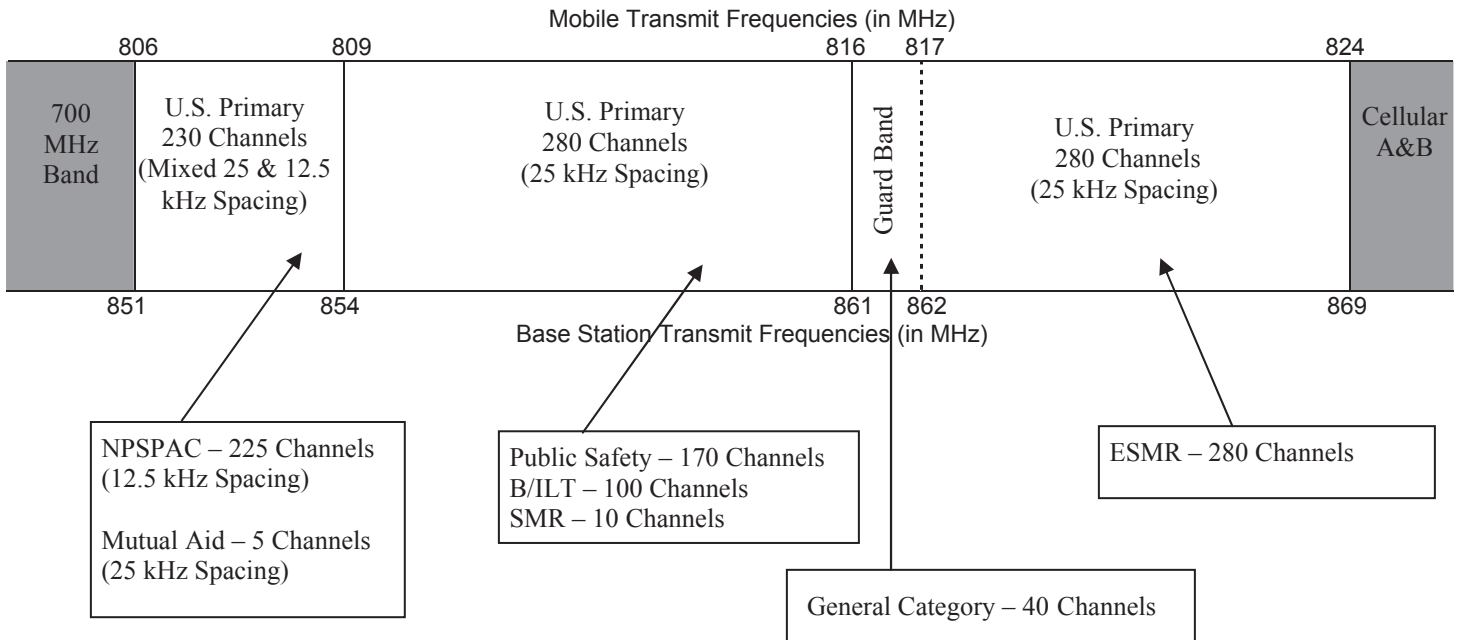


Post Rebanding Band Plan – Canadian Border Region 7A (Not Adjacent to Region 2)



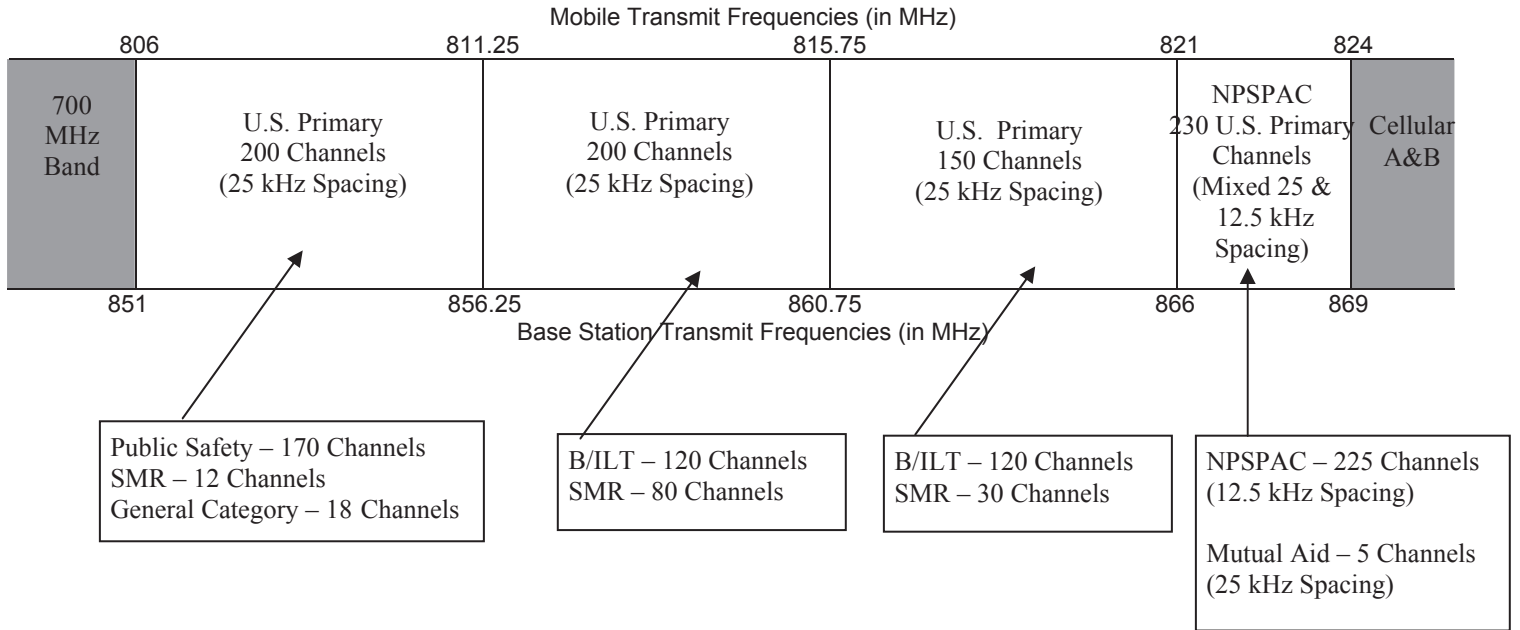
APPENDIX C-4 (cont.)

Post Rebanding Band Plan – Canadian Border Region 7B (Adjacent to Region 2)

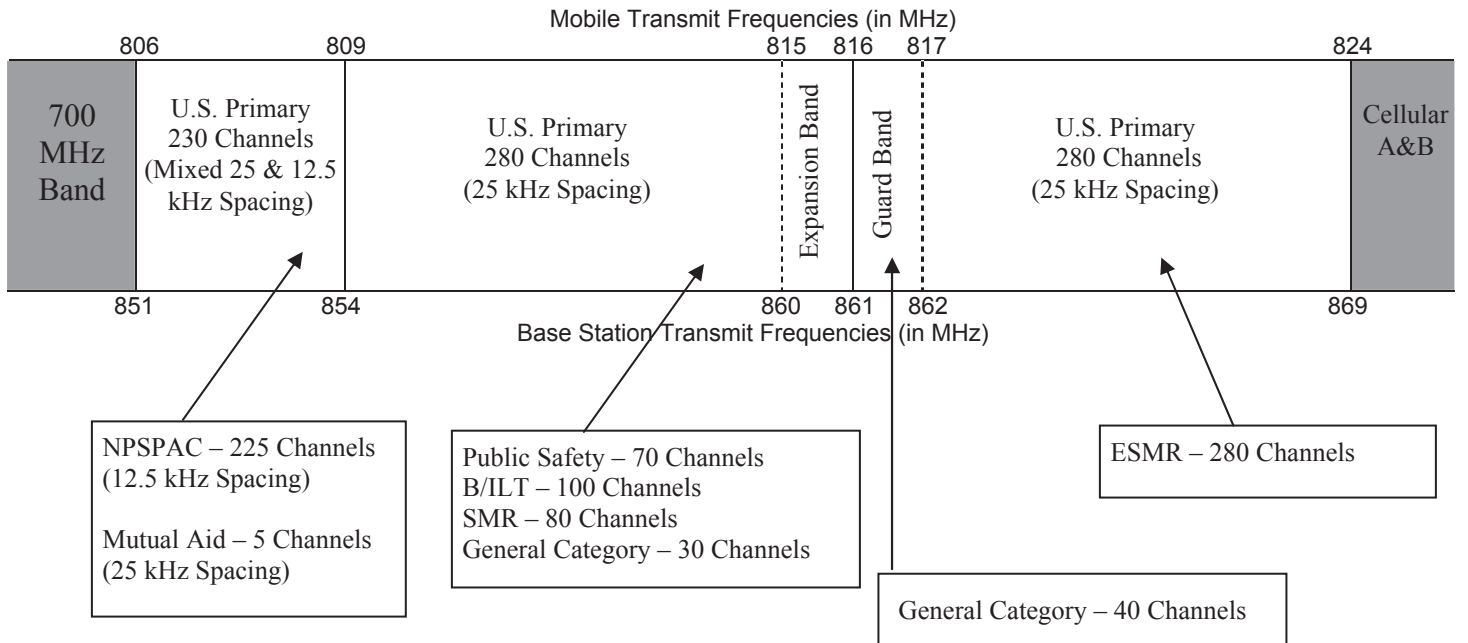


APPENDIX C-4 (cont.)

Current Band Plan – Canadian Border Region 8



Proposed Band Plan – Canadian Border Region 8



**APPENDIX D
FINAL RULES**

PART 90 – PRIVATE LAND MOBILE RADIO SERVICES

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

AUTHORITY: 4(i), 11, 303(g), 303(r), and 302(c)(7) of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 161, 303(g), 303(r), 332(c)(7).

Section 90.619(c) is modified to read as follows:

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

* * * * *

(c) *Use of 800 MHz Band in Canada Border Region.* All operations in the 806–824/851–869 MHz band within 140 km (87 miles) of the U.S./Canada border (“U.S./Canada border area”) shall be in accordance with international agreements between the U.S. and Canada.

(1) The U.S./Canada border area is divided into the following geographical regions (“Canada Border Regions”). U.S. primary channels are shown in the table by region. The remaining channels are primary to Canada (“Canada Primary channels”).

TABLE C1 – GEOGRAPHICAL REGIONS

Region	Location (longitude)	U.S. Primary Channels
1.....	66° W – 71° W (0 – 100 km from border)	1-260, 561-710, 772-790 and 792-830
2.....	71° W – 80° 30' W (0 – 100 km from border)	1-170, 621-710 and 795-830
3.....	80° 30' W – 85° W (0 – 100 km from border)	1-320, 501-710, 729-730, 732-750, 752-770, 772-790 and 792-830
4.....	85° W – 121° 30' W (0 – 100 km from border)	1-260, 561-710, 772-790 and 792-830
5.....	121° 30' W – 127° W (0 – 140 km from border)	1-260, 561-710, 772-790 and 792-830
6.....	127° W – 143° W (0 – 100 km from border)	1-260, 561-710, 772-790 and 792-830
7A.....	66° W – 71° W (100 – 140 km from border)	1-260, 561-710, 772-790 and 792-830
7A...	80° 30' W – 121° 30' W (100 – 140 km from border)	1-830
7B...	71° W – 80° 30' W (100 – 140 km from border)	1-830
8.....		1-830

	127° W – 143° W (100 – 140 km from border)	1-830
		1-830

(2) Stations authorized on U.S. primary channels in all Canada Border Regions, except Region 5, will be subject to the Effective Radiated Power (ERP) and Effective Antenna Height (EAH) limitations listed in Tables C2. The Effective Antenna Height is calculated by subtracting the Assumed Average Terrain Elevation (AATE) listed in Table C3 from the antenna height above mean sea level.

TABLE C2 – LIMITS OF EFFECTIVE RADIATED POWER (ERP) CORRESPONDING TO EFFECTIVE ANTENNA HEIGHTS (EAH) FOR REGIONS 1, 2, 3, 4, 6, 7 AND 8

Effective Antenna Height (EAH)		ERP Watts (Maximum)
Metres	Feet	
0 - 152	0 - 500	500
153 - 305	501 - 1000	125
306 - 457	1001 - 1500	40
458 - 609	1501 - 2000	20
610 - 914	2001 - 3000	10
915 - 1066	3001 - 3500	6
Above 1067	Above 3501	5

TABLE C3 – ASSUMED AVERAGE TERRAIN ELEVATION (AATE) ALONG THE U.S. – CANADA BORDER

Longitude (ϕ) (°West)	Latitude (Ω) (°North)	Assumed Average Terrain Elevation			
		United States		Canada	
		Feet	Metres	Feet	Metres
$65 \leq \Phi < 69$	$\Omega < 45$	0	0	0	0
"	$45 \leq \Omega < 46$	300	91	300	91
"	$\Omega \geq 46$	1000	305	1000	305
$69 \leq \Phi < 73$	All	2000	609	1000	305
$73 \leq \Phi < 74$	"	500	152	500	152
$74 \leq \Phi < 78$	"	250	76	250	76
$78 \leq \Phi < 80$	$\Omega < 43$	250	76	250	76
"	$\Omega \geq 43$	500	152	500	152
$80 \leq \Phi < 90$	All	600	183	600	183
$90 \leq \Phi < 98$	"	1000	305	1000	305
$98 \leq \Phi < 102$	"	1500	457	1500	457

$102 \leq \Phi < 108$	"	2500	762	2500	762
$108 \leq \Phi < 111$	"	3500	1066	3500	1066
$111 \leq \Phi < 113$	"	4000	1219	3500	1066
$113 \leq \Phi < 114$	"	5000	1524	4000	1219
$114 \leq \Phi < 121.5$	"	3000	914	3000	914
$121.5 \leq \Phi < 127$	"	0	0	0	0
$\Phi \geq 127$	$54 \leq \Omega < 56$	0	0	0	0
"	$56 \leq \Omega < 58$	500	152	1500	457
"	$58 \leq \Omega < 60$	0	0	2000	609
"	$60 \leq \Omega < 62$	4000	1219	2500	762
"	$62 \leq \Omega < 64$	1600	488	1600	488
"	$64 \leq \Omega < 66$	1000	305	2000	609
"	$66 \leq \Omega < 68$	750	228	750	228
"	$68 \leq \Omega < 69.5$	1500	457	500	152
"	$\Omega \geq 69.5$	0	0	0	0

(3) Stations authorized on U.S. primary channels in Canada Border Region 5 will be subject to the Effective Radiated Power (ERP) and Antenna Height Above Mean Sea Level limitations listed in Tables C4

TABLE C4 – LIMITS OF EFFECTIVE RADIATED POWER (ERP)
CORRESPONDING TO ANTENNA HEIGHT ABOVE MEAN SEA LEVEL FOR REGION 5

Antenna Height Above Mean Sea Level		ERP Watts (Maximum)
Metres	Feet	
0 - 503	0 - 1650	500
504 - 609	1651 - 2000	350
610 - 762	2001 - 2500	200
763 - 914	2501 - 3000	140
915 - 1066	3001 - 3500	100
1067 - 1219	3501 - 4000	75
1220 - 1371	4001 - 4500	70
1372 - 1523	4501 - 5000	65
Above 1523	Above 5000	5

(4) Stations may be authorized on Canada Primary channels in the Canada Border Regions provided the maximum power flux density (PFD) per 25 kHz at or beyond the border does not exceed $-107 \text{ dB(W/m}^2\text{)}$. Stations authorized on Canada Primary channels will be secondary to stations in Canada unless otherwise specified in an international agreement between the U.S. and Canada.

(5) Stations authorized to operate within 30 kilometers of the center city coordinates listed in Table C5 are considered to fall outside of the U.S./Canada border area and may operate according to the non-border band plan listed in § 90.617.

TABLE C5 – CITIES THAT ARE CONSIDERED TO FALL OUTSIDE THE CANADA BORDER REGION

Location	Coordinates	
	Latitude	Longitude
Akron, Ohio	41° 05' 00.2" N.	81° 30' 39.4" W.
Youngstown, Ohio	41° 05' 57.2" N.	80° 39' 01.3" W.
Syracuse, New York	43° 03' 04.2" N.	76° 09' 12.7" W.

(6) The channels listed in Table C6 and paragraph (c)(6)(i) of this section are available in the Canada Border Regions for non-cellular operations to eligible applicants in the Public Safety Category which consists of licensees eligible in the Public Safety Pool of subpart B of this part. 800 MHz high density cellular systems as defined in § 90.7 are prohibited on these channels.

TABLE C6 – PUBLIC SAFETY POOL 806-816/851-861 MHZ BAND CHANNELS IN THE CANADA BORDER REGIONS

Canada Border Region	Channel Nos.	Total
Regions 1, 4, 5 and 6	231-260	30 Channels
Region 2	See paragraph (c)(6)(i) below	
Region 3	231-320, 501-508	90 Channels
Regions 7A and 8	269, 289, 311, 399, 439, 270, 290, 312, 400, 440, 279, 299, 319, 339, 359, 280, 300, 320, 340, 360, 309, 329, 349, 369, 389, 310, 330, 350, 370, 390, 313, 353, 393, 441, 461, 314, 354, 394, 448, 468, 321, 341, 361, 381, 419, 328, 348, 368, 388, 420, 351, 379, 409, 429, 449, 352, 380, 410, 430, 450, 391, 392, 401, 408, 421, 428, 459, 460, 469, 470	70 Channels
Region 7B	231-260 269, 289, 311, 399, 439, 270, 290, 312, 400, 440, 279, 299, 319, 339, 359, 280, 300, 320, 340, 360, 309, 329, 349, 369, 389, 310, 330, 350, 370, 390, 313, 353, 393, 441, 461, 314, 354, 394, 448, 468,	170 Channels

	315, 355, 395, 435, 475 316, 356, 396, 436, 476 317, 357, 397, 437, 477 318, 358, 398, 438, 478 321, 341, 361, 381, 419, 328, 348, 368, 388, 420, 331, 371, 411, 451, 491, 332, 372, 412, 452, 492, 333, 373, 413, 453, 493, 334, 374, 414, 454, 494, 335, 375, 415, 455, 495, 336, 376, 416, 456, 496, 337, 377, 417, 457, 497, 338, 378, 418, 458, 498, 351, 379, 409, 429, 449, 352, 380, 410, 430, 450, 391, 392, 401, 408, 421, 428, 459, 460, 469, 470 431, 432, 433, 434, 471, 472, 473, 474, 479, 480	
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(i) Channel numbers 1-230 are also available to eligible applicants in the Public Safety Category in the Canada Border Regions. The assignment of these channels will be done in accordance with the policies defined in the Report and Order of Gen. Docket No. 87-112 (See § 90.16). The following channels are available only for mutual aid purposes as defined in Gen. Docket No. 87-112: channels 1, 39, 77, 115, 153.

(7) The channels listed in Table C7 are available in the Canada Border Regions for the General Category. All entities will be eligible for licensing on these channels. 800 MHz high density cellular systems as defined in § 90.7 are permitted on these channels only as indicated in Table C7. The channels noted for Regions 1, 2, 3, 4, 5 and 6 where high density cellular systems are prohibited are all frequencies that are primary to Canada. Stations may be licensed on these Canada Primary channels according to paragraph (c)(4) above.

TABLE C7 – GENERAL CATEGORY 806-821/851-866 MHZ BAND CHANNELS IN THE CANADA BORDER REGIONS.

Canada Border Region	General Category channels where 800 MHz high density cellular systems are prohibited.	General Category channels where 800 MHz high density cellular systems are permitted.
Regions 1, 4, 5 and 6	261-560	561-710
Region 2	172-620	621-710
Region 3	321-500	501-710
Regions 7A and 8	231-260, 511-550	None

Region 7B	511-550	None
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(8) The channels listed in Table C8 are available in the Canada Border Regions to applicants eligible in the Industrial/Business Pool of subpart C of this part but exclude Special Mobilized Radio Systems as defined in § 90.603(c). 800 MHz cellular high density systems as defined in § 90.7 are prohibited on these channels.

TABLE C8 – BUSINESS/INDUSTRIAL/LAND TRANSPORTATION POOL 806-816/851-861 MHZ BAND CHANNELS IN THE CANADA BORDER REGIONS

Canada Border Region	Channel Nos.	Total
Regions 1, 2, 3, 4, 5 and 6	None	0 Channels
Regions 7A, 7B and 8	261, 271, 281, 291, 301, 262, 272, 282, 292, 302, 263, 273, 283, 293, 303, 264, 274, 284, 294, 304, 265, 275, 285, 295, 305, 266, 276, 286, 296, 306, 267, 277, 287, 297, 307, 268, 278, 288, 298, 308, 322, 362, 402, 442, 482, 323, 363, 403, 443, 483, 324, 364, 404, 444, 484, 325, 365, 405, 445, 485, 326, 366, 406, 446, 486, 327, 367, 407, 447, 487, 342, 382, 422, 462, 502, 343, 383, 423, 463, 503, 344, 384, 424, 464, 504, 345, 385, 425, 465, 505, 346, 386, 426, 466, 506, 347, 387, 427, 467, 507	100 Channels

(9) The channels listed in Table C9 are available in the Canada Border Regions to applicants eligible in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. 800 MHz high density cellular systems, as defined in § 90.7, are prohibited on these channels.

TABLE C9 – SMR CATEGORY 806-816/851-861 MHZ CHANNELS AVAILABLE FOR SITE-BASED LICENSING IN THE CANADA BORDER REGIONS

Canada Border Region	Channel Nos.	Total
Regions 1, 2, 3, 4, 5 and 6	None	0 Channels
Regions 7A and 8	315, 355, 395, 435, 475,	80 Channels

	316, 356, 396, 436, 476, 317, 357, 397, 437, 477, 318, 358, 398, 438, 478, 331, 371, 411, 451, 491, 332, 372, 412, 452, 492, 333, 373, 413, 453, 493, 334, 374, 414, 454, 494, 335, 375, 415, 455, 495, 336, 376, 416, 456, 496, 337, 377, 417, 457, 497, 338, 378, 418, 458, 498, 431, 432, 433, 434, 471, 472, 473, 474, 479, 480, 481, 488, 489, 490, 499, 500, 501, 508, 509, 510	
Region 7B	481, 488, 489, 490, 499, 500, 501, 508, 509, 510	10 Channels

(10) The channels listed in Table C10 are available in the Canada Border Regions to applicants eligible in the SMR category—which consists of Specialized Mobile Radio (SMR) stations and eligible end users. ESMR licensees who employ 800 MHz high density cellular systems, as defined in § 90.7, are permitted to operate on these channels. Some of the channels listed in Table C10 are primary to Canada as indicated in paragraph (c)(1) above. ESMR systems may be authorized on these Canada Primary channels according to paragraph (c)(4) above.

TABLE C10 – ESMR CATEGORY 817-824/862-869 MHZ CHANNELS AVAILABLE FOR 800 MHZ HIGH DENSITY SYSTEMS

Canada Border Region	Channel Nos.	Total
Regions 1, 2, 3, 4, 5 and 6	711-830	120 Channels
Regions 7A, 7B and 8	551-830	280 Channels

(11) In Canada Border Regions 1, 2, 3, 4, 5 and 6, the following General Category channels are available for licensing to all entities except as described below in paragraphs (c)(11)(i) and (c)(11)(ii): in Regions 1, 4, 5 and 6, channels 261-560; in Region 2, channels 172-620 and in Region 3, channels 321-500.

(i) In a given 800 MHz NPSPAC region, the General Category channels listed paragraph (c)(11) which are vacated by licensees relocating to channels 711-830 and which remain vacant after band reconfiguration will be available for licensing as follows:

(A) Only to eligible applicants in the Public Safety Category until three years after the release of a public notice announcing the completion of band reconfiguration in that region;

(B) Only to eligible applicants in the Public Safety or Critical Infrastructure Industry Categories from three to five years after the release of a public notice announcing the completion of band reconfiguration in that region;

(C) To all entities five years after release of a public notice announcing the completion of band reconfiguration in that region.

(ii) The General Category channels listed in paragraph (c)(11) are primary to Canada. Stations may be authorized on these Canada Primary channels according to paragraph (c)(4) above.

(12) In Canada Border Regions 7A, 7B and 8, the following channels will be available as described below in paragraphs (c)(12)(i) and (c)(12)(ii): for Canada Border Regions 7A and 8, channels 231-260 and channels below 471 in Tables C8 and C9; for Canada Border Region 7B all channels in Tables C8 and C9.

(i) In a given 800 MHz NPSPAC region, the channels listed paragraph (c)(12) which are vacated by licensees relocating to channels 511–830 and which remain vacant after band reconfiguration will be available as follows:

(A) Only to eligible applicants in the Public Safety Category until three years after the release of a public notice announcing the completion of band reconfiguration in that region;

(B) Only to eligible applicants in the Public Safety or Critical Infrastructure Industry Categories from three to five years after the release of a public notice announcing the completion of band reconfiguration in that region;

(ii) Five years after the release of a public notice announcing the completion of band reconfiguration in a given 800 MHz NPSPAC region, the channels listed in paragraph (c)(12) will revert back to their original pool categories.

APPENDIX E
LIST OF COMMENTING PARTIES

Comments

APCO, IACP, IAFC (Joint Comments)
NPSPAC Region 43 Regional Planning Committee
Enterprise Wireless Alliance
Consumers Energy Company
State of Michigan
Smart-Link Communications, Inc.
Boeing Company
Sprint Nextel Corporation
New York State Wireless Network
Ohio Region 33 800 MHz Planning Committee

Reply Comments

NPSPAC Region 43 Regional Planning Committee
Utilities Telecom Council
APCO, IACP, IAFC
Ohio Region 33 800 MHz Planning Committee
State of Michigan
Joseph M. Turner (APCO Region 21 Frequency Advisory Committee)
Boeing Company
Sprint Nextel Corporation

APPENDIX F
INDUSTRY CANADA AND FCC EXCHANGE OF LETTERS

Industry Canada

Sep. 07, 2007

Mr. Kevin J. Martin
Chairman
Federal Communications Commission (FCC)
445 12th Street S.W.
Washington, DC 20554
UNITED STATES OF AMERICA

Dear Mr. Martin:

I am writing in regard to discussions between Industry Canada and the FCC concerning ways to address the U.S. 800 MHz rebanding program in the regions close to the Canada/U.S. border.

As you may know, considerable exchange of data and analysis has taken place in an effort to assess the magnitude of the impact on both sides of the border. At a special July 20 meeting of the Radio Technical Liaison Committee (RTL) in Ottawa, Ontario, Industry Canada and the FCC assessed the results of the analyses and established a way forward acceptable to both parties. At this meeting, the following principles and actions were developed as a way forward:

1. The revision to the cross border frequency arrangement for the 800 MHz band (Arrangement F)¹ will be based on the current block and zone frequency sharing plan recognizing that minor changes may be necessary.
2. The FCC can now move forward with the consultation on the channel assignment scheme based on the current block and zone plan in Arrangement F.
3. Upon completion of the FCC consultation process and after a U.S. band plan and assignment scheme are established, a revision to Arrangement F will be finalized including an annexed list of assignments to be grandfathered and protected. The grandfathered assignments will be established from assignments authorized under the provisions of the 800 MHz Special Coordination Procedure (SCP).² SCP assignments that are grandfathered will be protected.

¹ Arrangement Between the Department of Communications of Canada and the Federal Communications Commission of the United States Concerning the use of the Band 806 to 890 MHz along the Canada -United States Border.

² Special Coordination Procedure for the Use of the Frequencies in the Bands 806-821 MHz and 851 866 MHz for Land Mobile Services.

SCP assignments that cannot be grandfathered will be notified to change their parameters within an agreed period of time and may continue to operate under the provisions of the revised Arrangement F.

4. Reliable radio services for public safety and other important supporting services are critical leading up to and during the Vancouver 2010 Winter Olympics. In implementing revisions to Arrangement F, the parties will make every effort to avoid any changes to the TELUS 800 MHz SCP assignments in southwestern British Columbia until after the 2010 Olympic Games unless earlier remedial action is possible that protects Canada's Olympics-related communications needs. Every effort will be made to find solutions for the SCP assignments that impact planned use in the U.S.

From my perspective, the above principles and actions are acceptable and provide a good basis to bring this matter to a conclusion. I trust that you will also find these principles and actions acceptable and I would appreciate your support to bring this matter to a satisfactory conclusion.

Sincerely,

Michael Binder
Assistant Deputy Minister
Spectrum, Information Technologies
and Telecommunications

Federal Communications Commission
Washington, D.C. 20554

Oct. 31, 2007

Mr. Michael Binder
Assistant Deputy Minister
Spectrum Information Technologies and Telecommunications
Jean Edmonds Tower North
300 Slater Street - 20th Floor
Ottawa, ON K1A 0C8

Dear Mr. Binder:

Thank you for your letter discussing the current status of negotiations between Industry Canada and the Federal Communications Commission (FCC) regarding the reconfiguration of the 800 MHz band. I agree that the principles detailed in your letter provide a framework for the FCC and Industry Canada to bring this matter to a satisfactory conclusion.

As agreed at the special meeting of the Radio Technical Liaison Committee, the Commission will seek comment from our licensees on a band plan proposal consistent with the allocation of spectrum in the current U.S. – Canada arrangement that will enable us to complete 800 MHz band reconfiguration in the regions of the U.S. adjacent to our common border. Once the band plan is adopted and rebanding assignments for individual U.S. stations are made, my staff will work with your staff to determine whether certain Canadian facilities that have previously been authorized on U.S. primary spectrum under Special Coordination Procedures can be grandfathered in the final U.S. – Canada arrangement.

I also have directed my staff to work with yours to minimize any impact from 800 MHz rebanding to Canadian stations in southwest British Columbia that support communications in connection with the Vancouver 2010 Winter Olympics.

Sincerely,

Kevin J. Martin
Chairman