- A configuration of 800 MHz cellular-architecture channels that would make intermodulation interference less likely—a factor that argued in favor of plans that placed ESMR spectrum in a contiguous block.[400]
- A configuration that would allow effective filters to attenuate signals that fell in the portion of the reconfigured band used by public safety and CII systems.[401]
- The amount of additional 800 MHz spectrum in which public safety would have a right to operate.[402]

(Continued from previous page)
7; Southern LINC Reply Comments at 14-25. We find these plans inferior to most of the other band plans submitted. As an initial matter, the 700 MHz spectrum is unusable in most parts of the country because it is encumbered by television stations—a condition likely to persist for several years. In addition, some of these commenting parties envisioned that, when public safety is moved to the Upper 700 MHz band, the 800 MHz spectrum vacated by public safety licensees could be auctioned to pay for relocation costs. *See* Cingular and Alltel Comments at 17-18; CTIA Reply Comments at 7. However, no party advancing this proposal has provided either estimates of the cost of relocating the 800 MHz public safety licensees or the revenue that might be obtained from auctioning vacated 800 MHz spectrum. Thus, the economic feasibility of implementing these plans is highly problematic.

[400] For instance, Nextel states that once it vacates the interleaved spectrum and consolidates its systems in the 816-824 MHz /861-869 MHz band segment, it will be better able to control the spread of intermodulation products from its cell sites. *See* Nextel Reply Comments, Appendix II at 3; Comments of Nextel to Consensus Parties Reply Comments, Appendix I at 3. By limiting the span between the highest and lowest frequency at any given cell site, Nextel indicates that it will be able to avoid producing third-order intermodulation products that fall on portions of the band occupied by public safety systems. Because an instance of two-tone third-order intermodulation interference is defined by the relationship $F_{INTERMOD} = 2*F_1 - F_2$, limiting the difference between the highest and lowest frequency at a cell site correspondingly limits the range over which third-order intermodulation products will fall. *See* Motorola Comments at 18-19.

[401] *See* Supplemental Comments of the Consensus Parties at 43 and Appendix F at F-8, item 4.1.2. Nextel believes that reconfiguring the 800 MHz band to separate cellular systems from non-cellular systems will substantially reduce interference to public safety created by OOBE. Nextel states that if the 800 MHz band is reconfigured, it can replace current base station transmitter duplexers with new duplexers that will "roll-off" RF energy immediately below 861 MHz. *See* Comments of Nextel to Consensus Parties Reply Comments, Appendix I at 1-2.

[402] The Consensus Plan offers additional spectrum rights to public safety by giving it exclusive access to channels below 816/861 MHz that are either vacated by Nextel or by licensees who relocate above 816MHz/861 MHz as described in ¶¶ 152, 158 *infra*. This exclusive access will last for a five-year period after the completion of band reconfiguration. *See* Consensus Parties Reply Comments at 25. By contrast, Motorola and Preferred proposed plans which provide no additional spectrum rights for public safety after band reconfiguration. *See* Motorola Reply Comments at 8; Comments of Preferred to the Consensus Parties Reply Comments at 17. NAM and M/A COM propose plans whereby public safety will likely lose spectrum rights in markets where public safety currently operates systems in the General Category (Ch 1-150). For instance, under NAM's original plan, public safety receives only 0.25 x 0.25 MHz of spectrum rights to relocate systems from the General Category. Therefore, under that plan, public safety would lose spectrum rights in any market where it currently occupies more then ten channels in the General Category. M/A COM's proposal offers no spectrum rights for relocating public safety systems from the General Category. Therefore, under M/A COM's proposal, public safety would lose spectrum rights in markets where public safety occupies any spectrum in the General Category. *See NPRM,* 17 FCC Rcd at 4885 ¶ 22; M/A COM comments at 10. UTC proposed a plan which appears to substantially reduce the amount of spectrum public safety would have access to after band reconfiguration. UTC would allow licensees in the "lower 80" SMR channels to exchange rights with public safety licensees in the NPSPAC band. Under UTC's plan, however, public
(continued....)

150. Although the thrust of our analysis was centered on the 800 MHz band, we also took into account the technical and economic fallout that a given 800 MHz band plan would have on other bands such as the Upper 700 MHz band, the 700 MHz Guard Band, the 700 MHz Public Safety Band, the 900 MHz band, and bands in the 1.5 GHz to 2.1 GHz region; all of which, in one fashion or another, came into play in the overall band reconfiguration proposals evaluated.

151. Of the various plans considered, the Consensus Plan offered benefits in each of the foregoing categories discussed in ¶ 149 *supra* and pointed us to the development of a Commission Band Plan consistent with our goals in this proceeding:

- abating harmful interference currently being encountered by 800 MHz public safety systems;
- minimizing disruption to existing services;
- responsibly managing the spectrum involved—constituting portions of the 700 MHz, 800 MHz, 900 MHz and 1.9 GHz bands[403]; and
- providing additional spectrum rights for public safety.

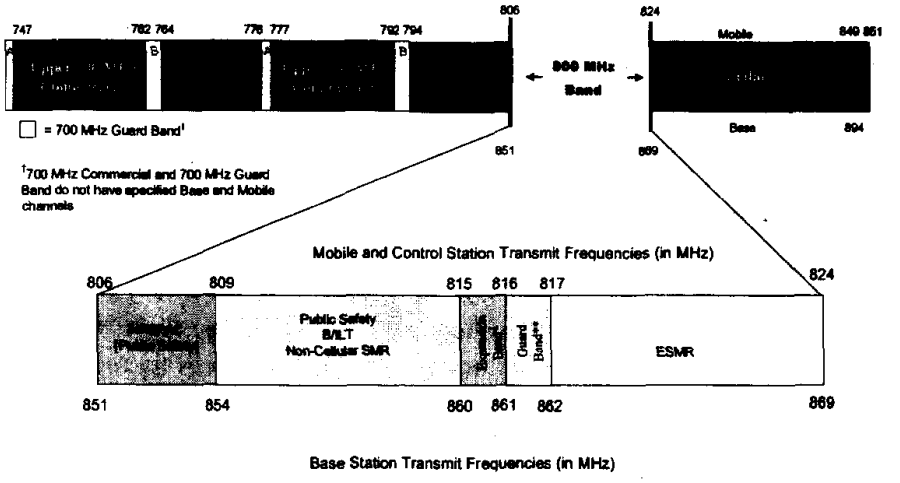
Consequently, we are adopting the following plan for the 800 MHz band.

(Continued from previous page)
safety would exchange 3 x 3 MHz of contiguous NPSPAC spectrum rights for rights to 2 x 2 MHz non-contiguous spectrum in the interleaved portion of the band. *See* UTC Comments at 26-28.

The OH MARCS, DC OCTO and the original Nextel White Paper plans offer public safety rights to more spectrum after band reconfiguration than the Consensus Plan. *See* OH MARCS Comments at 5-9; DC OCTO Comments at 6-11 and *NPRM* at 4886-87 ¶¶ 23-25. Nonetheless, the OH MARCS's plan is inferior from an interference mitigation standpoint because it would leave NPSPAC systems immediately adjacent to cellular telephone A-band systems. The DC OCTO plan and the original Nextel White Paper proposals are inferior because of their excessive cost and disruption. Thus, the DC OCTO plan would require almost every non-cellular licensee to relocate within the 800 MHz band. The original Nextel White Paper proposal would require moving all B/ILT and Non-cellular SMR systems out of the 800 MHz band into the 700 MHz and 900 MHz bands.

[403] *See NPRM,* 17 FCC Rcd 4887 ¶ 26. With regard to our management of the 1.9 GHz band, we note that we are rededicating five megahertz of spectrum from UPCS—a service for which no equipment has been verified by the Commission—to land mobile communications, thus making more efficient use of the spectrum by bringing new service to the public and rededicating five megahertz of spectrum to land mobile use from "reserve" MSS spectrum, thus providing the opportunity for initiation of a service that may be more immediately and widely used by the public.

New 800 MHz Band Plan[404]



*No public safety system will be required to remain in or relocate to the Expansion Band; although they may do so if they choose.

**No public safety or CII licensee may be involuntarily relocated to occupy the Guard Band.

Non-Cellular Portion (806-817 MHz/851-862 MHz)

- NPSPAC: Only NPSPAC systems will eligible to operate in the 806-809 MHz/851-854 MHz band segment (Channels 1-230, 25 kHz channels spaced every 12.5 kHz).

- Interleaved: The interleaved portion of the band at 809-815 MHz/854-860 MHz (Channels 231-470 spaced every 25 kHz) will consist of public safety, B/ILT and SMR channels interleaved. Public safety and CII agencies will have exclusive access to the 809-809.75 MHz/854-854.75 MHz band segment (Channels 231-260 spaced every 25 kHz) and the channels vacated by Nextel below 815 MHz/860 MHz.[405]

- Expansion Band: The Expansion Band at 815-816 MHz/860-861 MHz (Channels 471-510 spaced every 25 kHz) will consist of B/ILT and SMR channels interleaved.[406] The Expansion Band may also be used to house non-Nextel ESMR systems, as discussed *infra*.[407] No public safety system will be required to remain in or relocate to the Expansion Band; although they

[404] As with the current 800 MHz band plan, adjustments will be necessary in the areas bordering Canada and Mexico to provide for an equitable distribution of channels with those countries. *See* ¶¶ 175-176 *infra*.

[405] *See* ¶¶ 152-153 *infra*.

[406] We believe that, under most circumstances, the Expansion Band offers B/ILT, CII and non-cellular SMR licensees equivalent capacity and quality of service as defined in 47 C.F.R. § 90.699(d).

[407] *See* ¶ 162 *infra*.

may elect to do so.[408]

- Guard Band: The Guard Band at 816-817 MHz/861-862 MHz (Channels 511-550 spaced every 25 kHz) will consist of forty channels available to any 800 MHz licensee. Any licensee operating below 817 MHz/862 MHz may elect to relocate to the Guard Band. The Guard Band may also be used to house non-Nextel ESMR systems, as discussed *infra*.[409] No 800 MHz licensee may be involuntarily relocated into the Guard Band. Licensees in the Guard Band will receive less interference protection then licensees operating in lower portions of the non-cellular portion of the band as discussed *infra*.[410]

Cellular Portion: (ESMR systems at 817-824 MHz/862-869 MHz)

152. As we discuss *infra*, we decline to adopt those portions of the Consensus Plan that contemplate relinquishment of Nextel's 900 MHz spectrum rights.[411] With regard to the "running average" of 2.5 megahertz of spectrum rights that Nextel is surrendering in the interleaved segment of the 800 MHz band, we restrict eligibility for this spectrum to public safety licensees for three years from the effective date of this *Report and Order* and to public safety/CII licensees for an additional two years from that date.[412] We make an identical provision for channels vacated by licensees that voluntarily relocate to the 816-817 MHz/861-862 MHz band segment. We believe providing these windows of limited eligibility meets our spectrum management goals by accommodating the generally slow budgetary process of public safety agencies and the express needs of CII licensees, before making the spectrum generally available to other 800 MHz non-cellular licensees, *i.e.* B/ILT and non-cellular SMR licensees.[413]

153. Furthermore, in order to relocate NPSPAC systems to the bottom portion of the band, the Consensus Plan calls for clearing only the 806-809 MHz/851-854 MHz portion of the General Category (Channels 1-120 prior to band reconfiguration). We will require, however, that all non-public safety or non-CII licensees operating in the General Category (Channels 1-150 prior to band reconfiguration) relocate to the Guard Band, Expansion Band or interleaved portion of the band. The thirty remaining General Category channels available after the NPSPAC band is relocated will be available only to public safety licensees for three years from the effective date of this *Report and Order* and to public safety/CII

[408] *See* ¶ 154-155 *infra*.

[409] *See* ¶ 162 *infra*.

[410] *See* ¶ 158 and Figure 1 *infra*.

[411] *See* ¶ 207 *infra*.

[412] This time period is a modification of the Consensus Parties' original proposal to only allow public safety access to this spectrum for a five-year period. *See* Supplemental Comments of the Consensus Parties at 12. Our modification comes in response to the comments of CII parties who found this too restrictive. *See, e.g.*, Comments of Alliant Energy to Supplemental Comments of the Consensus Parties at 4, and Comments of Amaren to Supplemental Comments of the Consensus Parties at 10-11. If Nextel does not surrender its rights to operate on this spectrum, Nextel channels would remain adjacent to public safety channels potentially causing adjacent channel OOBE interference, one of the major types of interference we are seeking to abate in this proceeding.

[413] *See* "Public Safety and Sound Spectrum Management Go Hand in Hand," Keynote Address by Federal Communications Commission Commissioner Kathleen Q. Abernathy to the National Forum on Public Safety Spectrum Management, February 10, 2004. We make these modifications under the authority granted us by Sections 4, 301, 303 and 316 of the Act, 47 U.S.C. §§ 316, 303, 301, and 154(i). We set forth a detailed description of our legal authority in ¶¶ 62-87 *supra*.

licensees for an additional two years from that date.[414] Therefore—regardless of how much spectrum Nextel occupies in any given region—public safety and then CII licensees will have nationwide access to thirty channels or 1.5 megahertz of spectrum immediately adjacent to the relocated NPSPAC band.

b. Expansion Band

154. We establish an "Expansion Band" in the 815-816 MHz/860-861 MHz segment of the 800 MHz band to provide public safety licensees spectral separation from the cellular portion of the band. Although occupants of the Expansion Band will receive full interference protection, we note the Consensus Parties comments indicating that those licensees who operate in the 2 x 2 MHz segment of the band immediately adjacent to the cellular portion of the band should employ "campus-type" or other interference-resistant type systems.[415] Therefore, we believe it prudent to allow all public safety licensees the option to relocate from this portion of the band and no public safety licensee will be forced to relocate to this portion of the band. Nonetheless, any public safety licensee who willingly chooses to remain or relocate to the Expansion Band may do so.

155. The establishment of the Expansion Band required us to revise the chart in our rules that specifies channels for public safety use in the 800 MHz band.[416] Specifically, twelve channels currently designated for public safety use are located within the newly created Expansion Band. Because we are allowing public safety licensees to relocate out of the Expansion Band, we needed to find a new "home" for these twelve public safety channels. Therefore, we "exchanged" these twelve public safety channels for twelve SMR channels located below the Expansion Band. As a result of this exchange, all public safety channels will now be located below the Expansion Band. In order to ensure that non-cellular SMR licensees lose no spectrum in this "exchange," licensees from this category will now have access to the former twelve public safety channels located in the Expansion Band.[417]

156. The current chart designating public safety channels, lists the channel in groups with channels separated by one megahertz[418] as a concession to the fact that the combiners used in a trunked system to combine the output of multiple transmitters into a single antenna can introduce excessive loss if used with channels that are too closely spaced.[419] In modern systems, however, combiners suffer negligible loss even when the input channels are spaced as little as 250 kHz apart;[420] thus in the revised

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[414] *See* 47 C.F.R. § 90.615 in Appendix C *infra*.

[415] *See* Consensus Parties Reply Comments at 9.

[416] *See* 47 C.F.R. § 90.617(a), Table 1 in Appendix C, *infra*.

[417] Because we "exchanged" all public safety channels in the Expansion Band with SMR channels, the Expansion Band will consist of a mix of B/ILT and SMR channels. Nonetheless, we will allow public safety licensees to remain in the Expansion Band if they so choose. In addition, any public safety licensee who chooses to relocate to the Expansion Band may do so through inter-category sharing. *See* 47 C.F.R. §§ 90.621(e) and 90.677 in Appendix C *infra*.

[418] *See* 47 C.F.R. § 90.617(a), Table 1.

[419] "Loss" in this context refers to the attenuation of the transmitter carrier when it passes through the combiner. The loss is dissipated in the form of heat and the net result is that the ERP—and hence the coverage—of a system can be reduced significantly if the combiner introduces excessive loss.

[420] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010; Establishment of Rules and (continued....)

table, we separate grouped public safety channels by 500 kHz.[421] Since the new twelve public safety channels were pulled from the SMR pool, there will be non-cellular SMR licensees operating on these channels. Therefore, we hereby grandfather those non-cellular SMR licensees that are operating on the new public safety channels for an indefinite period, and we will permit the filing of modification applications by these grandfathered licensees.[422] These grandfathered licensees will operate on a strict non-interference basis, subject to pre-coordination of any new of modified operations.[423]

c. Guard Band

157. We establish a "Guard Band" in the 816-817 MHz/861-862 MHz segment of the 800 MHz band to guarantee public safety licensees an additional one megahertz spectral separation from the cellular portion of the band. Nextel will vacate the Guard Band. No licensee—including public safety and CII—will be involuntarily relocated to the Guard Band. We will grandfather all non-Nextel CMRS licensees who currently operate within the Guard Band. These grandfathered licensees will be permitted to continue operating on current frequencies, with currently authorized facilities, on a strict non-interference basis, subject to pre-coordination of any new of modified operations.[424] However, we will not accept new non-public safety applications on any of the twelve new 800 MHz public safety frequencies.

158. Once Nextel has vacated the Guard Band any 800 MHz band licensee currently operating below 816 MHz/861 MHz may apply for channels there. Any channel below 816 MHz/861 MHz vacated by a licensee relocating to the Guard Band will be available only to public safety licensees for three years from the effective date of this *Report and Order* and to public safety/CII licensees for an additional two years from that date. Licensees who voluntarily relocate to the Guard Band after Nextel has vacated will be required to tolerate increasing levels of interference from cellular-architecture systems as a function of increasing frequency.[425] The minimum median received power level required for interference protection (-104 dBm for mobile units or -101 dBm for portable units) will increase as shown in Figure 1, below. The channels these licensees vacate in the spectrum below 816 MHz/861 MHz will be available to public

(Continued from previous page)
Requirements for Priority Access Service, WT Docket No. 96-86, *Third Memorandum Opinion and Order and Third Report and Order,* 15 FCC Rcd 19844, 19857 (2000).

[421] *See* 47 C.F.R. § 90.617(a), Table 1 in Appendix C, *infra.*

[422] We believe that there is little risk of interference to public safety from these grandfathered non-cellular SMR incumbents. These incumbents will be prohibited from operating cellular systems in the non-cellular portion of the 800 MHz band. *See* 47 C.F.R. § 90.614 in Appendix C, *infra.* Further, any grandfathered site-based B/ILT or non-cellular SMR licensee who chooses to modify its license on one of these new public safety channels will be required to obtain frequency coordination and receive concurrence from a certified public safety coordinator. *See* 47 C.F.R. §§ 90.175(c) and (e). EA-based non-cellular SMR licensees who are grandfathered on these new public safety channels and choose not to relocate—while not subject to frequency coordination—will nonetheless be limited to operating within the EA of their license. *See* 47 C.F.R. § 90.683(a).

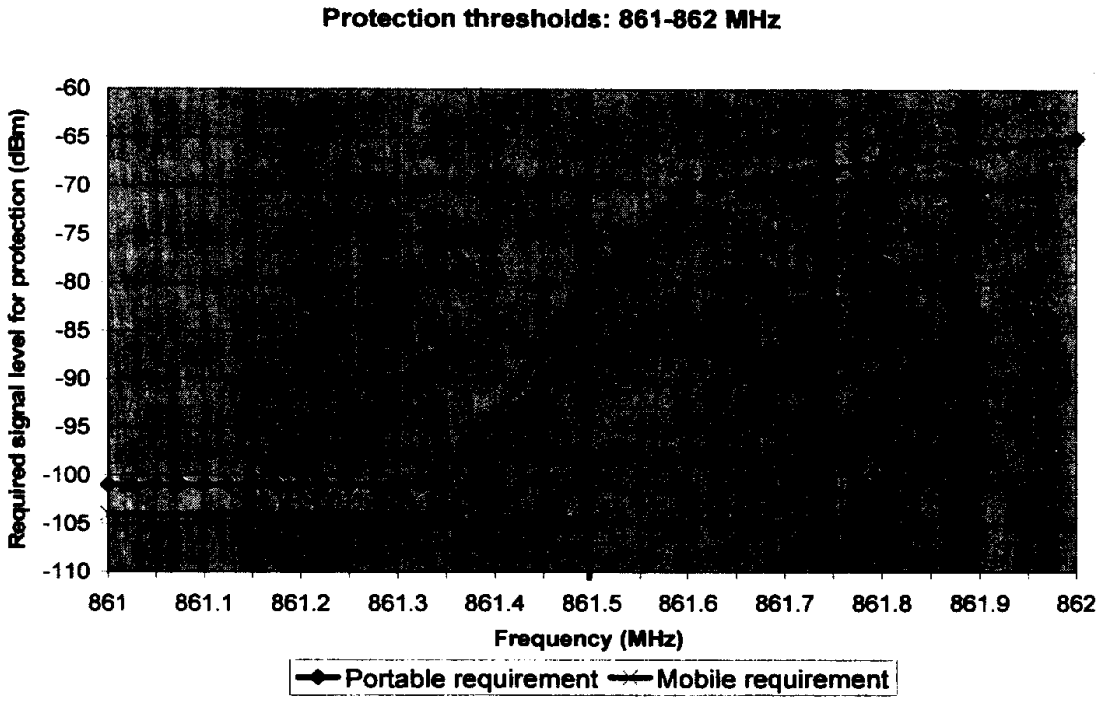
[423] *See* 47 C.F.R. § 90.617(j) in Appendix C *infra.*

[424] *Id.*

[425] The Guard Band would serve a purpose similar to the guard band channels developed to protect public safety systems from interference from commercial systems in the 700 MHz band. Cellular operations are prohibited in the 700 MHz guard band channels (746-747 MHz, 776-777 MHz, 762-764 MHz, and 792-794 MHz) to provide a buffer between public safety and commercial spectrum allocations. *See* 47 C.F.R. § 27.2(b).

safety licensees for five years and to CII licensees during years four and five of the five-year period.[426]

FIGURE 1: Required Received Signal Levels for Interference Protection



d. Relocating ESMR Operations in 800 MHz Band

159. We recognize that there are CMRS licensees other than Nextel using iDEN or iDEN-like ESMR technology in the 800 MHz band. For example, Southern LINC, a Nextel competitor, operates ESMR systems using Motorola iDEN technology in Georgia, Mississippi, Alabama and Florida.[427] Airtell Wireless, LLC, and Nevada Wireless, LLC, operate an iDEN derivative, the Harmony system, on the interleaved channels in areas of Montana and Nevada, and represent that they will be constructing Harmony systems in other markets.[428] Preferred Communications, Inc. holds spectrum rights in various areas of the continental United States and has extensive 800 MHz band spectrum rights in the Commonwealth of Puerto Rico and the U.S. Virgin Islands.[429] Some of these parties operating cellular-architecture systems in the 800 MHz band note that their systems have already created interference to public safety systems.[430]

160. The Consensus Parties did not discuss these other CMRS cellular-architecture systems,

[426] *See* 47 C.F.R. § 90.617(h) in Appendix C *infra*.

[427] *See* Southern LINC Comments at 4.

[428] *See* Letter, dated November 7, 2003, from Elizabeth Sachs, counsel for Airtell Wireless and Nevada Wireless to Marlene H. Dortch, Secretary, Federal Communications Commission.

[429] *See* Comments of Preferred to the Consensus Parties Reply Comments at 8.

[430] *Id.*

supra, but did propose that the Commission should grandfather Southern LINC's operations in the 809-821 MHz/854-866 MHz block while relocating Southern LINC's systems that currently operate in the 806-809 MHz/851-854 MHz block to the upper portion of the non-cellular segment as close as possible to the ESMR segment.[431] The Consensus Parties proposed allowing Southern LINC to operate its cellularized systems in the non-cellularized portion of the band without a waiver but with a requirement to notify all affected licensees before implementing low-site cells.[432] Under the Consensus Plan, Southern LINC would be required to pre-coordinate such operations to prevent unacceptable interference to non-cellular licensees and would be responsible for eliminating any interference.[433] The Consensus Parties did not discuss other ESMR licensees such as those mentioned *supra.* For its part, Southern LINC contends that it should be relocated to the ESMR segment, without loss of channels, where it would share spectrum with Nextel.[434]

161. We find the Consensus Parties' proposal for relocation of Southern LINC's facilities[435] too incomplete—to the extent it does not address other similarly situated licensees—and too limited. With respect to the proposal to grandfather Southern LINC's existing operations, we note that there is no evidence that these operations currently cause interference to other 800 MHz band licensees.[436] However, we can foresee that Southern LINC, in order to meet increasing subscriber demands, may desire to deploy "low site" cells which could be a source of interference to public safety and other non-cellular licensees. The interference potential is heightened because many of Southern LINC's channels are immediately adjacent to channels used by non-cellular licensees in the interleaved portion of the band. As a general proposition, ESMR systems operating in the 817-824 MHz/862-869 MHz segment of the band are less likely to cause interference than ESMR systems operating in the interleaved portion of the band. We therefore believe that the overall interference environment at 800 MHz would improve were we to allow licensees such as Southern LINC to relocate their systems to the ESMR portion of the band where they have less potential for interference to public safety and other non-cellular 800 MHz band licensees. Confining licensees such as Southern LINC to operation below 817 MHz/862 MHz is not optimal from an interference protection standpoint and could adversely affect such licensees' ability to provide adequate service to its subscribers in the future.

(i) Relocation Options

162. In order to provide an incentive for ESMR licensees to relocate their systems, we are affording them the flexibility of three options:

- Relocate all of their systems in a market into the ESMR portion of the band where they will share spectrum with Nextel; or

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[431] *See* Supplemental Comments of Consensus Parties at 44-46.

[432] *Id.*

[433] *Id.* at 45-46. Thus, for example, Southern LINC would be strictly responsible, financially and otherwise, for immediately abating any unacceptable interference; or would have to discontinue operation on the offending frequency or frequencies. *Id.* at 46.

[434] *See* Letter, dated April 5, 2004, from Christine M. Gill, Counsel for Southern LINC to Michael K. Powell, Chairman, Federal Communications Commission.

[435] *See* ¶ 160 *supra.*

[436] It attributes the lack of interference to the fact it currently operates few high-channel-density low-elevation sites. *See* Southern Comments at 6. *See also* Motorola Comments at 14, n. 24.

- Relocate their systems as close as possible to the ESMR portion of the band but remain in the non-cellular portion of the band, *i.e.* in order of preference: (a) the 816-817 MHz/861-862 MHz Guard Band;[437] (b) the 815-816 MHz/860-861 MHz Expansion Band;[438] and (c) channels below 815 MHz/860 MHz if necessary. These licensees will operate on a strict non-interference basis, subject to pre-coordination of any new or modified operations;[439] or

- Remain on their current channels in the non-cellular portion of the band on a strict non-interference basis, subject to pre-coordination of any new or modified operations.[440]

163. If non-Nextel ESMR licensees elect to relocate to the ESMR portion of the band, their EA licenses will transfer on a channel-by-channel basis, such that they have exclusive, incumbent-free, use of the new channels in the EA.[441] We recognize, however, that many of these non-Nextel ESMR licensees employ a patchwork of EA-based and site-based licenses. Therefore, we will give these licensees the option to relocate their site-based licenses along with their EA-licenses to the ESMR portion of the band. In order to transfer a site-based channel into the ESMR segment, a licensee must: (a) currently hold an EA license in the relevant market; and (b) be using the site-based license as part of a cellular-architecture system in that market as of the date of publication of this *Report and Order* in the Federal Register. Furthermore, to create a more uniform licensing scheme, the transferred site-based license will be converted to an EA-wide, incumbent-free license in the ESMR portion of the band. If non-Nextel ESMR licensees elect not to relocate to the ESMR portion of the band, but volunteer to relocate to the Guard Band or must be relocated to the Expansion Band or to the spectrum immediately below, when necessary, they must be provided comparable facilities, in the case of their site-based licenses; and, in the case of EA licenses, exclusive use of their new channels in the EA.[442]

(ii) Expanded ESMR Spectrum

164. We are aware that, in some markets, there may be insufficient spectrum in the 816-824 MHz/861-869 band segment to accommodate both incumbent ESMR licensees already operating there and new ESMR entrants migrating from the lower channels. This is particularly true of certain markets in which both Southern LINC and Nextel currently are offering service. In those markets, Southern LINC holds a large number of licenses in the interleaved portion of the band, and also holds licenses for some General Category channels. Consequently, there are an inadequate number of channels in the 816-824 MHz/861-869 MHz band segment to replicate the existing channel capacity of both Southern LINC and Nextel. We note recent *ex parte* filings in which Southern LINC and Nextel recite a preliminary agreement in which they propose that the 816-824 MHz/861-869 MHz ESMR segment be widened by five megahertz, such that the lower band edge would start at 813.5 MHz/858.5 MHz.[443] With the ESMR

[437] *See* ¶¶ 157-158 *supra.*

[438] *See* ¶¶ 154-156 *supra.*

[439] *See* 47 C.F.R. § 90.617(j) in Appendix C *infra.*

[440] *Id.* These operators, however, would be subject to possible frequency moves as necessary in order to implement reconfiguration of the 800 MHz band.

[441] These non-Nextel ESMR licensees must state their option in the realignment schedule that the Transition Administrator will transmit to the Commission. *See* ¶ 201 *infra.*

[442] *See* ¶ 201 *infra.*

[443] *See* Letter, dated June 30, 2004, from James B. Goldstein, Esq., Senior Attorney, Nextel Communications, Inc. to Michael Wilhelm, Deputy Chief - Legal, Public Safety and Critical Infrastructure Division, (continued....)

portion of the band so widened, Southern LINC and Nextel would engage in a channel exchange that would result in the configuration of channels shown in Appendix G, which also includes a map of the area in which the ESMR portion of the band would be increased, and the list of counties within the area shown on the map.

165. We note from the *ex parte* filings that the Southern LINC and Nextel agreement is not final and that the parties have not been able to agree on a final apportionment of channels in the Atlanta, Georgia market. Because of the preliminary nature of the agreement, we need not address it further here, but encourage the parties to come to an agreement that is equitable for all licensees involved.

166. Although we do not rule on the acceptability of the provisions contained in the preliminary agreement, the filings inform us that the distribution of cellular-architecture and non-cellular systems in the area shown in Appendix G is atypical. Moreover, we believe that we should change the band plan for that region now, before band reconfiguration commences, so that the overall band reconfiguration process takes the revised band plan into account. Accordingly, on our own motion, we define the ESMR band in the area shown in Appendix G as the band segment 813.5 - 824 MHz/858.5-869 MHz. The Expansion Band in this area shall extend from 812.5-813.5 MHz/857.5-858.5 MHz. All licensees operating in the band segment 806-813.5 MHz/851-858.5 MHz shall be afforded the same protection against unacceptable interference as specified in ¶¶ 96-141, *supra.*

167. Moreover, because Southern LINC's recent *ex parte* submission indicates that it intends to exercise the option of relocating into the ESMR portion of the band, we will give Nextel and Southern LINC the opportunity to finalize their agreement and recommend a channel distribution that equitably reflects the interests of all 800 MHz licensees in the area shown in Appendix G. That agreement shall be completed and submitted to the Commission for review no later than thirty days following the publication of this *Report and Order* in the Federal Register. The agreement must include mutual non-disclosure provisions and a clear delineation of the costs to be borne by each party. It shall also include a proposed band reconfiguration schedule consistent with the obligations we have imposed on Nextel in this *Report and Order.* The agreement also shall contain an engineering analysis demonstrating that the channel plan can be implemented consistent with public safety and B/ILT licensees retaining the spectrum necessary to accommodate them. We delegate to the Chief of the Wireless Telecommunications Bureau, the authority to review the agreement, and to resolve any disputed matters submitted to the Commission for *de novo* review.

168. In the event the parties fail to reach agreement by the date specified *supra*, they shall submit their differences to the Transition Administrator who will attempt to facilitate a final agreement. If the disputed matters are not resolved within thirty days, the Transition Administrator will submit the entire record to the Commission for *de novo* review. Parties are hereby put on notice that disputed matters concerning ESMR channels in any area of the country, including the area shown in Appendix G may be resolved by the Commission making a *pro rata* distribution of ESMR channels.[444] In the case of the area

(Continued from previous page)
Wireless Telecommunications Bureau, Federal Communications Commission. *See also* Letter, dated June 30, 2004, from Christine M. Gill, Esq., Counsel to Southern LINC to Michael Wilhelm, Esq., Federal Communications Commission.

[444] When the ESMR spectrum is not adequate to accommodate all eligible licensees that wish to relocate to the ESMR block, and parties are unable to agree, we may apportion the ESMR block as a function of the relative spectrum rights each licensee holds in a given EA. For example, in a hypothetical market, outside the area shown in Appendix G, in which licensee "A" currently has rights to 150 channels and licensee "B" has rights to 250 channels, the 320 channels in the ESMR block would be apportioned by giving licensee "A" access to 128 channels (40%) and licensee "B" access to 192 channels (60%).

shown in Appendix G, a *pro rata* apportionment could reduce the current number of channels available to Nextel. However, we observe that Nextel has additional spectrum at 900 MHz which can be used to offset the shortfall and is receiving spectrum at 1.9 GHz. With respect to Southern LINC, we observe that its relocation to the ESMR block would provide Southern LINC with clear, contiguous spectrum arguably of greater value and capacity than the spectrum it now occupies. This would occur because, in some instances, Southern LINC would receive clear spectrum, in exchange for site-based channels which cannot currently be used in the entire EA because of the need to protect incumbents.

169. Finally, because we are extending the ESMR band to 813.5 MHz/858.5 MHz in the counties listed in Appendix G, some coordination between licensees will be necessary at the edge of these counties. Specifically, ESMR licensee operating within these counties will be required to maintain minimum co-channel spacing distances to incumbent non-cellular licensees operating just outside these counties.[445] In addition, there may be instances where a non-cellular licensee operating just outside these counties may need to relocate above 813.5 MHz/858.5 MHz in order to complete band reconfiguration. In these instances, the EMSR licensees operating within the counties listed in Appendix G will make all necessary accommodations in order to provide the non-cellular licensee with the minimum required co-channel spacing on the new channel.[446]

e. Permitting Additional Non-ESMR Cellular Architecture Systems in the 800 MHz Band

170. Some CII parties, such as utilities, contend that excluding cellular systems from the non-cellular portion of the 800 MHz band (806-817 MHz/851-862 MHz) will impose a hardship on CII licensees whose communications needs require a transition of their systems to cellular architecture.[447] We wish to proceed cautiously in this area out of concern over replicating the unacceptable interference problem we are attacking through band reconfiguration; but we also wish to avoid unnecessarily constraining the use of innovative technology in the process. The record suggests that CII cellular systems, with well-designed network architecture, can operate without causing unacceptable interference so long as they avoid the high-density cell operations that have been a frequent source of interference to date. We reach this finding in part because we do not anticipate that such CII or public safety systems will require high density, high user-capacity systems such as those used by CMRS licensees. The "non-CMRS" nature of these systems would suggest that they would not grow to have such high user demand that extensive deployment of low site cells would be required.[448]

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[445] *See* 47 C.F.R. § 90.621.

[446] We note that co-channel spacing may be reduced through short-spacing agreements. *See* 47 C.F.R. § 90.621(b)(5).

[447] *See* Comments of Cinergy to Supplemental Comments of Consensus Parties at 19; Comments of AMTA to Supplemental Comments of Consensus Parties at 4; Comments of Baltimore to Supplemental Comments of Consensus Parties at 7; Comments of Entergy to Supplemental Comments of Consensus Parties at 29; Comments of Scott C. Macintyre to Supplemental Comments of Consensus Parties at 1; Reply Comments of Cinergy to Supplemental Comments of Consensus Parties at 28; Reply Comments of Con-Ed to Supplemental Comments of Consensus Parties at 10; letter, dated May 6, 2004, from Shirley Fujimoto, Council for Entergy Corporation, Consumers Energy and Cinergy Corporation, to John Muleta Chief, Wireless Telecommunications Bureau, Federal Communications Commission (Entergy, Consumers and Cinergy May 6 *Ex Parte*).

[448] We note that, because we are affording CII licensees a special status because of their safety-related communications, we believe it would be anomalous to allow CII licensees to convert their systems to CMRS operation in which communications seldom are safety-related. Accordingly, we limit our definition of CII to those (continued....)

171. In this regard, the Consensus Parties offer a definition for the type of "high-density cellular" system they believe should be prohibited from operating in the non-cellular portion of the 800 MHz band.[449] The Consensus Parties would define a "high-density cellular" system as any system with (1) five or more overlapping interactive sites featuring hand-off capability; (2) any one of such sites having an antenna height of less than 100 feet above ground level with an antenna height above average terrain (HAAT) of less than 500 feet; (3) and any one of such sites having more than twenty paired frequencies.[450]

172. Several CII licensees, however, believe that the Consensus Parties definition is overly broad and would unduly limit the operation of many non-CMRS systems that pose little or no likelihood of harmful interference to other licensees in the 800 MHz band.[451] For instance, these CII licensees contend that the Consensus Parties definition would prohibit systems where any of these characteristics are present even though no individual site exhibits all of these characteristics.[452] Therefore, these CII licensees suggest applying the Consensus Parties definition on a site-by-site basis rather then on a system-wide basis.[453] We agree. The Consensus Parties were unclear about whether their definition should be applied system-wide or on a site-by-site basis. We believe that only sites which exhibit all of the characteristics described by the Consensus Parties would likely cause interference to other licensees in the 800 MHz band. Therefore, we will permit licensees to operate cellular-architecture systems in the non-cellular portion of the band without need for waiver so long as those systems are not high-density cellular systems under the following definition of "800 MHz cellular system":[454]

- a system having more than five overlapping interactive sites featuring hand-off capability; and
- any one of such sites has an antenna height of less than 100 feet above ground level with an antenna height above average terrain (HAAT) of less than 500 feet and more than twenty paired frequencies.[455]

173. If a licensee does wish to operate an 800 MHz cellular system, it will be required to obtain waivers for any and all sites that meet the second of our two criteria. In that case, a CII or public safety system licensee may avail itself of the Commission's waiver process pursuant to the waiver criteria set out in Section 1.925 of the Commission's Rules.[456] Any such request shall contain both a persuasive

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entities who operate radios systems for private internal use. *See* n. 11*supra*. Any licensee who converts to CMRS will fall outside our definition of CII and no longer be eligible for any of the benefits we extend to CII licensees

[449] *See* Reply Comments of Consensus Parties to Supplemental Comments of Consensus Parties at 28.

[450] *Id.*

[451] *See* Entergy, Consumers and Cinergy May 6 *Ex Parte* at 1.

[452] *Id.* at 1.

[453] *Id.*

[454] We emphasize that this definition of "800 MHz cellular system" applies only for this purpose in the 800 MHz band, and is not intended as a basis for making cellular/non-cellular distinctions for other purposes.

[455] We recognize that this definition encompasses operations where the overlapping interactive sites comprise only a portion of the overall communications "system" of a licensee. The licensee needs to obtain a waiver, however, only with respect to particular sites in the overlapping site clusters that satisfy the second criterion.

[456] 47 C.F.R. § 1.925.

showing of need and a demonstration of non-interference. Any waiver granted, will contain a continuing non-interference condition.[457] As stated above, cellular-architecture systems that do not come within the foregoing "800 MHz cellular" definition may be operated without need for a rule waiver; nonetheless, they must not cause unacceptable interference to 800 MHz "high-site" non-cellular systems. Our reason for requiring waivers for sites in high-density cellular systems is, in one respect, a means to ensure that system designers "do their interference abatement homework" before seeking Commission authorization for a facility in the non-cellular portion of the band. Moreover, proceeding only pursuant to waiver will allow us to more carefully gauge the effect that such high-density cellular technology in the non-cellular portion of the 800 MHz band would have. We can then revisit the matter at a later date before serious harm is done if new systems proliferate and cause unacceptable interference. Most importantly, were we to decide, here, to allow unrestricted, high density cellular operation in the non-cellular portion of the band, we would undo four years of intensive study and terminate this proceeding by virtually issuing an invitation for a high-density, multi-cell operator to construct interference-generating systems in incompatible spectrum and potentially put our first responders at risk and threaten their ability to adequately address Homeland Security threats. We will monitor this cellular restriction carefully and revisit it if necessary. As with any of our rules, waivers are available to accommodate special circumstances. However, there would be a high burden to surmount for any party seeking a waiver for CMRS operation.

174. As stated above, our definition of "800 MHz cellular system" should not be interpreted to allow cellular-configuration systems that do not come within the cellular definition to cause unacceptable interference or to relieve them from the cost and other responsibility for promptly abating unacceptable interference in the 800 MHz band should it occur. Rather, our cellular definition in the 800 MHz band context serves only as a demarcation between systems that can operate in the non-cellular portion of the 800 MHz band without a waiver and those that require a waiver.

3. Border Regions

175. Several parties note, and we concur, that no feasible band plan suggested in this proceeding comports with the current arrangement the United States has with Canada or with the protocols it has with Mexico for use of the 800 MHz band in the border areas. The existing border band plans, contained in Section 90.619 of our rules have evolved from periodic negotiations with these countries and have been adjusted from time to time. The border band plans are not consistent along the border; there are different distributions of channels in given border regions, primarily because of demographic considerations. The Consensus Parties were the only party to file a band plan for the border area; and several commenting parties, including Industry Canada—pointed out that the border area plan proposed by the Consensus Parties' had multiple flaws, including:

- *Mutual Aid Channels.* The border area plan fails to maintain channels designated by international agreements for mutual aid with Canada and Mexico.[458] The Consensus Parties

[457] Any cellular architecture system operating in the non-cellular portion of the band, whether authorized by waiver or otherwise, must strictly comply with the provisions of Section 90.673 as adopted in this *Report and Order.*

[458] *See* Comments of King County RCB to Supplemental Comments of the Consensus Parties at 4; Comments of MI DIT to Supplemental Comments of the Consensus Parties at 5; Comments of NY OIT to Supplemental Comments of the Consensus Parties at 6-8; Reply Comments of NY OIT to Supplemental Comments of the Consensus Parties at 5-6. Current international agreements designate five channels in the NPSPAC portion of the band (821-824/866-869 MHz) for public safety mutual aid between the U.S. and Canada and Mexico. These five channels are intended to facilitate interoperability between Canadian, Mexican and U.S. public safety licensees. The mutual aid channels are 821.0125/866.0125 MHz (calling), 821.5125/866.5125 MHz, 822.0125/867.0125 (continued....)

suggest relocating these channels to the lower portion of the 800 MHz band.[459] The Consensus Parties, however, fail to explain how users in Mexico or Canada would be compensated for retuning or replacement of equipment needed to operate on the new mutual aid channels.

- *Maintaining Spectrum for Various Pools.* The Consensus Parties' border area plan fails to maintain comparable spectrum for various 800 MHz band pools (public safety, B/ILT, SMR).[460] For instance—in certain regions—public safety loses channels after band reconfiguration while ESMR licensees gain channels after band reconfiguration.[461]

- *Public Safety Spectrum in Mexico Border Area.* Many of the channels in the Consensus Parties' border plan, designated for public safety use in the Mexico Border Region—after band reconfiguration—may be unusable because of short-spacings to co-channel incumbents outside of the border area.[462] For instance—due to co-channel spacing requirements—incumbent non-border licensees may "block" numerous channels designated for public safety use in San Diego, CA and Tucson, AZ.[463]

- *U.S. Operations on Canada/Mexico Primary Channels.* The Consensus Parties' border area plan is silent on relocation of U.S NPSPAC systems currently operating on Canada or Mexico primary channels.[464]

- *Channel Spacing.* The Consensus Parties' border area plan would reduce the span of frequencies available to B/ILT and non-cellular SMR licensees thus greatly reducing the span

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MHz 822.5125/867.5125 MHz and 823.0125/868.0125 MHz. *See U.S –Mexico Agreement,* Appendix C at Section 1 and *1990 U.S.-Canada Agreement* at Section 2.1c.

[459] *See* Supplemental Comments of the Consensus Parties, Appendix G-4.

[460] *See* Comments of American Elec. to Supplemental Comments of the Consensus Parties at 15-16; Comments of Boeing to Supplemental Comments of the Consensus Parties at 5-8; Comments of Border Area Coalition to Supplemental Comments of the Consensus Parties at 6-8; Comments of Consumers to Supplemental Comments of the Consensus Parties at 11-12; Comments of NY OIT to Supplemental Comments of the Consensus Parties at 4-6; Comments of Pinnacle to Supplemental Comments of the Consensus Parties at 6; Reply Comments of Boeing Reply to Supplemental Comments of the Consensus Parties at 9; Reply Comments of Central ME Power to Supplemental Comments of the Consensus Parties at 2-3; Reply Comments of Consumers Energy to Supplemental Comments of the Consensus Parties at 5-6; Reply Comments of NY OIT to Supplemental Comments of the Consensus Parties at 4-5; Reply Comments of San Diego Reply to Supplemental Comments of the Consensus Parties at 2-5.

[461] *See* Comments of American Elec. to Supplemental Comments of the Consensus Parties at 16; Comments of Border Area Coalition to Supplemental Comments of the Consensus Parties, Exhibit B at 3; Comments of Pinnacle to Supplemental Comments of the Consensus Parties at 6; Comments of NY OIT to Supplemental Comments of the Consensus Parties at 6.

[462] *See* Comments of Border Area Coalition to Supplemental Comments of the Consensus Parties, Exhibit A at 1-2, Exhibit B at 1-2, 7-8; Comments of San Diego to Supplemental Comments of the Consensus Parties at 2-4. Co-channel stations are generally required to maintain a fixed distance separation of 70 miles (113 km). *See* 47 C.F.R § 90.621(b).

[463] *Id.*

[464] *See* Comments of Snohomish County ERS to Supplemental Comments of the Consensus Parties at 2-3.

of frequencies which can be combined into a trunked system.[465]

- *Exacerbating the "Double Border."* Border area licensees currently need to coordinate both with licensees outside the U.S (Mexico/Canada) and U.S licensees in the non-border area. The Consensus Parties' reconfiguration plan exacerbates this problem due to the extensive channel relocations involved in band reconfiguration.[466]

- *Canada/Mexico NPSPAC Licensees.* The Consensus Parties make no mention of whether their reconfiguration proposal will negatively affect NPSPAC operations in Canada and Mexico.[467] Under the Consensus Parties band plan, after band reconfiguration, ESMR operations on the U.S. side of the border would operate on the same channels as NPSPAC operations in Canada and Mexico.

- *iDEN Arrangement.* The border area plan will affect a current agreement between the U.S. and Canada to reserve certain channels in the 800 MHz band for iDEN digital networks.[468]

176. We note that our agreements with Mexico and Canada establish a distance beyond which U.S licensees need not consider border stations when selecting channels. The distance is 140 km (87 mi.) and 110 km (68.4 mi.) from the border for Canada and Mexico, respectively.[469] Depending on how the border band plans develop, there is the possibility of a "double border." The second border would be created if the overall U.S. band plan differs from a band plan for the border regions. For example, the overall U.S. band plan may assign a given channel for public safety use, *e.g.* Channel 88 and the border band plan may assign the same channel for ESMR use. In this example, the strict responsibility regime we establish today requires the ESMR Channel 88 licensee to protect the non-cellular 800 MHz system against unacceptable interference. In instances in which a border band plan results in different uses of a given channel for non-cellular systems, *e.g.* a U.S. SMR system operating in the Mexican border area and a public safety channel operating beyond the 110 km line, *supra,* our current coordination procedures would come into play and the two users would be protected against mutual unacceptable interference by required distance spacings.[470] The details of the border band plans will be determined in our ongoing discussions with the Mexican and Canadian governments. One principal goal of these discussions will be to ensure that the capability for cross-border mutual aid communications is maintained. Thereafter, we will address any "double border" issues. Until border agreements are reached, however, 800 MHz licenses in the border area will be conditioned on compliance with international agreements. We further note that Nextel will bear the financial responsibility for the completion of any system modifications

[465] *See* Comments of Border Area Coalition to Supplemental Comments of the Consensus Parties, Exhibit D at 2-3; Comments of Consumers Energy to Supplemental Comments of the Consensus Parties at 9.

[466] *See* Comments of Boeing to Supplemental Comments of the Consensus Parties at 10-11; Comments of Border Area Coalition to Supplemental Comments of the Consensus Parties, Appendix D at 3; Comments of Pinnacle to Supplemental Comments of the Consensus Parties at 3-4; Reply Comments of Boeing to Supplemental Comments of the Consensus Parties at 8-9.

[467] *See* Comments of Industry Canada to Supplemental Comments of the Consensus Parties at 7.

[468] *Id* at 6.

[469] *See, e.g.,* 47 C.F.R. § 90.619 in Appendix C *infra.*

[470] *Id.*

necessitated by any future international agreements.[471]

4. Cost Responsibility

177. Band reconfiguration will be costly. We believe, however, that sole reliance on Enhanced Best Practices to abate unacceptable interference would entail a continuing expense that—over the long term—would eclipse the admittedly high initial cost of band reconfiguration.[472] Under the Consensus Proposal, and the rules that we adopt today, the cost of band reconfiguration can be accommodated to successfully address the critical interference problems faced by public safety providers. Moreover, we are confident that Nextel is capable of fulfilling its central role in achieving this result, given its demonstrated ability to bear the upfront costs of band reconfiguration.[473] The record does not reveal any effective alternative to the one we fashioned here—either by band reconfiguration or otherwise—to solve the instant problem. No other spectrum management approach provided the same assurances of success. Furthermore the plan we are adopting today will preserve the abilities that public safety licensees are likely to need in order to meet their increased Homeland Security obligations.

178. Under the band reconfiguration plan, the principle cost component will be borne by Nextel, which will pay for all channel changes necessary to implement the reconfiguration.[474] Nextel is obligated to ensure that relocated licensees receive at least comparable facilities when they change channels.[475] Moreover, a licensee electing to relocate to the ESMR block voluntarily, must receive clear, incumbent-free replacement spectrum. Thus, Nextel shall be responsible for the clearance of any incumbents affecting the replacement channel. If disputes arise concerning the cost allocation, the matter may be referred to the Transition Administrator for resolution; and, failing that, to the Chief of the Wireless Telecommunications Bureau for *de novo* review.[476]

a. Relocation Costs and Remuneration

179. The Consensus Parties estimated the cost of reconfiguring the 800 MHz band at $850 million. Nextel committed to pay up to that amount conditioned on Commission approval of the Consensus Plan without material change.[477] We conclude, however, that we cannot reasonably "cap" the amount required for band reconfiguration if completing the reconfiguration process requires more than

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[471] In the event that the requisite border area agreements are not reached within thirty-six months of the release date of the Public Notice announcing the start of reconfiguration of the first NPSPAC Region, Nextel shall elect to extend the life of the letter of credit or secure a separate letter of credit for a sum of money equal to that which would have been incurred had the Commission band plan been implemented along the borders without regard to international agreements.

[472] *See* ¶¶ 120-121 *supra*.

[473] *See* ¶ 29 *supra*. *See also* n. 478 *infra*.

[474] We note that 800 MHz licensees may divide relocation costs with Nextel if they so choose. For instance, we observe that Southern LINC and Nextel are working on an agreement whereby costs for relocating Southern LINC's facilities may be divided between the two parties. *See* ¶¶ 164-168 *supra*.

[475] *See* ¶ 201 *infra*.

[476] *See* ¶ 194 *infra*.

[477] Supplemental Comments of the Consensus Parties at iv-v.

$850 million.[478] First, as discussed above, our band reconfiguration plan differs from that of the Consensus Parties, most particularly with respect to considerations affecting efficient use of the spectrum. In light of these changes, we place less reliance on the assumptions Nextel made when it estimated the cost of band reconfiguration. We did not undertake an *ab initio* analysis of the cost of band reconfiguration but instead carefully analyzed the data contained in the record. In that regard we have taken careful notice of certain sensitive assumptions in Nextel's analysis, which, if varied by only a few percent, greatly affect Nextel's cost estimate.[479] The one certainty that we derive from our analysis is that it would be unwise in the extreme to proceed with band reconfiguration without making it clear that Nextel is obligated to cover the entire cost thereof, with no "cap."[480] Thus, if we accepted any cap on Nextel's reconfiguration cost obligations and its estimates proved low—*i.e.*, if we capped costs at $850 million and that amount was exhausted before the completion of nationwide band reconfiguration—a balkanized 800 MHz band would likely result, in which public safety agencies in one section of the country would operate pursuant to a revised band plan and other agencies would operate pursuant to the current, interference-ridden, band plan. This could seriously diminish public safety interoperability between NPSPAC Regions, and could also impair the ability of non-NPSPAC public safety systems to develop interoperable networks. We also observe that the Consensus Parties themselves admit the possibility that $850 million may prove inadequate.[481] Thus, when discussing the assurance that the exhausted funds would not result in a half-reconfigured 800 MHz band, they state that: "no incumbent licensees will be required to relocate within a Region...unless funding is available for all licensee relocations required in that Region."[482] While this addresses the possibility of the incomplete reconfiguration of a single Region, the Consensus Parties are silent on the greater hazard resulting from the funds evaporating before the reconfiguration of all Regions: *e.g.*, a negative effect on inter-region interoperability.

b. Continued Availability of Funds

180. In the *NPRM*, the Commission sought comment on how to guarantee the availability of funding to complete the reconfiguration of the 800 MHz band regardless of the financial status of the contributing party or parties.[483] In response, parties suggested how to ensure the completion of band reconfiguration notwithstanding the inability of the funding entity to continue to furnish funds for reasons of bankruptcy or otherwise.[484] The Consensus Parties, for example, initially proposed that Nextel could secure its ability to fund retuning costs by setting up a separate corporate entity to hold assets securing the Nextel funding obligation. The stock of the entity would be pledged to an escrow agent/trustee, with the

[478] We take this step pursuant to Section 4(i) of the Communications Act. 47 U.S.C. § 154(i).

[479] *See* n. 489 *infra*.

[480] This is consistent with the Commissions actions in the Upper 200 and Microwave Relocation proceedings. *See* Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, PR Docket No. 93-144 and Amendment to the Commission's Rules Regarding a Plan for Sharing Costs of Microwave Relocation, WT Docket No. 95-157.

[481] Supplemental Comments of the Consensus Parties at 6 (noting estimate of total costs for relocating public safety licensees is subject to several significant variables such as the number of total radios which will need to be replaced).

[482] *See* Supplemental Comments of the Consensus Parties at 12.

[483] *See NPRM*, 17 FCC Rcd at 4899 ¶ 45.

[484] *See, e.g.*, Supplemental Comments of the Consensus Parties at 8; Nextel Nov 3 *Ex Parte*.

power to sell the assets and hold the cash proceeds in escrow for the benefit of the Fund Administrator in the event Nextel failed to meet its payment obligations.[485] However, this proposal was superseded on November 3, 2003, when Nextel committed to deposit $100 million in cash into an escrow account created and designated for paying 800 MHz band reconfiguration costs pursuant to the Consensus Plan and securing up to an additional $750 million for this purpose through an irrevocable stand-by letter of credit.[486] Nextel claims that this proposal would insulate band reconfiguration funds from any financial reversals that Nextel might encounter, including bankruptcy.[487]

181. Nextel's escrow deposit and irrevocable stand-by letter of credit appear better capable of assuring continued relocation funding than the Consensus Parties' earlier proposal, although we prefer to rely solely on the Letter of Credit. However, we remain mindful of those parties who questioned the Consensus Plan cost estimates, both with respect to the number of systems that would have to be relocated and whether equipment in those systems could be retuned or would have to be replaced.[488] We also recognize that even small errors in certain sensitive parameters could dramatically increase total relocation costs.[489] We are therefore faced with the question of who should assume the risk if relocation cost projections prove to be inadequate: Nextel, which made the estimates, or the public, which would suffer the consequences of incomplete implementation of a nationwide 800 MHz band plan. In resolving that question, we note that Nextel has stated that it is "highly confident" in the accuracy of its estimates, which suggests that it perceives little risk in assuming the entire band reconfiguration obligation.

[485] *See* Supplemental Comments of the Consensus Parties at 8.

[486] *See* Nextel Nov. 3 *Ex Parte* at 3.

[487] *See id.* at 3; Supplemental Comments of the Consensus Parties at 7-8; *cf. NPRM,* 17 FCC Rcd at 4899 ¶ 45 (seeking comment on safeguards to guarantee that the "then state of finances of a contributing party or parties" would not hinder the completion of band reconfiguration).

[488] *See* Comments of Mobile Relay Associates to Supplemental Comments of the Consensus Parties at 6; (no way to determine whether Consensus Plan adequately estimates overall funding needs); Comments of Border Area Coalition to Supplemental Comments of the Consensus Parties at 12 (Consensus Plan does not take into account additional costs that border area licensees would incur); Comments of Small Business in Telecommunications to Supplemental Comments of the Consensus Parties at 2-4 (questioning estimate of $17,000 per channel for relocation and $12,000 per channel for rebanding.). *See also* Comments of CTIA to Supplemental Comments of the Consensus Parties at 10 and Comments of Michigan DIT to Supplemental Comments of the Consensus Parties at 3 (Consensus Plan underestimates number of small public safety systems that would be relocated).

[489] Nextel's estimates are based on replacing one percent of public safety portable and mobile radios. However, the City and County of San Diego provided estimates that more than thirty percent of its units would have to be replaced. *See* Comments of San Diego to Supplemental Comments of the Consensus Parties at 12-13. Subsequently, Nextel filed a letter stating that the San Diego estimates were overstated; but that, nonetheless, more than one percent of the units in the San Diego system would have to be replaced. *See* Letter, dated February 20, 2004, from Larry Krevor, Esq., Nextel to Michael Wilhelm, Esq. Public Safety and Critical Infrastructure Division, Wireless Telecommunications Bureau, Federal Communications Commission. The San Diego system may not be representative inasmuch as it was constructed in 1991 and is still using radios of that vintage. *See also, e.g.* Reply Comments of ALLTEL *et. al.* to Supplemental Comments of the Consensus Parties at 6-7 (the cost of receiver replacement increases $78 million for every one percent increase in number of receivers that must be replaced.) *See also* Comments of Verizon Wireless to Supplemental Comments of the Consensus Parties at 10 and Comments of Preferred Communications to Supplemental Comments of the Consensus Parties at 9-10 (Questioning Consensus Plan estimate that one percent of public safety receivers would need to be replaced) Comments of Ameren to Supplemental Comments of the Consensus Parties at 5 (Consensus Plan proposal of $150 million to relocate B/ILT incorrectly assumes that relocation would only require the replacement of only five percent of B/ILT equipment).

However, we also believe it is important to protect against the risk of Nextel experiencing an unanticipated financial crisis or insolvency that would impair its ability to fully fund relocation.

182. Because the Commission Plan requires Nextel to shoulder a greater financial obligation than the financial obligation envisioned in the Consensus Plan, we will require Nextel to increase the amount of money irrevocably available to ensure completion of band reconfiguration. Specifically, we will require Nextel to provide an irrevocable letter of credit securing $2.5 billion.[490] This letter of credit will serve as the funding source for the costs involved in reconfiguring the 800 MHz systems for non-Nextel licensees and possibly as the source for any payment to the United States Treasury.[491] Nextel must directly pay its own relocation costs as well as such obligations such as the reimbursement of UTAM, the relocation of BAS incumbents and the compensation of the Transition Administrator and the Letter of Credit Trustee. We have provided a model letter of credit at Appendix E, *infra,* and expect that the letter of credit will be issued in substantially the same form set forth therein.[492] While we require that only one financial institution, acceptable to the Commission,[493] issue the letter of credit, we have no objection to the indirect participation of other financial institutions, acceptable to the Commission, if necessary.[494]

183. As described more fully at ¶¶ 198-200 *supra,* the Trustee will draw upon the letter of credit those funds necessary to accomplish band reconfiguration. As part of the process by which the Transition Administrator will certify that band reconfiguration in a particular NPSPAC region is complete—or at Nextel's reasonable request, the Transition Administrator will evaluate the sum remaining available under the initial letter of credit and any subsequent letter(s) of credit issued pursuant to this *Report and Order.* If, at any time, the Transition Administrator documents that the letter(s) of credit does not retain sufficient undrawn funds to ensure completion of band reconfiguration, Nextel will be required to open an additional letter of credit. If, however, the Transition Administrator documents

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[490] We emphasize that the required $2.5 billion security is not a "cap" on Nextel's obligations hereunder, whether for 800 MHz band reconfiguration or 1.9 GHz band clearance. We further emphasize that this determination does not represent a finding by the Commission that 800 MHz band reconfiguration can, in fact, be accomplished for $2.5 billion.

[491] *See* ¶¶ 186 *infra.*

[492] The model letter of credit provides that the letter will be issued for five years unless it contains an "evergreen" clause. If such a clause is included in the letter of credit and the issuing institution gives notice of non-renewal, Nextel shall ensure that a replacement letter is issued no later than thirty days prior to the expiration date of the letter of credit. A failure to do so shall entitle the Commission to instruct the Trustee to make a draw on the letter of credit for the entire remaining balance thereof.

[493] A bank that is acceptable to the Commission to issue the Letter of Credit is a) any United States Bank that (i) is among the 50 largest United States banks, determined on the basis of total assets as of December 31, 2003, (ii) whose deposits are insured by the Federal Deposit Insurance Corporation, and (iii) has a long-term unsecured credit rating issued by Standard & Poor's of A- or better (or an equivalent rating from another nationally recognized credit rating agency); and b) any non-U.S. bank that (i) is among the 50 largest non-U.S. banks in the world, determined on the basis of total assets as of December 31, 2003 (determined on a U.S. dollar equivalent basis as of such date), (ii) has a branch office in New York City or such other branch office agreed to by the Commission, (iii) has a long-term unsecured credit rating issued by a widely-recognized credit rating agency that is equivalent to an A- or better rating by Standard & Poor's, and (iv) issues the Letter of Credit payable in United States dollars. Should the bank's credit rating fall below A- or equivalent rating, the Commission may require Nextel to procure the issuance of a letter of credit in an amount equivalent to that remaining on the current letter of credit by a bank that meets the criteria set forth herein.

[494] *Id.*

that the letter(s) of credit secures funds in excess of those needed to ensure completion of band reconfiguration, Nextel will be allowed to reduce the amount of the letter(s) of credit. At no point, however, will the Transition Administrator allow Nextel to reduce the total aggregate secured by the letter(s) of credit below $850 million. We believe that allowing reductions in the letter(s) of credit will relieve Nextel of an unnecessary financial burden and anticipate that Nextel may use the monies freed by the reduction to improve or expand its network, including its operations in the 1.9 GHz band. This would not only improve its service to the public, but the revenues derived from this improved service would strengthen its financial position and serve as an additional hedge against financial reversals that might affect band reconfiguration. At the conclusion of the true-up process, including securing the funds necessary to ensure reconfiguration of the band in border areas, Nextel's obligation to provide security for the cost of 800 MHz band reconfiguration shall terminate and the letter(s) of credit will terminate.[495]

184. The letter(s) of credit shall specify a trustee, acceptable to the Commission, as the beneficiary, which shall administer the funds from the letter of credit and receive the funds from the letter of credit in the event of a Nextel default. Nextel and the Letter of Credit Trustee shall formalize the terms of their relationship with a written contract and/or a trust deed, drafts of which shall be submitted for Commission final review and approval.[496] On the occasion of a material breach by Nextel of its obligations hereunder, as declared by the Commission, said trustee shall be entitled to draw on the letter of credit as specified in such instrument. The funds shall be devoted to reconfiguration of the 800 MHz band and possibly payment to the United States Treasury.[497] Neither the Transition Administrator nor the Letter of Credit Trustee will be compensated from funds available under the letter of credit, but will be compensated directly by Nextel.

185. If Nextel is unable or unwilling to fulfill its obligations pursuant to this *Report and Order*, the Commission can approve the use of letter of credit funds to compensate the Transition Administrator and the Letter of Credit Trustee for their services. The trustee shall stand as a fiduciary to the Commission. Letter of credit funds shall be applied first to band reconfiguration of non-Nextel licensees; and then to the relocation of Nextel's facilities as required to conform to the new 800 MHz band plan. Should the funds be insufficient to complete relocation of Nextel's facilities, the licenses of unrelocated Nextel facilities shall automatically revert to secondary status. Pursuant to such secondary status, such unfinished Nextel facilities must not interfere with, and must accept interference from, any other 800 MHz licensee.

186. As described in paragraph 330 *infra*, the Wireless Telecommunications Bureau will issue a Public Notice specifying the amount that Nextel will pay the United States Treasury. If Nextel does not make payment of any amount that it owes within thirty days of issuance of this Public Notice, the amount Nextel owes will be paid from the letter(s) of credit. If the letter(s) of credit do not secure sufficient funds, then, in addition to debt collection remedies that the government may employ, the Commission will determine whether forfeitures should be imposed and/or whether Nextel licenses, included, but not limited to its 1.9 GHz licenses, should be revoked.

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[495] *See* Appendix E–Annex C, *infra* (Termination of Letter of Credit form).

[496] The contract will authorize the formation of the "800 MHz Relocation Trust" and the corpus of the trust will be the letter or letters of credit issued pursuant to the terms of this Order. The trust will be permitted to receive and hold draws under the letter of credit to facilitate multiple payments to particular licensees, vendors, contractors, etc., to pay for approved relocation costs. An outline of the key terms envisaged by the Commission are attached hereto as Appendix E-Annex D.

[497] *See* ¶¶ 186, 329-332 *infra*.

187. Because the Commission does not engage in deciding debtor-creditor matters, including those relating to bankruptcy, we, *inter alia,* will not permit Nextel to operate within the 1.9 GHz band without first providing the Commission with a legal opinion letter, at Nextel's cost, from bankruptcy counsel chosen by Nextel. This restriction is a condition of Nextel's modified license. In order to meet this condition, the opinion letter must clearly state, subject only to customary assumptions, limitations and qualifications, that in a proceeding under Title 11 of the United States Code, 11 U.S.C. Section 101 et seq. (the "Bankruptcy Code"), in which Nextel is the debtor, the bankruptcy court would not treat the Letter of Credit or proceeds of the Letter of Credit as property of Nextel's bankruptcy estate under Section 541 of the Bankruptcy Code. The scope of the opinion letter must also cover such other opinions as the Commission shall request. The opinion letter must contain detailed legal analysis of the basis of counsel's opinion. A draft opinion letter must be submitted for review and approval by the Commission's Office of General Counsel prior to issuance of the opinion. Bankruptcy counsel, and, if applicable, counsel's firm, must have a Martindale-Hubbell rating of "A/V" and must satisfy the Commission in all other respects.

5. Logistics of Band Reconfiguration

188. In the *NPRM,* the Commission acknowledged that any band restructuring proposal would require incumbents to relocate.[498] We therefore sought comment on how to implement reconfiguration of the 800 MHz band with minimum disruption to incumbent licensees. We did not endorse or propose any specific transition plan, but instead sought comment on several proposals that would help inform our decision regarding relocation and which reflected our underlying goal that relocation plans should appropriately balance the interests of all licensees.

189. In the *NPRM,* the Commission sought comment on the best mechanism to collect and administer funds and to resolve disputes with respect to the relocation of public safety systems.[499] The Consensus Parties recommend creation of a five member Relocation Coordination Committee (RCC) to oversee the relocation process.[500] For example, the RCC would first prioritize the NPSPAC regions for relocation according to population and greatest incidence of interference.[501] They also proposed a Planning Committee—separate from the RCC—to review each new relocation channel assignment to ensure that the relocated licensee would not cause or receive unacceptable co-channel interference on the new channel(s).[502] The RCC certification of a relocation plan would trigger a mandatory nine-month negotiation period between affected licensees and Nextel.[503] If an agreement were not reached by the end of the nine-month period, the parties would submit to binding arbitration by an RCC-established arbitration panel.[504] The RCC would be certified as a frequency coordinator by the Commission and—after selecting channels for a relocated system and obtaining approval of the relevant frequency coordinator—would file the applications with the Commission. They also proposed cancellation of the

[498] *See NPRM,* 17 FCC Rcd at 4891 ¶ 31.

[499] *Id.* at 4898 ¶ 45.

[500] *See* Supplemental Comments of the Consensus Parties at 14-17.

[501] *Id.* at 16. Appendix E of the Supplemental Comments of the Consensus Parties provides a sample prioritization scheme.

[502] *Id.* at 18.

[503] *Id.* at 21.

[504] *Id.* at 21-22.

licenses of any licensee that failed to relocate within thirteen months, absent special circumstances.[505]

a. Transition Administrator

190. In the *NPRM,* the Commission sought comment on the best mechanism to collect and administer funds and to resolve disputes with respect to the relocation of public safety systems.[506] No other party filed a proposal giving details of how its band plan would be implemented; although several commenting parties criticized the Consensus Parties implementation plan as excessively Nextel-centric and unduly complex.[507] We are in general agreement with the parties who raised those issues. Although we fully appreciate the significant effort that band reconfiguration will entail, we believe the administrative structure proposed by the Consensus Parties would delay, rather than facilitate, timely completion of band reconfiguration. Moreover, we are sensitive to the comments of those parties who expressed concern about the potential conflict of interest inherent in the proposed RCC and questioned whether the Commission could legally grant the RCC the powers envisioned by the Consensus Parties.[508]

191. Accordingly, we believe that using an independent individual or company, who, or which, will serve as a Transition Administrator subject to oversight by the Commission is the best approach for ensuring that band reconfiguration proceeds on schedule. The Transition Administrator may also serve to mediate disputes that may arise in the course of band reconfiguration.[509] As contemplated by the Consensus Parties in their proposal for a RCC, Nextel will pay for the services of the Transition Administrator and staff as one of the transactional costs borne by Nextel in connection with band reconfiguration. We will follow a selection process similar to that suggested by the Consensus Parties; *i.e.,* the Transition Administrator will be an independent party with no financial interest in any 800 MHz licensee; and will be selected by a committee representative of 800 MHz licensees. We direct the following organizations to designate a representative to serve on the search committee for the Transition

[505] *Id.* at 24.

[506] *See NPRM,* 17 FCC Rcd at 4998-99 ¶ 45.

[507] *See, e.g.,* Comments of Carolina Power and Light to Supplemental Comments of the Consensus Parties at 3, 7-8; Comments of Cinergy to Supplemental Comments of the Consensus Parties at 16; Comments of Consumers Energy, Inc. to Supplemental Comments of the Consensus Parties at 25-26.

[508] *See, e.g.,* Comments of Alliant Energy to Supplemental Comments of the Consensus Parties at 3, Comments of Ameren Corp. to Supplemental Comments of the Consensus Parties at 12-13, Comments of Boeing to Supplemental Comments of the Consensus Parties at 25-26.

[509] We will make this appointment pursuant to the authority given to us under Section 4(i) of the Act. *See* 47 U.S.C. § 154(i). The Commission has used similar third-party solutions in the past. In 1994, the Commission appointed an independent, non-governmental entity, UTAM, as the coordinating body to oversee the transition from fixed microwave operations to UPCS and to manage the transition to full band clearing. *See* Amendment of the Commission's Rules to Establish New Personal Communications Services, *Memorandum Opinion and Order,* 9 FCC Rcd at 4957 ¶ 209 (1994). In 1996, the Commission appointed the Personal Communications Industry Association (PCIA) and the Industrial Telecommunications Association, Inc. (ITA), two private non-governmental entities, to administer the microwave clearinghouse cost-sharing plan. *See* Amendment of the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, WT Docket No. 95-157, *Memorandum Opinion and Order,* 11 FCC Rcd 9394 (WTB 1996).

Administrator:[510]

- Nextel Communications, Inc.;
- The Association of Public Safety Communications Officials-International;
- The Industrial Telecommunications Association;
- Southern LINC; and
- United Telecom Council;

192. Should any of the organizations, *supra,* decline to designate a representative; the Commission will designate a substitute organization. The Public Safety and Critical Infrastructure Division of the Wireless Telecommunications Bureau is hereby delegated the authority to choose such substitute organization. The search committee shall convene within fifteen days of the date this *Report and Order* is released, and shall select the Transition Administrator within forty-five days of the date this *Report and Order* is released. The search committee should proceed by consensus; however if a vote on selection of a Transition Administrator is required, it shall be by a supermajority of the representatives of four of the organizations, *supra.* The search committee shall notify the Commission of its choice for Transition Administrator. This notification shall: (a) fully disclose any perceived potential conflicts of interest or appearance of conflicts of interest of the Transition Administrator or his or her staff; and (b) set out in detail the salary and benefits associated with each position.

193. On receipt of this notice regarding selection of a Transition Administrator, the Commission will issue a public notice to that effect. The Chief of the Public Safety and Critical Infrastructure Division is hereby delegated the authority to issue said Public Notice. During the course of the Transition Administrator's tenure, the Commission will take such measures as are necessary to ensure timely compliance with this *Report and Order*, including, should it become necessary, convening another search committee to choose a replacement Transition Administrator.

194. The Transition Administrator will serve both a ministerial role and a function similar to a special master in a judicial proceeding.[511] In the latter role, the Transition Administrator may mediate any disputes that may arise in the course of band reconfiguration; or refer the disputant parties to alternative dispute resolution fora. Any dispute submitted to the Transition Administrator, or other mediator, shall be decided within thirty days after the Transition Administrator has received a submission by one party and a response from the other party. Any party thereafter may seek expedited non-binding arbitration which must be completed within thirty days of the Transition Administrator's, or other mediator's recommended decision or advice. The parties will share the cost of this arbitration.[512] Should issues still remain unresolved they may be referred to the Chief of the Public Safety and Critical Infrastructure Division of the Wireless Telecommunications Bureau within ten days of the Transition Administrator's, or other

[510] We chose these parties because we believe they closely represent a cross-section of the viewpoints presented in the proceeding by parties having a vested interest in the manner in which the 800 MHz band is to be reconfigured.

[511] Courts often appoint special masters as a means of addressing, *inter alia,* judicial limitations such as time constraints, lack of expertise in esoteric areas and lack of skill in certain roles, such as the facilitation of settlement negotiations. *See* Wayne D. Brazil, *Special Masters in Complex Cases: Extending the Judiciary or Reshaping Adjudication?*, 53 U. Chi. L. Rev. 394-394-395 (1986).

[512] We note, however, that some government agencies can not engage in mediation or arbitration.

mediator's recommended decision or advice. When referring an unresolved matter to the Chief of the Public Safety and Critical Infrastructure Division, the Transition Administrator shall forward the entire record on any disputed issues, including such dispositions thereof that the Transition Administrator has considered. Upon receipt of such record and advice, the Commission will decide the disputed issues based on the record submitted. The authority to make such decisions is hereby delegated to the Chief of the Public Safety and Critical Infrastructure Division of the Wireless Telecommunications Bureau who may decide the disputed issue or designate it for an evidentiary hearing before an Administrative Law Judge. If the Chief of the Public Safety and Critical Infrastructure Division of the Wireless Telecommunications Bureau decides an issue, any party to the dispute wishing to appeal the decision may do so by filing with the Commission, within ten days of the effective date of the initial decision, a Petition for *de novo* review; whereupon the matter will be set for an evidentiary hearing before an Administrative Law Judge. Parties seeking *de novo* review of a decision by the Wireless Telecommunications Bureau are advised that, in the course of the evidentiary hearing, the Commission may require complete documentation relevant to any disputed matters; and, where necessary, and at the presiding judge's discretion, require expert engineering, economic or other reports or testimony. Parties may therefore wish to consider possibly less burdensome and expensive resolution of their disputes through means of alternative dispute resolution.

195. The duties of the Transition Administrator will include, but not be limited to:

- Obtaining estimates from licensees regarding the cost of reconfiguring their systems and ensuring that estimates contain a firm work schedule and other matters set forth in Appendix E-Annex E, *infra*. The Transition Administrator will retain copies of all estimates and make them available to the Commission on request.

- Resolving disputes between Nextel and licensee on cost estimates for reconfiguring a system.

- Issuing the Draw Certificate to authorize and instruct the Letter of Credit Trustee to draw down on the Letter of Credit to pay relocation costs in connection with reconfiguring a licensee's system.[513] *See* Appendix E–Annex B2.

- Establishing a relocation schedule on a NPSPAC region-by-region basis, prioritizing the regions on the basis of population.[514] However, should a given region be encountering unusually severe amounts of unacceptable interference, that region may be moved up in priority. Any party disputing such a change in priority may refer the matter to the Chief of the Public Safety and Critical Infrastructure Division, who hereby is delegated the authority to resolve such disputes. The Transition Administrator may direct that adjoining regions be reconfigured simultaneously when conditions so require.

- The Transition Administrator will coordinate relocation of a NPSPAC Region's NPSPAC channels with the relevant Regional Planning Committee(s) prior to commencing band reconfiguration in a NPSPAC Region.

[513] The Transition Administrator will devise a suitable payment system with respect to each system that is reconfigured, including, if appropriate, instructing the Letter of Credit Trustee to make stage payments to licensees, vendors, *etc.*

[514] In developing such a schedule, the Transition Administrator has the discretion to exclude certain non-public safety licensees from a NPSPAC region relocation schedule, provided that they are eventually relocated prior to the end of band reconfiguration.

196. Once band reconfiguration commences in a given NPSPAC Region, the Transition Administrator will serve primarily an oversight function as necessary to implement band reconfiguration. For example the Transition Administrator will:

- Monitor the retuning schedule and resolve any schedule delays or refer same to the Public Safety and Critical Infrastructure Division for resolution.
- Coordinate with adjoining NPSPAC Regions to ensure that interference is not being caused to their existing facilities from relocated stations.
- Provide quarterly progress reports to the Commission in such detail as the Commission may require and include, with such reports, certifications by Nextel and the relevant licensees that relocation has been completed and that both parties agree on the amount received from the Letter of Credit proceeds in connection with relocation of the licensees' facilities. The report shall include description of any disputes that have arisen and the manner in which they were resolved. These quarterly reports need not be audited.
- Provide to the Public Safety and Critical Infrastructure Division, on each anniversary of the effective date of this Report and Order, an audited statement of relocation funds expended to date, including salaries and expenses of Transition Administrator.[515]
- Facilitate resolution of disputes by mediation; or referral of the parties to alternative dispute resolution services.

197. The Transition Administrator may not serve as the repository of funds used in band reconfiguration, excepting such sums as Nextel may pay for the Transition Administrator's services. Moreover, the Transition Administrator will not be certified by the Commission as a frequency coordinator.

198. We envision the relocation process in a particular region unfolding as follows:

1) Nextel shuts down its General Category channels and relocates all non-Nextel General Category licensees.[516] It temporarily shifts many of its operations to "green space" at 900 MHz.
2) NPSPAC licensees relocate to six megahertz of spectrum in the former General Category space at Nextel's expense.
3) Nextel relocates its systems from the green space and from the interleaved portion of the band into the vacated NPSPAC channels; surrendering its rights to spectrum below 817 MHz/862 MHz spectrum in the process.
4) Any remaining relocations necessary to effect complete reconfiguration of the band in that region are made at Nextel's expense, e.g. moving public safety systems out of the Expansion Band.[517]

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[515] An audited statement is one that comports to the relevant Financial Accounting Standards Board (FASB) standards.

[516] In this connection, we observe that during band reconfiguration the provisions of Section 90.157 will not apply to Nextel and non-Nextel stations that have been shut down in order to accommodate our rebanding plan. *See* 47 C.F.R. § 90.157.

[517] In this regard, we will allow inter-category sharing for the limited purpose of this proceeding. *See* 47 C.F.R. § 90.677 in Appendix C, *infra*.

We envision system relocation involving the following steps:

1) The Transition Administrator notifies a licensee that its system needs to be relocated in order to complete band reconfiguration. The Transition Administrator will specify a replacement channel for each channel in the licensee's system that needs to be changed to a new channel.

2) The licensee obtains an estimate of the cost to reconfigure its system and provides that estimate to the Transition Administrator. The submission to the Transition Administrator shall contain the licensee's certification that the funds requested are the minimum necessary to provide facilities comparable to those presently in use.

3) The Transition Administrator will review the estimate—including an analysis to ensure that the estimate does not exceed the cost of providing comparable facilities. If the review indicates the need for additional support, or is otherwise deficient, the licensee will be so informed and will be required to furnish a revised estimate.

4) The Transition Administrator will submit the estimate to Nextel, which will have the opportunity to review the details of the estimate and, if appropriate, dispute the estimate.

5) The Transition Administrator will facilitate resolution of any such disputes, acting as an intermediary between the licensee and Nextel. We envision that all licensees will exercise good faith and we strongly encourage licensees to cooperate in resolving disputes so as not to unreasonably frustrate band realignment.[518]

6) Once Nextel's concurrence, which shall not unreasonably be withheld, has been obtained, the Transition Administrator will issue a Draw Certificate to the Letter of Credit Trustee who will draw down funds as appropriate from the letter of credit and disburse them, in accordance with the Transition Administrator's instructions, to the entity(ies) contracted to reconfigure the system (for example, the licensee, a local contractor and an equipment manufacturer—Nextel personnel will not be involved in reconfiguring a licensee's system.[519])

7) At the conclusion of system configuration the Transition Administrator will audit the amount expended and either issue a second Draw Certificate to the Letter of Credit Trustee to cover any reasonable expenditures reasonably agreed to by Nextel and the licensee that were not covered by the first Draw Certificate or direct the Letter of Credit Trustee to obtain reimbursement for any excess funds (with any disputes as to final amounts to be resolved following the dispute resolution procedures set forth in ¶ 194.

8) The licensee begins operating on the new channel(s).

199. We expect that the Transition Administrator, the Trustee appointed to administer the Letter of Credit, and Nextel will formalize the matters set forth herein in a contract, a draft of which shall be submitted to the Commission for review and approval prior to execution. Attached hereto as Appendix E Annex D is a non-exhaustive outline of provisions that the Commission would expect to be contained in such a contract.

200. In sum, we believe that reliance on the expertise of our existing frequency coordinators, together with our use of the services of an independent Transition Administrator is preferable to the

[518] Licensees that fail to act in good faith or unreasonably decline to cooperate may be subject to enforcement action.

[519] The Trustee will disburse funds in accordance with the Transition Administrator's instructions which may include directions to pay contractors in a lump sum or over time in accordance with milestone payments set forth in the contractor's contract with the licensee.

Consensus Parties' proposed RCC and multiple committees.[520] Moreover, given the detailed guidelines under which the coordinators and Transition Administrator will operate, coupled with the procedures for ongoing Commission review described *infra*, we conclude that Commission use of such expertise and services is well within our authority.[521]

b. Scheduling and Implementation

201. In assigning oversight of the logistics of band reconfiguration to a Transition Administrator, we allow all parties involved in the relocation process a degree of flexibility that would not be achievable if we set rigid rules for the relocation process. However, we do impose the following obligations on the parties:

- All parties, including Nextel, are held to a high standard of utmost good faith in their transactions with Nextel, or its designee, the Transition Administrator, other licensees, and the Commission. In particular, and without limiting the generality of the foregoing obligation, representations made to the Transition Administrator will be held to the same standard of truth and candor as representations made to the Commission.

- Within thirty days of the Commission approval of the Transition Administrator, the Transition Administrator will provide the Commission with a schedule detailing when band reconfiguration shall commence for each NPSPAC Region. The plan should also detail—by NPSPAC Region—which relocation option each non-Nextel ESMR licensees has chosen.[522] The Chief of the Public Safety and Critical Infrastructure Division of the Wireless Telecommunications Bureau is hereby delegated the authority to finalize and approve such a plan. The schedule shall provide for completion of band reconfiguration in no more than thirty-six months following the release of a Public Notice announcing the start date of reconfiguration in the first NPSPAC region. In addition, as an interim benchmark, the schedule must provide for retuning of Channels 1-120 in twenty NPSPAC Regions within eighteen months. Relocation will commence according to the schedule set by the Transition Administrator but all systems must have commenced reconfiguration within thirty months of the release of a Public Notice announcing the start date of reconfiguration in the first

[520] In this connection, we strongly encourage frequency coordinators to complete any necessary review within thirty days.

[521] *See, e.g.*, *Batterton v. Francis,* 97 S.Ct. 2399, 2407 (1977) (Secretary of Health, Education, and Welfare had authority to tie AFDC benefits to state unemployment compensation determinations since in doing so the Secretary "incorporated a well-known and widely applied standard.") and *R. H. Johnson & Co. v. SEC*, 198 F.2d 690, 695 (2nd Cir. 1952), *cert. denied* 344 U.S. 855, 73 S.Ct. 94, 97 L.Ed. 664 (1952) (SEC did not unconstitutionally delegate powers to National Association of Securities Dealers because it retained power to approve or disapprove rules and to review disciplinary actions). *Compare United Black Fund, Inc. v. Hampton*, 352 F.Supp. 898, 904 (D.D.C. 1972) (Civil Service Commission Chairman may permit private entities preliminarily to determine eligibility of local health and welfare agencies for participation in the Combined Federal Campaign where Chairman set standards local agencies must meet, and where the Chairman retained final review authority) *with National Park and Conservation Ass'n v. Stanton*, 54 F. Supp.2d 7, 20 (D.D.C.1999) (National Park Service's ("NPS") delegation of management of national scenic river to a private council constitutes unlawful delegation because "NPS retains no oversight over the [c]ouncil, no final reviewing authority over the council's actions or inaction, and the [c]ouncil's dominant private local interests are likely to conflict with the national environmental interests that NPS is statutorily mandated to represent."); *cf. USTA v. FCC* (DC Cir. Mar. 2, 2004) (holding that the Commission had impermissibly subdelegated its authority to the states.)

[522] *See* ¶ 162 *supra*.

NPSPAC region.

- The schedule shall specify a start date for the reconfiguration of each Region. Thirty days before the start date, the Commission will issue a Public Notice initiating a three-month voluntary negotiation period between Nextel and all relocating incumbents. Nextel and relocating incumbents may agree to conduct face-to-face negotiations or either party may elect to communicate with the other party through the Transition Administrator. The Chief of the Public Safety and Critical Infrastructure Division of the Wireless Telecommunications Bureau is hereby delegated the authority to issue such Public Notices. The release of a Public Notice announcing the start date of reconfiguration in the first NPSPAC region starts the thirty-six month band reconfiguration period.

- If voluntary negotiations do not yield an agreement by the date specified in the Commission Public Notice, the parties are required to enter into three-month mandatory negotiation period and shall have obligations patterned after those specified in our *Upper 200 SMR* and *Microwave Cost-Sharing* proceedings.[523] Again, the parties may agree to conduct face-to-face negotiations or elect to communicate through the Transition Administrator. The Transition Administrator may schedule mandatory settlement negotiations and mediation sessions and the parties must conform to such schedules.

- If, after the three-month mandatory negotiation period, the parties have not reached an agreement, disputed issues shall be identified in writing by both parties, and the matter referred to the Transition Administrator who shall mediate an agreement, or refer the parties to mediation. If disputed issues remain thirty days after the end of the mandatory negotiation period, the Transition Administrator shall forward the record to the Chief of the Public Safety and Critical Infrastructure Division, together with advice on how the matter(s) may be resolved. The Chief of the Public Safety and Critical Infrastructure Division is hereby delegated the authority to rule on disputed issues, *de novo*. Any party wishing to appeal the decision of the Chief of the Public Safety and Critical Infrastructure Division may avail themselves of an evidentiary hearing as discussed in ¶ 194 *supra*.

- In the alternative, parties who are unable for technical reasons or otherwise to relocate according to the schedule may petition the Commission for a waiver of the relocation obligation. Such a waiver would only be granted on a strict non-interference basis. Moreover, there would be a high burden to surmount for any party seeking a waiver of this obligation.

- All parties are charged with the obligation of utmost good faith in the negotiation process.[524] If any licensee fails to negotiate in good faith, its facilities may be involuntarily relocated

[523] *See* 47 C.F.R. § 90.699(b)(2). *See also* Comments of NAM/MRFAC to Supplemental Comments of Consensus Parties at 11-12; Cinergy Corp., Consumers Energy Corp., Entergy Corp, Entergy Services March 12, 2003 *Ex Parte*.

[524] Among the factors relevant to a good-faith determination are: (1) whether the party responsible for paying the cost of band reconfiguration has made a *bona fide* offer to relocate the incumbent to comparable facilities; (2) the steps the parties have taken to determine the actual cost of relocation to comparable facilities; and (3) whether either party has unreasonably withheld information, essential to the accurate estimation of relocation costs and procedures, requested by the other party. *See* Amendment to the Commission's Rules Regarding a Plan for Sharing the Costs of Microwave Relocation, *First Report and Order and Further Notice of Proposed Rulemaking,* 11 FCC Rcd 8825, 8837-8838 ¶ 21.

and its license modified accordingly by the Commission. We hereby delegate to the Wireless Telecommunications Bureau the authority, pursuant to Section 316 of the Act,[525] to modify licenses under such circumstances.

- All relocating licensees shall be relocated to comparable facilities. Comparable facilities are those that will provide the same level of service as the incumbent's existing facilities, with transition to the new facilities as transparent as possible to the end user.[526] Specifically, (1) equivalent channel capacity;[527] (2) equivalent signaling capability,[528] baud rate and access time; (3) coextensive geographic coverage;[529] and (4) operating costs.[530] If the reconfiguration of a licensee will entail a significant interruption of service during the relocation process, Nextel will fund the installation of a redundant system.[531]

- Absent agreement between parties, the Transition Administrator will be responsible for determining the information that relocating incumbents must supply in support of a relocation agreement.

202. In setting the above framework for implementing band reconfiguration, we have considered but rejected some of the Consensus Parties' detailed proposals, *e.g.* a rule incorporating the lengthy list of equipment that incumbents would be required to submit to Nextel within a time certain.[532] We have done so with the knowledge that relocation of some systems will not require information to that degree of detail, and that some degree of flexibility will better serve the parties. The overriding requirement of our framework is the good faith requirement. While parties must first bring disputes over the utmost good faith requirement to the Transition Administrator, disputing parties may subsequently bring breaches of the good faith requirement to the Commission and similarly bring there, any instance in which a party frivolously or without substantiation, charges another party with failure to negotiate in good faith.[533] As the Commission has noted previously there is no "one size fits all" rule that can be applied to

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[525] 47 U.S.C. § 316.

[526] *See generally,* Amendment of Part 90 of the Commission's Rules to Facilitate Future Development of SMR Systems in the 800 MHz Frequency Band, *Second Report and Order*, 12 FCC Rcd 19079, 19112-19113 ¶ 89-95 (1997) (*Upper 200 SMR Second Report and Order*).

[527] Our rules define channel capacity as the same number of channels with the same bandwidth that is currently available to the end user. *See Upper 200 SMR Second Report and Order*, 12 FCC Rcd 19079, 19112-13 ¶ 92. *See also* 47 C.F.R. § 90.699(d)(2). For example, if an incumbent's system consists of five 25 kHz channels, the replacement system must also have five 25 kHz channels. Our rules do not, however, mandate identical channel configuration. *See Upper 200 SMR Second Report and Order*, 12 FCC Rcd 19079, 19112-13 ¶ 92.

[528] *See Upper 200 SMR Second Report and Order*, 12 FCC Rcd 19079, 19112-13 ¶ 92. *See also* 47 C.F.R. § 90.699(d)(2).

[529] *Id.*

[530] *See Upper 200 SMR Second Report and Order*, 12 FCC Rcd 19079, 19113 ¶ 94. *See also* 47 C.F.R. § 90.699(d)(4). These costs will be estimated and paid as part of the relocation costs..

[531] In this regard we observe that our definition of comparable facilities is limited to already existing facilities.

[532] *See* Supplemental Comments of the Consensus Parties at 15-19 and Appendix C.

[533] *See, e.g.*, 47 U.S.C. §§ 312, 503.

the good faith issue, which is largely fact-dependent and likely to vary from case-to-case.[534]

203. We also have heeded the concern of some commenting parties that information relative to band reconfiguration could be sensitive from a security standpoint. We encourage, but do not require, the parties and the Transition Administrator to exercise discretion in disclosing any security-sensitive information; but note that there is a balance between the public's need to know and the need to withhold sensitive information. Thus, for example, the Commission has struck the balance in favor of public disclosure in making its Universal Licensing System (ULS) data available on the Internet. A large amount of information on existing 800 MHz facilities is contained in the ULS and the ULS also will contain information on the license modifications necessary to implement band reconfiguration. Similarly, we are not persuaded by the argument that furnishing information necessary for band reconfiguration would somehow result in a competitor gaining access to information it could use to its advantage.[535] We do not foresee any party having access to competitively-sensitive information such as the identity and other details of an incumbent's customers.

c. Freeze on the Acceptance of 800 MHz Applications

204. The Consensus Parties requested that we freeze the acceptance of applications for 800 MHz public safety, non-cellular SMR and Business and Industrial/Land Transportation authorizations pending band reconfiguration.[536] We strongly agree with the parties who point out the adverse effects such a three-year freeze could have on their companies' business plans.[537] Nonetheless, we see no alternative to a freeze if band reconfiguration is to be timely accomplished. There is a middle ground, given the incremental implementation of band reconfiguration Region by Region. Therefore we will freeze 800 MHz applications for a region when we issue the *Public Notice* announcing the date when voluntary negotiation of relocation agreements must be concluded. This freeze will last until thirty working days after the completion of mandatory negotiations for a given Region.[538] However, such a freeze would not include the modification applications filed in order to implement band reconfiguration. Moreover, we will do everything possible to minimize the effect the incremental freezes may have on incumbent licensees and new applicants, and direct the Transition Administrator to make accommodations in the implementation plan that will avoid such adverse effects. Moreover, we will not freeze the acceptance of modification applications that do not change the frequency or expand the coverage area of existing systems. Finally, we remind potentially affected parties of the availability of the Commission's waiver process and Special Temporary Authorizations when needed in order to avoid prejudice to any applicant during the band reconfiguration process.

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[534] *See, e.g., Upper 200 SMR Second Report and Order*, 12 FCC Rcd 19079; Petition For Declaratory Ruling Concerning The Requirement For Good Faith Negotiations Among Economic Area Licensees And Incumbent Licensees In The Upper 200 Channels Of The 800 MHz Band, *Memorandum Opinion and Order*, 16 FCC Rcd 4882 (2001) (*Good Faith MO&O*).

[535] *See* Supplemental Comments of the Consensus Parties at Appendix C, C-4-5.

[536] *See* Supplemental Comments of Consensus Parties at 26.

[537] *See, e.g.,* Letter, dated November 13, 2003, from R. David Laurrell, County Administrator, County of Campbell, Virginia Board of Supervisors to Marlene H. Dortch, Secretary, Federal Communications Commission; Comments of American Electric Power Company, Inc. to Supplemental Comments of the Consensus Parties at 9-10.

[538] The mandatory negotiation period essentially ends six months after voluntary negotiations begin.

d. Tolling of 800 MHz Site-Based Construction Requirements

205. Since the 800 MHz band reconfiguration process will take place incrementally in fifty-one geographic regions, some site-based incumbent 800 MHz licensees may face construction deadlines prior to their being scheduled for relocation.[539] To resolve this issue we will allow licensees which are ready to construct and waiting only for assignment of their new channel to submit a waiver request demonstrating that they have commenced construction, *e.g.* have on hand, or have placed a firm order for, non frequency-sensitive equipment, have erected a tower, obtained a commitment for tower space, etc.

206. If the Transition Administrator has specified said licensee a new channel and the licensee can immediately use the channel without causing interference to other systems, it must construct within its currently applicable deadline. Otherwise, the licensee may submit a waiver request for extension of the construction period until: (a) six months after the Transition Administrator has specified it a channel, if that channel can be used, in advance of band reconfiguration in the region, without causing interference; or (b) if its channel cannot be activated without interference to other systems, six months after the completion of band reconfiguration in its NPSPAC region. The Commission's waiver rules[540] will apply and the waiver requests will be evaluated on a good cause basis *e.g.* on a showing by the licensee that it would have constructed but for the fact that band reconfiguration would affect its proposed facilities. Licensees whose construction deadline passed before the release of this *Report and Order*, and which do not have an extension of time request already pending, will have a particularly high evidentiary standard to meet when they submit a waiver request. These provisions also apply to EA licensees facing construction deadlines pursuant to Section 90.685 of the Commission's Rules.[541]

6. Disposition of Nextel's 900 MHz SMR and 700 MHz Guard Band Block B Spectrum

207. The Consensus Plan contemplated that, at the end of band reconfiguration, Nextel would relinquish its rights to 900 MHz SMR spectrum as an incentive for non-cellular SMR and B/ILT licensees to vacate 800 MHz band channels on a "two for one" basis, *i.e.* each 800 MHz licensee that relocated to 900 MHz spectrum would get rights to twice the spectrum it occupied in the 800 MHz band.[542] We are not persuaded that Nextel's abandoning service to the public in the 900 MHz band in order to provide non-cellular SMR and B/ILT licensees with 900 MHz spectrum for which there is no demonstrated need is in the public interest. We are further dissuaded from accepting Nextel's proffer of relinquishment of its 900 MHz spectrum rights because Nextel likely will need to use this spectrum to accommodate subscriber demand during 800 MHz band reconfiguration; and, possibly thereafter.[543] Even if the 900 MHz spectrum went to public safety, there are no "rebanding" benefits to using this spectrum for public safety because it

[539] For example, this may include licensees with extended implementation authority, new licensees, or licensees with pending requests for extension of current authorization.

[540] *See* 47 C.F.R. § 1.925.

[541] *See* 47 C.F.R. § 90.685(b).

[542] *See* Supplemental Comments of the Consensus Parties at 13.

[543] Nextel's need for the 900 MHz spectrum may arise if there are two 800 MHz ESMR licensees in a market, *e.g.* Nextel and Southern LINC, and both cannot be accommodated in the 817-824 MHz / 862-869 MHz cellular-architecture spectrum segment. In that instance, Nextel must surrender the additional spectrum necessary to accommodate the non-Nextel cellular-architecture system. The 800 MHz spectrum that Nextel loses in such a case may be compensated for by Nextel shifting some of its operations to its 900 MHz SMR frequencies. *See* ¶ 159 *supra*.

is isolated from the consolidated block of 800 and 700 MHz spectrum that will be available for public safety after rebanding. In this regard, 900 MHz can be distinguished from the 700 MHz Guard Band spectrum, which could be added to the consolidated block if we decided to make the 700 MHz Guard band spectrum available for public safety use. From an interference perspective, our decision to permit operational flexibility (*i.e.* cellular architecture) in the 900 MHz band effectively precludes use of 900 MHz by public safety at this time.[544] While public safety would benefit from B/ILT and SMR licensees relocating to 900 MHz as it would provide "green-space" in the 800 MHz band, to the extent Nextel wants to offer 900 MHz spectrum to B/ILT on a 2-for-1 basis, as it has proposed, it can do so through private transactions without returning this spectrum to the Commission.

208. As noted at paragraph 61 *supra*, Nextel also has proposed to surrender certain 700 MHz guard band Block B spectrum, which it holds in 40 markets; and recommends that the Commission rededicate that spectrum to public safety use. We note that the 700 MHz Guard Band's use for public safety applications, as proposed, is problematic. The 700 MHz Guard Band spectrum was established specifically to buffer 700 MHz public safety systems from interference by commercial systems operating in the Upper 700 MHz band. It would be anomalous in our view, to place public safety systems in the very interference-prone spectrum that we established to protect public safety.

209. We nonetheless will accept Nextel's 700 MHz Guard Band spectrum, but decline to redesignate it to public safety use at this time. Instead, we will consider the ultimate disposition of this spectrum in a future rule making proceeding. In this connection, we note that there are several potential public safety and public interest benefits that may be realized by a redesignation or reassignment of the 700 MHz Guard Band spectrum that Nextel offers to relinquish. However, we do not believe that the ultimate decision on how best to use the surrendered 700 MHz spectrum should be resolved in the context of this *Report and Order*. Rather, any such decision should rest on a record developed in a subsequent rule making proceeding. There, we may consider such issues as whether there are public safety applications that could exist satisfactorily in such spectrum consistent with our statutory authority; whether there is a demand for additional B/ILT spectrum that would be satisfied by access to the 700 MHz Guard Band spectrum; whether providing B/ILT licensees access to such spectrum would create opportunities for public safety to get access to additional 800 MHz band frequencies; whether there are other, new uses that may arise; and whether the 700 MHz Guard Band spectrum should be re-auctioned.

D. Appropriate Compensation for Band Reconfiguration

210. In the *NPRM*, the Commission discussed the "replacement spectrum" construct advanced by Nextel in its White Paper, *i.e.*, that if Nextel were to pay the cost of band reconfiguration and vacate certain 700 MHz, 800 MHz and 900 MHz spectrum, it should be compensated on a "megahertz for megahertz" basis with spectrum nominally in the 2 GHz range. We sought comment on the relative value of the spectrum that Nextel proposed to surrender vs. the value of its desired replacement spectrum. In the Consensus Plan, Nextel proposed that, as compensation for its relinquishment of 700, 800 and 900 MHz spectrum rights and its commitment to pay 800 MHz incumbent relocation costs, it should receive a nationwide license for ten megahertz of spectrum in the 1.9 GHz band.[545] Other parties contend that the value of the spectrum rights Nextel seeks substantially exceeds the value of spectrum rights it has offered to give up, and therefore would constitute an unwarranted windfall to Nextel.

211. We conclude that it is in the public interest to compensate Nextel for the surrendered spectrum rights and costs it will incur as a result of band reconfiguration. By facilitating band

[544] *See* ¶¶ 335-337 *infra*.

[545] *See* ¶ 61 *supra*.

reconfiguration, giving up spectrum rights and bearing the financial burden of the relocation process for all affected incumbents, we believe that Nextel has provided the quickest, most comprehensive and most cost-effective means of solving the 800 MHz public safety interference problem of all the alternatives presented or available to the Commission. In light of these substantial public interest benefits, we conclude that it is appropriate for Nextel to receive equitable compensation in the form of spectrum rights to the 1910-1915 MHz and 1990-1995 MHz bands, conditioned on its meeting the obligations imposed by this *Report and Order*. We specifically reject the proposal by some parties to grant Nextel rights to spectrum in the 2.1 GHz band as opposed to the 1.9 GHz band.[546] Accordingly, we take those steps necessary to designate the 1.9 GHz spectrum for Nextel's use, and to provide for relocation and reimbursement by Nextel of incumbent users of the band.

212. We are sensitive to the argument made by several parties that granting Nextel spectrum rights in the 1.9 GHz band could result in an undeserved "windfall" to Nextel. To ensure that Nextel is treated equitably but does not realize any windfall gain, we provide for compensation of Nextel on a "value for value" basis. Under this approach, we first make a determination of the market value of the 1.9 GHz spectrum, based on valuation data provided by the parties and on our own analysis. Second, we provide that as offsets against this value, Nextel will receive credit for (1) the net value of the spectrum rights that Nextel is relinquishing to public safety, CII, and other 800 MHz licensees, (2) the actual cost of 800 MHz band reconfiguration (including both Nextel's costs to support relocation by other licensees and Nextel's own relocation costs), and (3) costs incurred by Nextel to clear the 1.9 GHz band, less any reimbursed expenses. Third, because we do not know at present what the costs of 800 MHz relocation and 1.9 GHz band-clearing will ultimately be, we provide for an accounting at the end of the transition period to determine the amount of these offsets and balance them against the value of Nextel's 1.9 GHz spectrum rights as determined by this *Report and Order*.[547]

1. Public Interest Considerations for Granting Spectrum Rights to Nextel

213. We recognize that the granting of valuable spectrum rights to Nextel—or to any party—without recourse to the competitive bidding process is highly unusual. However, given the extraordinary circumstances present in this proceeding, including issues involving the safety of life and property—and absent harm to other interests of the public—we are convinced that our decision in this regard is consistent with the public interest. In reaching this decision, we are mindful that Congress has expressed a strong statutory preference in the vast majority of circumstances for use of auctions to assign spectrum rights. However, Congress has also established a clear exception for public safety services that protect life and property, exempting them from the requirement that they obtain spectrum on the auction block. We believe the same rationale applies to our decision here, where we are reconfiguring spectrum for non-economic reasons to benefit public safety and the public as a whole.[548] This is not to say that economic factors are irrelevant—we regard economic analysis as germane to the question of whether our action today could inadvertently impair the public's access to affordable wireless communications services. We believe the record conclusively demonstrates that there will be no such unintended consequences.

214. Nevertheless, we reject the claim that assigning Nextel spectrum rights in another band as part of this comprehensive solution is unfair because Nextel is receiving "free" spectrum while its

[546] *See* ¶¶ 217-222 *infra*.

[547] *See* ¶¶ 329-332 *infra*.

[548] These benefits may also have an economic component, though it is difficult to quantify. One study in the record posits that if improved public safety communications reduced the societal loss from crime and fire by one-tenth of one percent, the nation would save $1 billion every year. *See* Nextel Sunfire *Ex Parte* at 10.

competitors must bid for spectrum at auction. First, given the obligations we place on Nextel in this *Report and Order*, and the mechanism we have established to prevent an undue windfall, its access to other spectrum is hardly "free." Second, Nextel is taking the very substantial risk that it could end up incurring costs that are greater than the value of the spectrum rights it receives. This is because we have not merely rubber-stamped the Consensus Parties' proposal, but have imposed significant obligations beyond what the parties proposed to ensure that the public receives full benefit in exchange for making other spectrum available to Nextel. Under this restructured solution, we are requiring Nextel to assume the following substantial—and to a large degree unpredictable—risks:

- Nextel must complete reconfiguration of the 800 MHz band regardless of the ultimate cost. Although Nextel estimated it will cost up to $850 million to reconfigure the 800 MHz band, other parties contend that the actual cost will be far higher, *e.g.* CTIA claims that 800 MHz band reconfiguration cost could exceed $3 billion.[549] Thus, we are requiring Nextel to assume the risk that the cost of 800 MHz band reconfiguration could exceed any value Nextel ultimately realizes from the other spectrum.

- In order to ensure that the 800 MHz band will be reconfigured, we are requiring Nextel to obtain a $2.5 billion letter of credit to both fund the reconfiguration and to serve as insurance against a Nextel default, including bankruptcy. The cost of such a letter of credit is substantial and was not factored into the Consensus Parties' estimates.

- Should experience as band reconfiguration progresses show that the ultimate cost is likely to exceed even the $2.5 billion sum, *supra,* Nextel may be required to obtain additional letters of credit.[550] Again, the financial risk associated with such additional letters of credit would be borne by Nextel.

- Nextel must meet the interim benchmark of the retuning Channels 1-120 in twenty NPSPAC Regions.[551] If Nextel fails to meet the interim benchmark, for reasons that Nextel, with the exercise of due diligence, could reasonably have avoided, the Commission may consider and exercise any appropriate enforcement action within its authority, including assessment of monetary forfeitures or, if warranted, license revocation.[552]

- Nextel must complete band reconfiguration within thirty-six months. If Nextel fails to meet this benchmark, for reasons that Nextel could reasonably have avoided, the Commission will determine whether forfeitures should be imposed and/or whether Nextel licenses, including, but not limited to, its 1.9 GHz licenses, should be revoked.

215. We also consider the assignment of spectrum rights to Nextel to be necessary to achieve

[549] *See* Letter, dated April 29, 2004, from Steve Largent, President and CEO CTIA to Michael Powell, Chairman, Federal Communications Commission at 2-3. *See also* n. 488-489 *supra.*

[550] We note that Nextel's cost for such additional letters of credit likely would increase if Nextel's band reconfiguration progress did not meet projections, thus affecting the risk-analysis of the issuing bank(s).

[551] *See* ¶ 201 *supra.*

[552] We note that the Commission has issued Notices of Apparent Liability for Forfeiture assessing substantial penalties on carriers that have failed to comply with Commission rules intended to enhance the safety of life and property. *See* In re T-Mobile USA, Inc., *Notice of Apparent Liability for a Forfeiture*, 18 F.C.C.R. 3501 (EB 2003); *see also* In re AT&T Wireless Services, Inc., *Notice of Apparent Liability for a Forfeiture,* 17 F.C.C.R. 9903 (EB 2002).

our paramount goal of abating interference to 800 MHz public safety systems. As discussed in ¶ 61 *supra*, after more than two years spent examining a record of over 2200 filings, many of them incorporating detailed technical and economic studies, we are convinced that 800 MHz band reconfiguration is the only reliable and affordable means of achieving this goal. Moreover, only the Consensus Parties have proposed a band reconfiguration mechanism that guarantees public safety and other 800 MHz licensees the funds necessary to relocate themselves out of their current inter-leaved operational environment. We do not believe that our solution—which is adapted from the Consensus Parties' proposal—can be legally or equitably imposed without a compensatory assignment of spectrum rights to Nextel. We also note that many of Nextel's cellular competitors conduct their operations on spectrum they acquired at no cost, and that some of these same parties will benefit—at no cost to themselves—from reduced interference mitigation costs as a result of the band configuration carried out at Nextel's expense.

216. In sum, although our determination may not reflect complete financial exactitude, it is firmly grounded in our statutory authority as well as our agency expertise. The public interest that we are required to uphold often rests on such unquantifiable imperatives as those recited in the preamble of our organic statute; that we exist to regulate communications "for the purpose of the national defense, for the purpose of promoting safety of life and property."[553] Thus, we find utmost consistency between our statutory charge and the certain value of Nextel's unique ability to abate the unacceptable interference that hinders our Nation's first responders in their supremely difficult task of defending against terrorism and ensuring the safety of our life and property. We believe the balance we have struck here is fair and equitable.

2. Choice of 1.9 GHz Replacement Spectrum

217. As discussed in the *NPRM*, we are applying two basic criteria in selecting replacement spectrum for Nextel, and in considering the proposal in the Consensus Plan that Nextel be granted spectrum rights at 1910-1915/1990-1995 MHz: (1) the segment selection would have to be consistent with the highest and best possible use of the spectrum; and (2) there would have to be an acceptable plan for relocating incumbent licensees or reimbursing other users, *e.g.* BAS, FS licensees and UPCS.[554] In making our selection, we also must decide whether to redesignate 1910-1915 MHz to permit the provision of licensed fixed and mobile services, an issue noticed in ET Docket 00-258. Based on the record evidence, in WT Docket 02-55 and in ET Docket 00-258, we are assigning the 1910-1915/1990-1995 MHz band segment as paired replacement spectrum for Nextel for the provision of licensed Fixed and Mobile services on a primary basis. In so doing, we have carefully balanced the competing recommendations for use of this band segment.[555] We have determined that the need to facilitate the rebanding to remedy interference to 800 MHz public safety and CII communications systems, now and in the future, and to restore spectrum capacity lost by Nextel in the course of band reconfiguration, far outweighs the benefits of other potential use of this 1.9 GHz spectrum.[556] We find that providing replacement spectrum rights for Nextel is a *sine qua non* for elimination of unacceptable interference in

[553] Communications Act of 1934, Title I, Section 1, 47 U.S.C. § 151.

[554] *See NPRM* at 17 FCC Rcd at 4904 ¶ 57.

[555] *See* ¶¶ 224-235 *infra*.

[556] For a discussion of our legal authority to take this step in furtherance of the public interest *see* ¶¶ 62-87 *supra*.

the 800 MHz band.[557]

218. In several recent *ex parte* filings in this proceeding, CTIA argues that if the Commission is to award replacement spectrum rights to Nextel as part of this order, it should select spectrum in the 2.1 GHz band rather than the 1.9 GHz spectrum proposed by the Consensus Parties.[558] CTIA points out that Nextel in its 2002 White Paper originally identified 2.1 GHz spectrum as potential replacement spectrum. CTIA further contends that the 2.1 GHz band is sufficiently comparable to the 1.9 GHz band that it would be suitable spectrum for Nextel's needs, although it may be slightly lower in value.[559] In response, Nextel contends that 2.1 GHz would not be suitable replacement spectrum because of technical and operational deficiencies in comparison to 1.9 GHz.[560]

219. We conclude that the record does not support substituting 2.1 GHz for 1.9 GHz as proposed by CTIA. We recognize that the Nextel White Paper identified 2.1 GHz as a potential replacement band, and that the Commission sought comment on this and other potential bands in the NPRM. However, when the Consensus Parties filed their initial proposal in August 2002, they specifically identified spectrum in the 1.9 GHz band as the proposed replacement spectrum for Nextel. During the comment and reply period, numerous commenters debated the Consensus Parties' proposal to use 1.9 GHz, but no commenter proposed further consideration of 2.1 GHz as an alternative or provided information regarding the characteristics or suitability of the band. CTIA's proposal to consider substituting 2.1 GHz for 1.9 GHz was not made until more than two years after we initiated this proceeding. Although several additional *ex parte* submissions have been filed in response to the CTIA proposal since then, we find that they have primarily raised additional issues and questions that would require further development of the record to resolve.

220. For example, Nextel cites a number of differences between 2.1 GHz and 1.9 GHz that Nextel contends significantly reduce the former's comparative utility and value. Nextel contends that developing 2.1 GHz subscriber equipment will be time-consuming and costly because it cannot readily be adapted from existing equipment designs, whereas existing PCS equipment can be adapted quickly with only minor changes to operate in adjacent 1.9 GHz spectrum.[561] Nextel also points to different incumbency and band-clearing issues in the two bands, particularly the presence of fixed microwave incumbents in the 2.1 GHz band (some of them licensed to Nextel's competitors), which it contends will lead to greater cost and more uncertain time frames for clearing the band in comparison to 1.9.[562] CTIA contends that these differences do not have as significant an impact on the value of 2.1 GHz as Nextel contends, or that if they do lower the value of 2.1 GHz in comparison to 1.9 GHz, this merely serves to reduce the risk that Nextel will receive a windfall.[563] However, neither CTIA nor any other party has

[557] We reach this conclusion based upon our assessment of the state of communications technology and its current deployment, and cognizant of our obligations pursuant to 47 U.S.C. § 151. *See* ¶ 211 *supra*.

[558] *See* CTIA April 29 *ex parte* at 2; CTIA May 7 *ex parte* at 2. CTIA proposed that Nextel not receive 2.1 GHz spectrum until the rebanding process is complete. As discussed in ¶¶ 213-216 *supra*, we conclude that it is appropriate to grant spectrum rights to Nextel at the commencement of the rebanding process with those rights conditioned on the successful and timely completion of rebanding.

[559] CTIA May 7 *ex parte* at 5.

[560] Nextel May 14 *ex parte* 3-4.

[561] *Id.* at 4.

[562] *Id.* at 4.

[563] CTIA May 7 Ex *Parte* at 5-6.

presented additional data or analysis to support these contentions.[564]

221. We believe that Nextel has raised legitimate questions with respect to technical and operational differences between the 2.1 GHz band and the 1.9 GHz band.[565] However, because of the late-developed and limited nature of the record regarding the 2.1 GHz band, we lack sufficient information from which to draw conclusions on how these differences might affect the relative suitability or value of the 2.1 GHz band. Therefore, further consideration of this option would require additional development of the record, which would significantly delay action in this proceeding. Given the already lengthy nature of this proceeding, and the urgency of the public safety interference problem we are addressing, such delay would not be in the public interest. In contrast to the limited record on 2.1 GHz, the record regarding the 1.9 GHz band is well-developed, and we are satisfied based on this record that awarding 1.9 GHz spectrum rights to Nextel, subject to the conditions and safeguards of this order, is fully consistent with our public interest goals and obligations. Accordingly, we see no reason to delay our decision to gather additional information on an uncertain alternative.

222. We also do not believe that issuing Nextel a bidding credit or auction discount voucher for unspecified future spectrum is an acceptable alternative to awarding it 1.9 GHz spectrum rights.[566] We recognize that Nextel may need to apply revenues derived from 1.9 GHz service to meet its obligation to timely complete 800 MHz band reconfiguration. It can do so only if it is afforded timely and certain access to 1.9 GHz spectrum rights in exchange for vacating certain 800 MHz spectrum and assuming the cost of 800 MHz band reconfiguration. Reconfiguration of the 800 MHz band is essential to our goal of timely abating unacceptable interference to public safety, CII and other 800 MHz systems. Given the unique facts of this case, there is an inextricable connection between quick abatement of unacceptable 800 MHz interference and Nextel's quick access to additional spectrum. Neither a bidding credit nor an auction discount voucher would assure timely and certain access to the needed additional spectrum or the associated revenue.

3. Assignment of Spectrum Rights at 1.9 GHz to Nextel

223. We here take the necessary actions to assign to Nextel a ten-year license to the 1910-1915 MHz and 1990-1995 MHz bands. For the reasons described in detail below, we take action in ET Docket No. 00-258 to redesignate the 1910-1915 MHz band for licensed Fixed and Mobile services, to be used for AWS, and to pair that spectrum with the 1990-1995 MHz band. For the public interest reasons described above, we here also assign to Nextel a ten-year license by taking the necessary action in WT Docket No. 02-55. In light of this redesignation and assignment, we then adopt a UTAM reimbursement plan, and discuss how Nextel, as a new entrant, will participate in our existing relocation procedures for the 1990-2025 MHz band (in ET Docket No. 95-18).

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[564] Verizon states that would be prepared to bid a "substantial" amount for 2.1 GHz spectrum, but less than what it would bid for 1.9 GHz spectrum. Verizon May 27 *Ex Parte* at 3.

[565] In addition to equipment costs and band-clearing issues, Nextel cites inferior propagation characteristics at 2.1 GHz in comparison to 1.9 GHz as reducing the relative value of 2.1 GHz spectrum. Nextel May 14 *Ex Parte* at 3-5. We accord very little weight to this factor: the differential free space path loss between 1.9 GHz and 2.1 GHz is less than one-tenth of a dB, and the attenuation due to foliage, precipitation, and other environmental factors is essentially identical for the two bands.

[566] *See Ex Parte* presentation of James Kay, dated June 25, 2003, at 11.

a. Redesignation of the 1910-1915 MHz Band

224. We here redesignate the 1910-1915 MHz Band for licensed Fixed and Mobile services for AWS use on a primary basis, as opposed to continuing to dedicate this five megahertz band to unlicensed PCS or providing for an alternative licensed allocation. We also consider and deny various pending Petitions for Waiver and Petitions for Rulemaking that would instead have us waive or modify our current UPCS rules that apply to 1910-1915 MHz.

225. *Redesignation.* In the *AWS Third NPRM*, we sought comment as to whether we should redesignate all or a portion of the 1910-1930 MHz band, which is currently designated for UPCS, for licensed fixed and mobile services. Many commenting parties to the *AWS Third NPRM* endorse the introduction of higher power licensed services into all or a portion of the band. For example, Ericsson states that by allocating the spectrum at 1910-1915 MHz as part of a paired band the Commission can increase the value of this spectrum by putting it to a higher-value use. Ericsson predicts that such a redesignation, in conjunction with regulation pursuant to the Part 24 rules we have used for Broadband PCS, are likely to promote industry investment in the band, promote competition, and foster technological innovations in the 1910-1915 MHz band.[567] Commenting parties also assert that the 1910-1920 MHz band, or a portion thereof, would be best utilized for new and innovative services or as relocation spectrum for existing services. For example, Nextel states that it should be assigned rights to a portion of the spectrum (1910-1915 MHz) as replacement spectrum in conjunction with its Consensus Plan for the 800 MHz realignment.[568] Nextel reiterated its contention that relocating to this band from the public safety band at 800 MHz will help resolve public safety interference in the private land mobile bands and can be implemented without causing harmful interference to adjacent Broadband PCS operations. As another option, commenting parties including CTIA and Verizon assert that rights to the 1910-1915 MHz band should be allocated for PCS-like services, as part of a paired block.[569] Proponents of this redesignation also state that it would provide efficient use of spectrum, improve global harmonization of spectrum, and achieve economies of scale. Finally, proponents of MDS state the 1910-1916 MHz band (as part of a pairing with the 1990-1996 MHz band) would provide suitable replacement spectrum rights for MDS operations in the 2.1 GHz band.[570] We note that many of the commenting parties who endorse high-power use of the 1910-1915 MHz band also discuss the extent to which we could reduce the existing separation between the Broadband PCS bands at 1850-1910 MHz and 1930-1990 MHz without causing harmful interference to existing Broadband PCS operations or requiring the use of filters, power reduction, or other protective measures that would increase the cost of deploying new high-powered

[567] Ericsson Comments to *AWS Third NPRM* at 3-4.

[568] Nextel Comments to *AWS Third NPRM* at 5-12.

[569] *See, e.g.*, CTIA Comments to *AWS Third NPRM* at 2; Verizon Comments to *AWS Third NPRM* at 5. See also Ascom Comments to *AWS Third NPRM* at 2 (agreeing with re-designation of 1910-1920 MHz for fixed and mobile uses); Motorola Comments to *AWS Third NPRM* at ii, 3 (agreeing with re-designation of 1915-1920 MHz for PCS use).

[570] *See, e.g.*, Ad Hoc Comments to *AWS Third NPRM* at 4-5; Cingular Comments to *AWS Third NPRM* at 4 (stating that allocation will add flexibility for MDS to provide fixed and mobile services); DCT Los Angeles (DCT) Comments to *AWS Third NPRM* at 14; Nucentrix Comments to *AWS Third NPRM* at 11-13 (asserting that MDS proponents have worked to provide technically viable solution for displaced MDS that no other proponents of various allocation schemes have submitted); WCA Comments to *AWS Third NPRM* at 13, 18. In the Second R&O, we reallocated MDS spectrum at 2150-2155 MHz for AWS. MDS Channels 1 and 2/2A consist of the 2150-2160/62 MHz band. While our recent decision to relocate MDS channels 1 and 2 to the 2.5 GHz band, discussed *infra*, makes these proposals moot, we believe that they continue to be of value to this proceeding insofar that they illustrate commenters' beliefs that high-powered services could occupy the band.

licensed systems within the 1910-1930 MHz band or otherwise limit its usefulness.[571] Generally, the commenting parties supporting reallocating this five megahertz portion for high-power operations also state that it would be feasible to leave a fifteen megahertz separation between Broadband PCS bands without causing mobile-to-mobile and base-to-base interference.[572]

226. Rather than redesignate the 1910-1920 MHz band for new licensed mobile services, some commenting parties state that isochronous UPCS should be redesignated for use throughout the whole UPCS band. For example, UTAM and Peñasco Valley Telephone Cooperative (PVT) state that the public interest supports retaining the entire 1910-1930 MHz band for UPCS with technical modifications to enable isochronous devices to use the asynchronous band.[573] Commenting parties state that retaining this ten megahertz of spectrum for unlicensed use would both maintain an adequate separation between the licensed PCS mobile and base transmit bands and meet the growing demands for UPCS devices.[574] Specifically, ICO Global Communications (ICO) and Motorola indicate that the growing demand for UPCS devices and need for more isochronous UPCS spectrum supports the expansion of isochronous spectrum.[575] JSM Electronics, Inc., and UTStarcom have proposed use of the 1910-1915 MHz spectrum for the deployment of community wireless network systems.[576] We also note that some commenting parties ask that we extend isochronous UPCS use to an additional five megahertz in the 1915-1930 MHz band, particularly in the event that we redesignate the 1910-1915 MHz band segment. Proponents of this option claim that isochronous UPCS should be extended because the current asynchronous designation has not resulted in service, continued low power (UPCS) use would reduce potential interference to high power adjacent band Broadband PCS licensees, and demand exists to expand unlicensed voice applications beyond the existing ten megahertz.[577] Siemens, for example, suggests that by extending isochronous UPCS use to the 1915-1920 MHz band and implementing several technical changes to the

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[571] *See, e.g.*, Motorola Comments to *AWS Third NPRM* at 4; Verizon Comments to *AWS Third NPRM* at 5, Ericsson Comments to *AWS Third NPRM* at 3, Lucent Reply Comments to *AWS Third NPRM* at 2.

[572] *See, e.g.*, Ad Hoc Comments to *AWS Third NPRM* at 5; CTIA Comment to *AWS Third NPRM* at 3; Nextel Comments to *AWS Third NPRM* at 11-12; UTAM Comment to *AWS Third NPRM* at 4; Verizon Comments to *AWS Third NPRM* at 5-6.

[573] UTAM Comments to *AWS Third NPRM* at 2; PVT Reply Comments to *AWS Third NPRM* at 2-3; See also UTStarcom Comments to *AWS Third NPRM* at 3-4 (proposes community wireless systems in UPCS extended band); Inventel Reply Comments to *AWS Third NPRM* at 2; Midstate Communications (Midstate) Reply Comments to *AWS Third NPRM* at 2 ("Leaving UCPS spectrum for unlicensed use will encourage deployment of niche services and local mobility applications that show great promise to benefit consumers in rural, underserved and tribal areas"); PBC Reply Comments to *AWS Third NPRM* at 2.

[574] *See, e.g.*, UTAM Comments to *AWS Third NPRM* at 4-5 (stating record does not show evidence that reduction of spectrum by ten megahertz is feasible, and evidence shows something to the contrary).

[575] Ericsson Comments to *AWS Third NPRM* at 5; ICO Comments to *AWS Third NPRM* at 5; Motorola Comments to *AWS Third NPRM* at 8-10.

[576] JSM Comments to *AWS Third NPRM* at 2; UTStarcom Comments to *AWS Third NPRM* at 4-5.

[577] *See, e.g.*, Ascom Comments to *AWS Third NPRM* at 2; Siemens Comments to *AWS Third NPRM* at 2; Verizon Comments to *AWS Third NPRM* at 6; WCA Comments to Third NRPM at 17, 20; See also Ericsson Comments to *AWS Third NPRM* at 5 (stating that such an expansion is consistent with current use of spectrum); Siemens Comments to *AWS Third NPRM* at 3 (noting that expansion improves spectrum efficiency and reduces levels of interference, thereby enhancing quality of service); Cingular Comments to *AWS Third NPRM* at 2-3 (support retaining 1916-1930 MHz for UPCS).

Rules, the Commission could allow for the introduction of products using DECT technology into the United States.[578]

227. Based on the record, we conclude that the public interest would be best served by re-designating five megahertz of spectrum in the 1910-1915 MHz band for licensed Fixed and Mobile services on a primary basis to support the types of high-powered mobile applications associated with AWS, Broadband PCS expansion, and Nextel's mobile operations. We note that there is strong support for such a designation in the record, and we agree with those parties that assert that such a designation will promote efficient use of the spectrum, allow for the rapid introduction of high-value services, and otherwise serve the public interest.

228. We find that such a designation is preferable to continued unlicensed uses of the band. Even if the demand for isochronous devices is growing or similar unlicensed voice applications (such as those associated with community wireless networks) could be deployed in the band, we cannot conclude that such use would be preferable to the types of higher powered licensed applications that the band could support. The proven public demand for licensed mobile services and the need to provide additional spectrum to support their continued deployment leads us to conclude that designation of this spectrum to licensed Fixed and Mobile services will allow us to put this spectrum to a higher use than it can serve as unlicensed spectrum. Moreover, no commenter has suggested that asynchronous applications for the band will be developed or deployed in the near future and those parties that promote expanded voice applications in the band would only offer deployment in limited geographic areas or urban locations where the 1920-1930 MHz band is already put to high use. By contrast, the redesignation of this band to licensed use would promote the rapid and widespread introduction of services into spectrum that heretofore has lain fallow.

229. We note that by assigning these spectrum rights to Nextel we preclude other AWS-like use, on which we sought comment in the *AWS Third NPRM*, including expansion of the existing Broadband PCS bands and allocation of this spectrum to MDS as replacement spectrum. However, such use does not offer us the ability to resolve the critical public safety issues that we will be able to address by assigning the spectrum to Nextel.[579] Also, we note that the proposal by MDS proponents to redesignate the 1910-1916 MHz band paired with the 1990-1996 MHz band as replacement spectrum for MDS channels 1 and 2 has been rendered moot by our recent decision in which we established a relocation plan for those MDS channels in conjunction with the restructuring of the 2.5 GHz band.[580]

230. Finally, we note that while we are re-designating the 1910-1915 MHz band segment for Fixed and Mobile services, we do not address the 1915-1920 MHz band segment at this time. Commenting parties generally concur that Broadband PCS mobile and base transmit bands will be able to

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[578] *See ex parte* Comments of Siemens Corp., et. al. filed in ET Docket 00-258 on December 12, 2003. DECT is a digital wireless technology that originated in Europe and is used in a variety of wireless applications, including cordless telephones and wireless office telecommunications products.

[579] *See, e.g.*, Ad Hoc Comments to *Third NPRM* at 4; Cingular Comments to *Third NPRM* at 4; WCA Comments to *Third NPRM* at 12-13. Because this decision exclusively considers the resolution of allocation matters in the 1910-1915 and 1990-1995 MHz bands, we make no decision herein with respect to relocation of MDS operations other than to conclude that assignment of this spectrum to Nextel best serves the public interest

[580] Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands, *et al.*; WT Docket Nos. 03-66, *et al.*, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 04-135 (rel. Jul. 29, 2004) (*2.5 GHz MDS Restructuring R&O and NPRM*).

continue to operate with a duplexer gap of fifteen megahertz without causing interference to each other. Because we are not modifying the existing designation for the 1915-1920 MHz band, we need not consider at this time those comments that discuss whether or how we could preserve an adequate separation gap between the Broadband PCS bands if we were to redesignate spectrum above 1915 MHz for high-power licensed services. Furthermore, we are retaining the option to, *inter alia*, use the 1915-1920 MHz band for AWS use or in conjunction with an expansion of our UPCS rules to allow for expanded voice-based applications, but will address these matters in a subsequent action.

231. Accordingly, we find ample support in the record for allowing high-powered use of the 1910-1915 MHz band segment and that such use can occur without causing interference to existing Broadband PCS operations. For the reasons stated above, we are re-designating the 1910-1915 MHz band for licensed Fixed and Mobile services and updating our Part 15 rules to remove the 1910-1915 MHz band from asynchronous UPCS use.

232. *Petitions for Rulemaking and Petitions for Waiver Regarding the 1910-1930 MHz Band.* As mentioned, *supra*, the under-utilization by unlicensed devices of the 1910-1920 MHz band has prompted the filing of four petitions for waiver from Lucent, UTStarcom & Drew University, Ascom, and Alaska Power; and two petitions for rulemaking from WINForum and UTStarcom, which all request certain rule changes to these bands.

233. In its petition for waiver, Lucent requests that it be allowed to use the 1910-1920 MHz band for its Definity PBX voice system within the confines of Cook County, Illinois. It claims that several of its customers need high-capacity indoor wireless communications and that the existing ten megahertz of spectrum reserved for voice in the 1920-1930 MHz band is insufficient to meet those needs. Also, UTStarcom & Drew University request permission to use the 1910-1920 MHz band to install the UTStarcom Personal Access System (PAS) on the campus of Drew University in Madison, New Jersey, in order to provide wireless telephone service to the students and staff, as an extension of the university's wired telephone system. It states that the PAS system complies with Japan Personal Handy Phone System (PHS) Standard RCR-28 but does not meet Part 15 requirements for either isochronous or asynchronous devices and typically operates at higher power levels than mandated by Part 15. It further states that once Broadband PCS Block C licensees are selected in Auction #35 (for the 1895-1910 MHz band paired with the 1975-1990 MHz band) it would be possible to negotiate use of that spectrum on the Drew University campus with the winning licensee. In addition, Ascom requests that it be allowed to use the 1910-1920 MHz band for its Freeset DCT 1900 PBX voice system within the confines of Cook County, Illinois; New York City; and San Francisco County, California, because several of its customers, who are boards of trade or stock exchange entities, need high-capacity indoor wireless communications. Ascom submits that the ten megahertz of spectrum reserved for voice in the 1920-1930 MHz band is, again, insufficient to meet such needs. Finally, Alaska Power requests a waiver of Part 15 asynchronous spectrum etiquette to operate a community wireless voice system over the 1910-1920 MHz (data) band, in order to serve small rural areas in Alaska that are currently unserved or underserved by wireless service providers.

234. In its petition for rulemaking, WINForum asks the Commission to allow isochronous UPCS devices to use the 1910-1920 MHz band and to phase out asynchronous use in this band, thereby providing twenty megahertz of spectrum (1910-1930 MHz) for isochronous devices, and also to modify certain technical requirements for UPCS devices in Part 15. WINForum further requests that the Commission modify the frequency stability requirements for asynchronous UPCS data devices.[581] In its

[581] *Id.* at 15-16. Currently, 47 C.F.R. §15.321(e) requires the measurement of the carrier frequency in order to ensure its frequency stability. WINForum believes that for asynchronous data devices that transmit in short bursts, explicit measurement of the carrier frequency as a function of time for a short modulated burst is inherently (continued....)

petition, UTStarcom requests that the 1910-1920 MHz band be made available for licensing via competitive bidding to permit the establishment of community wireless network service, using its PAS which is based on Japan's RCR-28 Personal Handy Phone System (PHS) standard.[582] Subsequently, UTStarcom modified its requests to seek changes to the Part 15 rules for coordinated unlicensed operation in the 1910-1920 MHz band for its PAS system, with coordination performed by UTAM, using the existing UTAM coordination infrastructure.[583]

235. As a consequence of our decision to redesignate the 1910-1915 MHz band for licensed Fixed and Mobile services for AWS use, we deny in part the waiver petitions from Lucent, Ascom, Alaska Power, and UTStarcom and Drew University insofar as they request use of spectrum in the 1910-1915 MHz band. We also deny in part the petitions for rulemaking from WINForum and UTStarcom. Again, our decision to deny in part the rulemaking petitions is made only with respect to the 1910-1915 MHz band, and is based on the fact that re-designation of this band precludes the petitioners' requests to use the entire 1910-1920 MHz band for expanded unlicensed applications. At this time we are not deciding the disposition of the 1915-1920 MHz band, and so we do not address the petitions for waivers and petitions for rulemaking with respect to this five megahertz band segment. To the extent that these parties can operate without use of spectrum in the 1910-1915 MHz band, we will further address their petitions when we consider the disposition of the 1915-1920 MHz band.

b. Pairing the 1910-1915 MHz and 1990-1995 MHz Bands

236. As part of our proposal in ET Docket 00-258 to redesignate the 1910-1920 MHz band (or a portion thereof) in the *AWS Third NPRM* for Fixed and Mobile Services, we also proposed options for pairing the 1910-1920 MHz band with the 1990-2000 MHz band for the redesignation of AWS, expansion of Broadband PCS, or the relocation of existing services.[584] Such a pairing was made possible because, in the *Report and Order* portion of that decision, we redesignated the 1990-1995 MHz band to the Fixed and Mobile Services as part of our restructuring of the 2 GHz MSS band.[585]

237. Those parties that support use of the 1910-1915 MHz band for high power licensed services generally agree with our proposal to pair the band with an equal amount of spectrum from the 1990-1995 MHz band. For example, CTIA (which supports pairing 1915-1920 MHz with 1990-1995 MHz for a PCS-like terrestrial wireless service), notes that such a pairing would benefit from the design of high-power PCS equipment in the adjacent Broadband PCS bands, which in turn would promote the rapid design and deployment of new systems and result in economies of scale.[586] Proponents of the CTIA proposal also assert that this pairing would maximize the value of the spectrum by achieving greater spectrum efficiency. For example, Cingular states that a pairing of the 1910-1916 MHz and 1990-1996

(Continued from previous page)
problematic. WINForum's proposal would allow for a more realistic measurement of the frequency stability of the device.

[582] *See* UTStarcom Petition at 2.

[583] *See* UTStarcom Reply Comments to *AWS Third NPRM* at 3.

[584] *AWS Third NPRM*, 18 FCC Rcd 2223 ¶¶ 47-49.

[585] *AWS Third R&O*, 18 FCC Rcd 2223 ¶ 28.

[586] CTIA Comments to *AWS Third NPRM* at 2. *See also* Ericsson Comments to *AWS Third NPRM* at 3; Nextel Comments to *AWS Third NPRM* at 10.

MHz bands would provide flexibility for MDS licensees to provide fixed and mobile services.[587]

238. We agree with Nextel, CTIA, and other parties that a pairing of the 1910-1915 MHz with 1990-1995 MHz bands would allow for the rapid introduction of terrestrial wireless services.[588] Many potential high-power licensed mobile service providers—including Nextel—are designed to operate on distinct base station transmit and mobile receive bands that incorporate adequate frequency separation between the bands. Thus, paired use of these two five megahertz blocks is consistent with many possible technologies, such as the IMT-2000 standards being considered for AWS and the request of Nextel and WCA for relocation spectrum. These paired bands are located immediately upper adjacent to the existing Broadband PCS bands and is therefore consistent with both the band location and frequency separation between bands that has allowed for the successful design and deployment of Broadband PCS systems. In addition, because the 1910-1915 MHz band lacks incumbent UPCS users, new licensees will only need to address relocation as it pertains to the relocation of incumbent point-to-point microwave systems in the band.[589] For these reasons, we will license the 1910-1915 MHz and 1990-1995 MHz bands as a pair to promote the most efficient use of this spectrum.[590]

c. Relocation and Cost Sharing Obligations in the 1910-1915 MHz Band

239. Since we have assigned Nextel spectrum rights to the 1910-1915 MHz band, *supra*, we are imposing on Nextel an obligation to relocate remaining incumbent microwave links anywhere in the 1910-1930 MHz band operating on a primary basis wherever commencement of Nextel operations in the 1910-1915 MHz band would cause harmful interference to such links. We also consider, in more detail, Nextel's cost sharing obligations in the 1910-1915 MHz band.

240. The Commission's relocation policies with respect to PCS spectrum, including UPCS spectrum, has generally been to require new entrants to relocate, before commencing operations in a location, any existing incumbent microwave links that would otherwise experience harmful interference from those operations.[591] In its comments Nextel has committed to fund its *pro rata* share of any additional band clearing if it were provided spectrum at 1910-1915 MHz.[592] Therefore, we here impose an

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[587] Cingular Comments to *AWS Third NPRM* at 4-5. *See also* DCT Los Angeles Comments to *AWS Third NPRM* at 14.

[588] Nextel Comments to *AWS Third NPRM* at 10; CTIA Comments to *AWS Third NPRM* at 2.

[589] Microwave systems operating with paired frequencies use the 1910-1930 MHz band paired with the 2160-2180 MHz band. We note that UTAM previously relocated certain microwave incumbents from the 1910-1920 MHz band in conjunction with the designation of the 1910-1930 MHz band for UPCS use. We discuss relocation and reimbursement procedures for the 1910-1915 MHz band to account for the re-designation in ¶¶ 239-249, *infra*. We observe that the rules adopted in the 1992 *Emerging Technologies* proceeding apply to this band. *Emerging Technologies First Report and Order and Third Notice of Proposed Rule Making*, 7 FCC Rcd at 6890 ¶¶ 23-24. This relocation right was affirmed in the *Emerging Technologies Memorandum Opinion and Order and Third Notice of Proposed Rulemaking and Order*, 13 FCC Rcd 23949 (1998). The rules are codified in 47 C.F.R. §§ 101.69-101.99. Because these procedures are well known, parties can move expediently to initiate any relocation deemed necessary (to the extent that UTAM has not already completed such work). For these reasons, we believe that service providers can roll out service in this band quickly.

[590] As discussed *supra*, we further conclude that it serves the public interest to assign this paired spectrum block to Nextel in conjunction with our efforts to resolve public safety interference issues in the 800 MHz band.

[591] 47 C.F.R. § 24.239.

[592] *See* Nextel Comments to the Third NPRM at 16.

obligation on Nextel to relocate any such incumbent links operating on a primary basis.[593]

241. With respect to cost sharing obligations, in the *AWS Third NPRM*, we proposed that if we were to redesignate all or a portion of the 1910-1920 MHz band, we would implement a reimbursement plan that would repay UTAM a percentage of the expenses it incurred in clearing the UPCS band of microwave links.[594] We sought comment on this proposal and the method by which UTAM would be repaid. Those parties that commented on this issue generally agree with our proposal, and support the adoption of a reimbursement plan that would compensate UTAM for its expenses.[595]

242. UTAM, which supports retention of the entire 1910-1920 MHz band for UPCS, also states that in the event we redesignate spectrum in this band, we must ensure that new licensees fully and fairly compensate UTAM for the relocation of incumbent microwave users. In its comments, UTAM generally concurs that the reimbursement plan we proposed—which is based on the cost-sharing model we previously adopted for the relocation of microwave incumbents to allow for the introduction of licensed PCS—would provide such compensation.

243. In addition, UTAM raises several points as to how we should implement a reimbursement plan for redesignated UPCS spectrum. First, UTAM states that its compensation must be adjusted to include the base *pro rata* percentage of total costs it has incurred. To do this, UTAM notes that certain of its microwave relocation cost-sharing obligations are being paid in installments for links that have been moved by third parties, and asks that it be compensated for the pro-rata share of the present value of these future costs in one lump sum.[596] Second, UTAM states that new licensees should be required to follow the same cost-sharing rules as existing licensees that are adjacent to the UPCS band. In other words, if UTAM relocates a microwave link that accrues to the benefit of a new licensee, UTAM believes that the new licensee should be responsible for paying the relocation costs proportionate to the number of licenses benefiting from the relocation. This same cost-sharing obligation would apply to UTAM paying for reimbursement if a licensee relocated a link that accrued to the benefit of UTAM's members.[597] Also, UTAM states that a new licensee should, as a precondition to the grant of a license, be required to make its reimbursement payment to UTAM. This precondition, UTAM claims, would be similar to that of the payment of auction funds as a prerequisite to licensing. New licensees would therefore be able to factor the microwave relocation payment into a licensee's bidding strategy, in the event the spectrum is auctioned.[598] Finally, UTAM suggests that we consider allocating reimbursement costs among multiple new licensees entering the band by POPs as an effective, simple, and manageable means of cost recovery.[599]

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[593] This obligation ends on the sunset date, at which time individual operations in the band will become secondary. *See* 47 C.F.R. § 101.79.

[594] *AWS Third NPRM*, 18 FCC Rcd 2223 ¶¶ 29-30.

[595] UTAM Comments to *AWS Third NPRM* at 6-7; Nextel Comments to *AWS Third NPRM* at 15-16; PCIA Comments to *AWS Third NPRM* at 4-5.

[596] UTAM Comments to *AWS Third NPRM* at 6.

[597] *Id.*

[598] *Id* at 7.

[599] *Id.* POP is an abbreviated term for population used by the Commission. One pop equals one person. The Commission currently uses the 1990 census as a measure of population. *See* http://wireless.fcc.gov/auctions/glossary.html.

244. Nextel also agrees with our proposal for reimbursing UTAM incurred relocation costs. Nextel states that if it were relocated to 1910-1915 MHz, it will reimburse UTAM the band-clearing costs related to relocating incumbent microwave facilities from this five megahertz block of spectrum. Specifically, Nextel states that it agrees that UTAM should be entitled to receive a proportional share of the total expenses UTAM will have incurred to relocate microwave incumbents from the 1910-1930 MHz band as of the effective date of any final rules adopted in this proceeding.[600] Nextel also states that it would fund a *pro rata* share of any additional band clearing costs that are incurred following assignment of the spectrum block.[601] PCIA, which also supports our general relocation proposal, proposes that we establish a band-clearing cost-sharing clearinghouse to manage the relocation compensation in the allocation of UPCS bands to AWS.[602] PCIA states that many AWS licensees would benefit from UTAM relocating incumbent microwave links from the UPCS bands, because AWS licensees licensed in different geographic service areas could cause interference to or receive interference from a single incumbent licensee. PCIA therefore submits that a band-clearing cost-sharing clearinghouse needs to be developed to fairly reimburse UTAM, similar to the cost-sharing procedures for PCS in Part 24 of the Commission's Rules.[603]

245. In conjunction with our re-designation of the 1910-1915 MHz band for licensed Fixed and Mobile services, we find that UTAM must be fully and fairly reimbursed for relocating incumbent microwave users that operate on a primary basis in this band. We agree with commenting parties, such as Nextel, that UTAM should be made whole for the investments it has made in clearing the UPCS bands. We also find that in view of our assignment of this spectrum to Nextel, it is appropriate to require Nextel to reimburse UTAM twenty-five percent of UTAM's total relocation costs associated with relocation of incumbents from the 1910-1930 MHz band as of the date of assignment of the 1910-1915 MHz spectrum block to Nextel. We also agree with UTAM that we should apply the same cost-sharing obligations to Nextel that we have imposed on licensees on channels that are adjacent to the UPCS bands.[604] Thus, we will allow Nextel or UTAM to seek reimbursement for the proportion of its relocation costs that benefits spectrum whose relocation obligations would otherwise be borne by the party that uses or is otherwise responsible for that spectrum band. For example, if in order to make spectrum in the 1910-1915 MHz band available for use, Nextel relocates microwave links in both the 1910-1915 MHz and the 1915-1930 MHz bands, Nextel may seek reimbursement from UTAM for the actual costs associated with the relocation of the microwave links in the 1915-1930 MHz band.[605]

246. Our decision to require Nextel to reimburse UTAM a *pro rata* share of costs, in addition

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[600] Nextel Comments to *AWS Third NPRM* at 15.

[601] *Id.* at 15-16. *See also* Nextel Reply Comments to *AWS Third NPRM* at 6.

[602] Cost-sharing procedures for relocation of microwave incumbents are found in § 24.239 through § 24.253 of the Commission's Rules.

[603] PCIA Comments to *AWS Third NPRM* at 4-5.

[604] UTAM Comments to *AWS Third NPRM* at 6.

[605] Thus, Nextel's future relocation obligations will not necessarily represent a twenty-five percent share of any future microwave relocation costs in the 1910-1930 MHz band. If UTAM funds the relocation of a paired microwave link where only one half of the paired link operates in the 1910-1915 MHz band and the relocation costs are evenly divisible between both links, then Nextel would be liable to reimburse UTAM for one half of the total relocation costs associated with that paired link. Because we are not altering the current allocation of the 1915-1920 MHz band at this time, we are not modifying the existing procedure whereby UTAM is responsible for costs associated with the relocation of incumbent microwave facilities in that band.

to being consistent with the comments supporting a reimbursement mechanism for UTAM, offers a fair and easy procedure to implement. Because UTAM has already cleared most of the incumbent microwave links deployed across the entire 1910-1930 MHz band, this reimbursement plan represents the most reasonable and easiest approach to address the relocation costs that UTAM has already incurred. We believe that such a course is superior to the difficult and complex prospect of making retroactive calculations for apportionment and represents an equitable and administratively efficient means of compensating UTAM. We note that no party has objected to this approach.

247. Our decision to assign the 1910-1915 MHz band to Nextel makes several portions of UTAM's comments and PCIA's clearinghouse proposal unnecessary to implement a reimbursement plan for the band. UTAM states in its comments that a new licensee should be required to make its reimbursement payment to UTAM as a precondition to the grant of its license. We are requiring Nextel to reimburse UTAM as condition precedent to commencing operations in the 1.9 GHz band. Our decision to provide Nextel a nationwide license for the 1910-1915 MHz block obviates our need to consider UTAM's suggestion to allocate reimbursement costs among multiple licensees entering the band by POPs. This decision also renders moot evaluation of PCIA's proposal to adopt a band-clearing cost-sharing clearinghouse for bands allocated for AWS with respect to the 1910-1915 MHz band because there will be no complex sharing issues among multiple new entrants or among entities operating in less-than-nationwide service areas.

248. We also do not believe that it is necessary for us to require Nextel to immediately pay UTAM a share of the present value of UTAM's future installment payment obligations made to third parties. Again, because Nextel will be the sole nationwide license in this band, UTAM and Nextel will be able to address such matters as part of the overall process of accounting for and funding relocation obligations.[606] Finally, we note that the decisions made today only apply to the 1910-1915 MHz band. Therefore, we are not addressing how the proposals by UTAM and PCIA regarding reimbursement and cost-sharing would affect any future proceeding that considers redesignation of the 1915-1920 MHz band.

249. Accordingly, we adopt a reimbursement plan that entitles UTAM to twenty-five percent—on a *pro rata* basis—of its total costs incurred as of the date that Nextel gains access to the 1910-1915 MHz spectrum band. Nextel must pay this amount before it begins operations in the band.[607] Afterward we will allow Nextel and UTAM to seek reimbursement for the proportion of its relocation costs incurred in clearing incumbent fixed microwave systems that benefits spectrum whose relocation obligations would otherwise be borne by the party that uses or is otherwise responsible for that spectrum band. UTAM and Nextel shall reimburse those based on the actual costs associated with the relocation of these facilities.

d. Relocation and Cost Sharing Obligations in the 1990-1995 MHz Band

250. In this section, we address Nextel's obligations, as a new entrant, to relocate incumbent BAS systems in the 1990-1995 MHz band. As an initial matter, we are not altering the underlying relocation rules that we established for MSS entrants that undertake the relocation of BAS incumbents from the 1990-2025 MHz band and MSS licensees will continue to follow the procedures that the

[606] We do not suggest that Nextel is not obligated to reimburse UTAM a *pro rata* share of such expenses—only that the timing and means of this reimbursement is best left to the parties to negotiate within the thirty-six month band reconfiguration process.

[607] Nextel must also meet other conditions precedent to the commencement of operations in the 1.9 GHz band. *See* ¶¶ 344,347 *infra*.

Commission adopted in the *MSS Third R&O* when relocating BAS incumbents.[608] We are, however, modifying on reconsideration one aspect of the existing MSS plan to relocate BAS incumbents in order to allow Nextel to enter into the band and to address BAS relocation issues raised in the petitions for reconsideration of the *MSS Third R&O*. By retaining the existing MSS relocation rules but also overlaying procedures by which Nextel may relocate BAS incumbents, we will be able to ensure the continuity of BAS during the transition. It is essential that we do so, because BAS is a critical part of the broadcasting system by which emergency information and entertainment content is provided to the American public. Therefore, we expect that Nextel and MSS licensees will work together to minimize the disruption BAS licensees will experience in the transition.

(i) Nextel-BAS Plan

251. *MSTV-NAB-Nextel BAS Relocation Plan.* On May 3, 2004, MSTV, NAB, and Nextel submitted a proposed BAS relocation plan, which offered a means to clear BAS licensees from the 1990-2025 MHz band.[609] Under this proposal, Nextel would commit to funding the entire cost of relocating all BAS incumbents nationwide from the 1990-2025 MHz band.[610] Specifically, Nextel proposes to complete the relocation of all BAS licensees in the 1990-2025 MHz band in all markets in two stages—stage one within eighteen months and stage two within thirty months after the effective date of a Commission order in this proceeding.[611]

252. We will require Nextel, as a condition on Nextel's 1.9 GHz licenses, to follow a relocation procedure based on its proposed BAS relocation plan and relocate all BAS licensees in the 1990-2025 MHz band within thirty months after the effective date of this *Report and Order*, as described below. We believe that the parties' proposed BAS relocation plan is sufficiently similar to the BAS relocation plan the FCC adopted for MSS entrants, which was modeled on the policies set forth in our earlier *Emerging Technologies* proceeding,[612] and which requires MSS entrants to provide comparable facilities to BAS incumbents that are relocated prior to the sunset dates specified in the *MSS Third*

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[608] *See* ¶ 56 *supra*. As noted earlier, we will address the petitions for reconsideration or clarification of BAS relocation decisions made in the *MSS Third R&O* in this proceeding. We will, however, address the FS relocation issues raised in the pending joint petition for reconsideration or clarification of the *MSS Third R&O* at a later date.

[609] *See* MSTV/NAB/Nextel May 3, 2004 *Ex Parte*. This plan was also supported by SBE. *See ex parte* comments, dated May 7, 2004, from SBE (SBE May 7, 2004 *Ex Parte*).

[610] In return, Nextel requests that the Commission assign to Nextel replacement spectrum in the 1910-1915/1990-1995 MHz bands and receive credit for BAS relocation costs. MSTV/NAB/Nextel May 3, 2004 *Ex Parte* at 2.

[611] MSTV/NAB/Nextel May 3, 2004 *Ex Parte* at 2-3. The parties also note that "these targets may be adjusted to take into account issues regarding the availability of equipment, tower crews and other installation technicians." *Id.* at 3.

[612] *See* Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies, ET Docket No. 92-9, *First Report and Order and Third Notice of Proposed Rule* Making, 7 FCC Rcd 6886 (1992); *Second Report and Order*, 8 FCC Rcd 6495 (1993); *Third Report and Order and Memorandum Opinion and Order*, 8 FCC Rcd 6589 (1993); *Memorandum Opinion and Order*, 9 FCC Rcd 1943 (1994); *Second Memorandum Opinion and Order*, 9 FCC Rcd 7797 (1994); *aff'd Association of Public Safety Communications Officials-International, Inc. v. FCC*, 76 F.3d 395 (D.C. Cir. 1996) (collectively, "*Emerging Technologies* proceeding").

R&O.[613] Accordingly, we will also require Nextel to provide comparable facilities to BAS incumbents that are relocated.[614] Further, Nextel and MSS licensees, each of which individually are authorized to operate on a fraction of the band, will mutually benefit from the clearance of all BAS licensees in the band.[615] Nextel is therefore obligated to participate in the relocation of all BAS operations from 1990-2025 MHz, as discussed immediately below, even if it ultimately does not build its own facilities in some geographic areas. As we determined in the *MSS Third R&O,* a one-phase relocation plan avoids the possibility of BAS operations on three different band plans, and eliminates the potential disruption and down time to BAS associated with being relocated under two different phases in a short period of time.[616] We also note that our decision to accommodate Nextel's entry into the band does not alter our need to minimize the disruption to incumbent BAS operations during the transition. Therefore, we believe that including Nextel as a participant in the relocation of all BAS operations from the 1990-2025 MHz band strikes an appropriate balance that is not unreasonably burdensome upon Nextel as an entrant in the band, while also fair to the incumbents and MSS entrants.

253. *Relocation Schedule.* Under the BAS relocation plan, MSTV, NAB, Nextel, SBE and other interested broadcast parties will develop a joint relocation schedule and implementation plan to be submitted to the Commission. The joint implementation plan would address the timing of individual market relocations within the two-stage plan that will be completed within thirty months, measures to minimize disruption to ENG services during the transition, and measures to facilitate an expeditious and efficient relocation process. The joint relocation schedule will be based on the following criteria: during stage one, Nextel will relocate all BAS incumbents in markets where it chooses to deploy immediately, as well as any adjacent markets that raise inter-market coordination and interference problems; and during stage two, Nextel will relocate all remaining markets. Throughout this process (including after the initiation of stage two), BAS licensees that have not been relocated would be permitted to continue operation on their existing seven channels until they are relocated to the new band plan at 2025-2110 MHz.[617] According to the parties, this relocation proposal would therefore minimize disruption to incumbent BAS operations as well as serve the public interest by preserving the ability of broadcasters to provide the public with timely coverage of emergencies and other news events. The parties further contend that the thirty-month timeframe for relocating all BAS incumbents under the proposed Nextel-BAS relocation plan "should ensure that the 1990-2025 MHz band is cleared nationwide before MSS entrants are ready to begin service in the 2000-2025 MHz band."[618]

254. We will require Nextel to file progress reports within twelve months and twenty-four months after the effective date of this *Report and Order* on the status of the transition, including

[613] *MSS Third R&O*, 18 FCC Rcd 23638.

[614] *See* 47 C.F.R. §§ 74.690, 101.73.

[615] Each authorized 2 GHz MSS licensee receives an equal share of the available frequencies in which its primary service operations will take place, to be chosen at the time it has launched one satellite into its intended orbit. Each authorized 2 GHz MSS system may also operate at other frequencies in the 2 GHz MSS band, provided it does not cause harmful interference to other assigned satellite networks or incumbent terrestrial services that have not been relocated. *See* In The Matter Of The Establishment Of Policies And Service Rules For The Mobile Satellite Service In The 2 GHz Band, IB Docket 99-81, *Report and Order,* 15 FCC Rcd 16127, 16138-140 ¶¶ 16-21 (2000).

[616] *MSS Third R&O*, 18 FCC Rcd at 23654-57 ¶¶ 32-35.

[617] MSTV/NAB/Nextel May 3, 2004 *Ex Parte* at 3-6.

[618] *Id.* at 7.

identifying the markets that will be relocated during stage one and all remaining markets that will be relocated during stage two. This filing also should include the other information the parties stated they would provide as part of the joint implementation plan described in the Nextel-BAS relocation plan.[619] Nextel also will be required to certify to the Commission that all BAS facilities have been relocated within thirty months after the effective date of this *Report and Order*. We note that Nextel's obligation to relocate BAS incumbents must not interfere with its obligation to relocate public safety users in the 800 MHz band.

255. Nextel, which uses a terrestrial network, has a different interference potential between its service and BAS than that of MSS and BAS. Unlike satellites, whose signals can blanket the whole country simultaneously, a terrestrial network is limited to discrete geographic areas served by multiple base stations. Thus, the terrestrial nature of Nextel's service allows for the gradual relocation of incumbents during a geographically-based build-out period. Consequently, we will allow Nextel to determine its own schedule for relocating incumbent BAS facilities in a TV market as follows: Nextel must relocate incumbent BAS licensees before beginning operation in a particular BAS market, but Nextel may determine the markets it wishes to serve. Thus, whereas we had established a relocation process based on specific markets (1-30, 31-100, and 101-210) for MSS, Nextel's operations will only affect those markets where Nextel chooses to deploy its service. Unlike MSS, which may take up to five years to relocate BAS services in markets 31 and above, Nextel must relocate incumbent BAS operations in every BAS market it wishes to serve—including markets 31 and above—prior to beginning operations, and all BAS markets within the thirty-month timeframe proposed in the Nextel-BAS relocation plan. We conclude that the differences between the terrestrial nature of Nextel's service and the ubiquitous service that will be provided by MSS warrant these distinctions in the relocation procedures.

256. Further, the integrated nature of BAS operations also makes isolated, link-by-link relocation infeasible. Therefore, as a practical matter, we note that it may be necessary for Nextel to relocate more BAS facilities than an interference analysis might indicate as technically necessary in order to meet the comparable facility requirement for relocating BAS operations.[620] Nextel has agreed to relocate BAS licensees across multiple TV markets to avoid inter-market coordination and interference problems.[621] We also recognize that Nextel is likely to deploy its service in some locations in a manner that does not correspond to the geography of the BAS market areas, and note that Nextel will be obligated to relocate all incumbent BAS operations in all BAS markets, as proposed in the Nextel-BAS relocation plan, including those markets where Nextel provides partial, minimal, or no service.

257. Nextel, MSTV, and NAB argue that if one or more MSS entrant is prepared to launch service before the spectrum is cleared in all markets, a "key principle" of the Nextel plan should continue to apply—namely that Nextel will remain responsible for paying the upfront relocation costs.[622] We disagree to the extent that this principle is intended to prevent MSS licensees from clearing BAS incumbents earlier. Under this *Report and Order*, MSS licensees will retain the option of accelerating the clearing of those markets so that they could begin operations before Nextel has completed nationwide clearing. We recognize that the parties will have to work cooperatively to ensure a smooth transition for BAS incumbents. To facilitate this process, we will require Nextel to file with the Commission and copy

[619] MSTV/NAB/Nextel May 3, 2004 *Ex Parte* at 3-4. *See also* ¶ 253 *supra*.

[620] *See* 47 C.F.R. §§ 74.690(d) and 78.40(d-e). For example, a BAS licensee's operations in an adjacent market may need to be relocated even though Nextel does not initiate operations in that adjacent market.

[621] MSTV/NAB/Nextel May 3, 2004 *Ex Parte* at 5.

[622] *Id.* at 7-8.

the MSS licensees, within thirty days after the effective date of this *Report and Order*, its plan for the relocation of BAS operations in the markets that will be relocated during stage one (*i.e.*, within eighteen months). MSS licensees will have thirty days to review the Nextel plan[623] and identify to Nextel and the Commission which of the top thirty TV markets and fixed BAS operations, if any, they intend to invoke involuntary relocation.[624] If MSS licensees choose not to trigger involuntary relocation, Nextel will proceed under its plan to relocate BAS incumbents.

258. *Negotiation Schedule.* The Nextel-BAS relocation plan proposes mandatory negotiation periods between Nextel and BAS licensees ending February 28, 2005 for stage-one relocations and December 31, 2005 for stage-two relocations, thus providing nine months for negotiations for each stage.[625] We note that these dates were contingent on the Commission releasing its decision in this proceeding on May 31, 2004. Because of the time that has passed between May 31st and the release of this *Report and Order*, we will extend the negotiation periods to May 31, 2005 for stage-one relocations and March 31, 2006 for stage-two relocations. MSS licensees may voluntarily join in these negotiations in order to relocate BAS operations in markets 31 and above. We encourage MSS licensees to work cooperatively with Nextel in these negotiations because all parties will collectively benefit from the expeditious relocation of BAS incumbents to the new band plan. We also note that we will entertain requests filed by MSS licensees requesting that their voluntary participation in the negotiations between Nextel and BAS incumbents initiate their mandatory negotiation period.[626]

259. *Cost sharing.* In the *MSS Third R&O*, we noted that with the redesignation of the 1990-2000 MHz and 2020-2025 MHz bands in the AWS proceeding, non-MSS licensees that may begin service later will benefit from the band clearing paid for by MSS licensees. We therefore stated that we will provide an equitable mechanism by which MSS licensees can recover some of the relocation costs incurred from other licensees who will benefit from the band clearing of incumbent BAS operations from the 1990-2025 MHz band. However, we deferred setting forth comprehensive procedures that new Fixed and Mobile service providers (including AWS entrants) in these bands must follow to reimburse MSS licensees that will have incurred relocation costs.[627]

260. As noted above, under the Nextel-BAS relocation plan, Nextel offers to pay the upfront BAS relocation costs, which MSTV and NAB estimate will be $512 million. Nextel also requests that the Commission require MSS licensees in the 1990-2025 MHz band to pay their *pro rata* share of the cost of clearing this spectrum.[628]

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[623] *See* ¶ 253-254 *supra*.

[624] The one-year mandatory negotiation period for MSS and BAS licensees in markets 1-30 and all BAS fixed stations, regardless of market size, is already in effect and lasts until December 8, 2004. After this date, any MSS entrant may involuntarily relocate incumbent BAS operations. *See* ¶ 57, *supra*.

[625] MSTV/NAB/Nextel May 3, 2004 *Ex Parte* at 3-4.

[626] Because BAS incumbents would already be in relocation negotiations with Nextel, allowing MSS licensees to accelerate the mandatory negotiation period under the MSS plan for markets 31 and above may satisfy the intent of the mandatory negotiation requirement.

[627] *MSS Third R&O,* 18 FCC Rcd at 23644 ¶ 10.

[628] Nextel proposes that the payments by other entrants are made to the U.S. Treasury because, unlike Nextel, which would be receiving replacement spectrum, these other entrants would be receiving initial licenses. *See* MSTV/NAB/Nextel May 3, 2004 *Ex Parte* at 8. We decline to adopt this proposal. By allowing Nextel to relocate incumbent BAS licensees and retaining our existing rules that allow MSS licensees to also relocate BAS (continued....)

261. We have decided to generally follow the cost-sharing principle that the licensees that ultimately benefit from the spectrum cleared by the first entrant shall bear the cost of reimbursing the first entrant for the accrual of that benefit, except as discussed below. Therefore, the first entrant may seek reimbursement from subsequently entering licensees for a proportional share of the first entrant's costs in clearing BAS spectrum, on a *pro rata* basis according to the amount of spectrum each licensee is assigned. Consequently, Nextel is entitled to seek *pro rata* reimbursement of eligible clearing costs incurred during the 36-month reconfiguration period from MSS licensees that enter the band prior to the end of that period. Nextel will be required to inform the Commission and MSS licensees on whether it will or will not be seeking reimbursement from the MSS licensees 12 months after the effective date of this *Report and Order*.[629] Under this plan, Nextel would pay all upfront costs and receive credit for BAS relocation in the 800 MHz true-up process, less any MSS-reimbursed expenses. Thus, Nextel would no longer be entitled to reimbursement from other entrants to the band after receiving credit for its relocation costs at the 800 MHz true-up. Further, Nextel's right to seek reimbursement from any MSS entrants entering before the end of the 36-month reconfiguration period will be limited to costs Nextel incurred for clearing the top thirty markets and relocating all fixed BAS facilities, regardless of market size, and to an MSS licensee's *pro rata* share of the 1990-2025 MHz spectrum. We believe that limiting the amount of Nextel's reimbursement in this manner strikes an appropriate balance that is not unreasonably burdensome on Nextel or MSS licensees.[630]

262. Similarly, Nextel is also obligated to reimburse MSS licensees for Nextel's *pro rata* share of the MSS licensees' relocation expenses, should the MSS licensee trigger involuntary relocation or otherwise participate in the relocation process before Nextel has completed its nationwide clearing of the band. Any reimbursement by Nextel to MSS licensees must occur before the 800 MHz true-up period ends, so that these reimbursement expenses can be accounted for at the 800 MHz true-up. Both Nextel and MSS licensees under the MSS plan must clear the entire 1990-2025 band (a total of thirty-five megahertz of spectrum) while only operating in 1990-1995 MHz (a total of five megahertz of spectrum) and in 2000-2020 MHz (a total of twenty megahertz of spectrum), respectively. Therefore, Nextel's *pro rata* share represents the costs to relocate one-seventh of the spectrum.

263. *Interference Issues/Technical Standards.* In order to minimize interference from systems in the 1910-1915 MHz/1990-1995 MHz blocks, we are requiring Nextel to conform to the same technical standards applicable to licensed PCS systems.[631] The Commission adopted TIA Bulletin TSB 10-F previously as the criteria for determining PCS to FS interference.[632] Due to the technical similarity of

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incumbents, we meet the key objective of providing BAS licensees with relocation to comparable facilities. Adoption of the proposal would not further these core relocation objectives.

[629] This deadline coincides with the date Nextel is required to submit its first status report on its BAS relocation efforts.

[630] Under the MSS plan, MSS licensees are required to clear the top 30 BAS markets and all fixed BAS stations, regardless of market size, before beginning operations. The accounting among MSS licensees to settle relocation expenditures would not occur until after the end of the MSS relocation process. *MSS Second R&O*, 15 FCC Rcd at 12338 ¶ 68.

[631] *See generally*, 47 C.F.R. § 24 *et. seq.* We will ensure that Nextel's base/mobile operations conform to lower-adjacent broadband PCS operations. Specifically, we will require Nextel to operate its mobile/portable stations in the 1910-1915 MHz block and operate its base stations in the 1990-1995 MHz block. *See* 47 C.F.R. § 24.229(c) in Appendix C *infra*.

[632] *See* 47 C.F.R. § 24.237. *See also* Amendment of the Commission's Rules to Establish New Personal Communications Services, *Second Report and Order*, 8 FCC Rcd 7700, 7762 ¶ 150 (1993); *Memorandum Opinion* (continued....)

Nextel's service to PCS, which operates in nearby bands and for which TSB 10-F is well-suited, we conclude that the criteria specified in TSB 10-F should be equally suitable to determine where sharing would be possible between BAS and Nextel operations in the 1990-2025 MHz band. However, procedures other than TSB 10-F that follow generally acceptable good engineering practices may also be acceptable.[633] Our conclusion is consistent with the *MSS Second R&O* wherein the Commission determined that, in the case of new ancillary terrestrial component (ATC) service/FS interference in the 2165-2200 MHz band, TIA Bulletin 10-F would be the relevant standard.[634] In the *MSS Third R&O,* we affirmed that TSB 10-F, or its successor standard, is an appropriate standard for purposes of triggering relocation obligations by new terrestrial (ATC or AWS) entrants in the 2 GHz band to relocate FS incumbents.[635] For computing interference between satellite and fixed services, the Commission relies on the methodology and criteria in TIA Bulletin TSB-86.[636]

(ii) MSS-BAS Plan

264. In this section, we address MSS licensee obligations to relocate incumbent BAS operations in the 1990-2025 MHz band and address petitions for reconsideration and clarification of the *MSS Third R&O.* We grant in part and deny in part the petitions for reconsideration and clarification filed by MSTV, NAB, SBE, and Boeing. We have discussed, above, the process by which Nextel may enter the band and relocate incumbent BAS licensees, and how that process relates to the existing relocation procedures that we adopted for MSS licensees. Now, we turn our attention to the existing relocation rules that have already been established for MSS. Except as discussed below, those rules will remain in effect.

265. Under the MSS plan, BAS facilities in the top-thirty TV markets and all fixed BAS operations, regardless of market size, will be cleared first and the remaining markets in two segments (markets 31-100 within three years after commencement of MSS operations and markets 101-210 within five years). The Commission recognized that the services offered via the MSS satellites, once operational, will cover all of the United States simultaneously. Therefore, BAS facilities in the band would have to be relocated or cease operation in order to minimize interference between the two services.[637] The Commission instituted this gradual approach to balance the needs of the incumbents and future MSS users of the band, notwithstanding the added challenges to BAS operations.[638]

266. *Comments.* The broadcast parties contend that the Commission's decision to require MSS licensees to relocate BAS incumbents to the final channel plan in one step (rather than in two steps under

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and Order, 9 FCC Rcd 4957, 5029 ¶ 186 (1994). Bulletin TSB 10-F describes interference criteria for microwave systems in public fixed radio services and private operational fixed microwave service bands.

[633] 47 C.F.R. § 101.105 (c).

[634] *See MSS Second R&O*, 15 FCC Rcd at 12346 ¶ 97, n.160. *See also* 47 C.F.R. §101.79 (a).

[635] *See MSS Third R&O*, 18 FCC Rcd at 23672 ¶ 70.

[636] TSB-86 was developed by a Joint Working Group comprised of the Telecommunications Industry Association (TIA) Engineering Subcommittees on Spectrum and Orbit Utilization, the TIA Engineering Subcommittee on Interference Criteria for Microwave Systems, and the National Spectrum Managers Association. *MSS Second R&O*, 15 FCC Rcd at 12340-41 ¶ 78, n.131.

[637] Since the 1990-2025 MHz band is the MSS uplink band, BAS receivers would be subject to interference from nearby MSS handsets.

[638] *MSS Second R&O*, 15 FCC Rcd at 12325-26 ¶¶ 25-28.

the original plan), resulting in the temporary vacating of two BAS channels (rather than one channel under the original plan) until all BAS operations are relocated, will "significantly curtail" the ability of BAS incumbents in TV markets 31 and above to provide electronic news gathering (ENG) services to the public.[639] According to the broadcast parties, the Commission's decision underestimates the harm to BAS operations, particularly in the local coverage of emergencies, news, and sporting events, outside the top 30 markets because these markets will lose two channels for up to five years before being relocated. The broadcast parties further contend that dual band plans during the transition will cause interference and inter-market coordination problems.[640] MSTV and NAB also argue that the Commission's decision to modify the BAS relocation plan to immediately begin Phase II is contrary to precepts of administrative law and the public interest.[641] The broadcast parties request, in part, that the Commission devise an alternative relocation plan that would not require BAS incumbents in markets 31 and above to cease operations on two channels without receiving compensation prior to vacating the spectrum and further that the Commission consider various means to ensure that MSS licensees pay their *pro rata* share of BAS relocation.

267. Alternatively, Boeing maintains that the Commission should reinstate the original two-phase plan, with the modifications it proposes to Phase I, and not trigger Phase II immediately.[642] Boeing argues that the benefits to retaining the two-phase BAS relocation process are that it: 1) reduces the upfront costs for BAS relocation before MSS operators begin service; 2) is a more efficient use of spectrum; 3) provides the Commission with more time to resolve regulatory uncertainties about the types of new services and the procedures for the new entrants in the 1990-2025 MHz band; and 4) gives BAS manufacturers more time for the design and development of digital BAS equipment.[643]

268. In addition, the broadcast and MSS parties request that the Commission address unresolved questions regarding the relocation obligations (*e.g.*, the timing and scope of reimbursement) of new entrants to the 2 GHz band, as well as new services that are relocated from other spectrum bands (*e.g.,* Nextel).[644] Specifically, the commenters propose that the Commission require reimbursement of

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[639] *See* MSTV/NAB Joint Petition at 6-9 & 12-15; SBE Petition at 1-2; *see also* RTNDA Comments at 3-6. *But see* Boeing Opposition at 4-7 & 9-10; Boeing Reply at 2-3; ICO Reply at 3-4.

[640] *See* SBE Petition at 3; MSTV/NAB Joint Petition at 10-12. *But see* Boeing Opposition at 11-14.

[641] In addition, the broadcast parties contend that the revised relocation plan is inconsistent with the Commission's localism, diversity, public safety, and homeland security initiatives. *See* MSTV/NAB Joint Petition at 15-21; RTNDA Comments at 4. *But see* Boeing Opposition at 10-11.

[642] *See* Boeing Petition at 3-8; *see also* ICO Reply at 4-6.

[643] *See* Boeing Petition at 5-8. *But see* MSTV/NAB Joint Opposition 3-7; MSTV/NAB/SBE Joint Reply at 3-8. In their opposition and reply, the broadcast parties object to the aforementioned Boeing proposal by arguing that Phase II compensation would be delayed until after the sunset date. Therefore, they request that the Commission eliminate the ten-year sunset period and "create incentives that tie the ability of entrants to continue their own operations to timely fulfillment of their relocation compensation obligations to BAS incumbents." *See* MSTV/NAB/SBE Joint Reply at 8. In its reply, Boeing argues that no justification exists to eliminate the ten-year sunset deadline and points to the Commission's decision in the *MSS Third R&O*, which states that "we continue to believe that a sunset date is a vital component of the *Emerging Technologies* relocation principles." *See* Boeing Reply at 4 (citing ¶ 46 of the *MSS Third R&O*). Because we are not adopting Boeing's plan, we need not address MSTV, NAB and SBE's request to eliminate the sunset period.

[644] *See* Boeing Petition at 8-13; Boeing Opposition at 8; MSTV/NAB/SBE Joint Reply at 9; ICO Reply at 7.

BAS relocation expenses by later entrants, on a *pro rata* basis, before these new entrants begin operation in the 2 GHz band.[645] Finally, Nextel, MSTV and NAB argue that in the event an MSS entrant begins operations before all BAS incumbents have been relocated by Nextel, no BAS incumbent will be required to vacate any spectrum at 1990-2025 MHz until after it has been relocated to the new band plan at 2025-2110 MHz.[646]

269. *Decision.* On reconsideration, we will no longer require BAS licensees in TV markets 31-210 to cease operations on channels 1 and 2 until they have been relocated to their final channel plan at 2025-2110 MHz, unless licensees in a BAS market indicate as part of the relocation negotiation process that they do not wish to be relocated, in which case they must immediately restrict their operations to the 2025-2110 MHz band. We are making this modification to the MSS plan to accommodate Nextel's entry into the band consistent with the Nextel-BAS relocation plan, as described herein, which does not require BAS incumbents in markets 31 and above to cease operations on two channels without receiving compensation prior to vacating the spectrum.

270. We find that as a result of our actions here the two relocation plans will complement each other and expedite BAS relocation in the band. Under the Nextel-BAS relocation plan, the relocation of all BAS incumbents will be completed by May 2007. Under the MSS plan, MSS licensees may begin operations once the top thirty BAS markets and all fixed BAS stations, regardless of market size, have been cleared[647] and must certify that their systems are operational by no later than July 2007.[648] Nextel will likely relocate most BAS licensees before MSS licensees begin operations under their milestone requirements. In addition, as described previously, MSS operators will have an opportunity to work with Nextel to relocate BAS licensees in some additional markets. If MSS licensees begin operations before all BAS incumbents are relocated, we expect that MSS and BAS licensees will work together to minimize interference; however, MSS licensees would have to accept interference from the remaining BAS users until they are relocated. Further, the Nextel-BAS relocation plan would substantially shorten the time period during which adjacent BAS markets would operate on different channel plans, thereby mitigating the broadcast parties' concerns regarding interference and inter-market coordination problems resulting from prolonged dual band plans. Finally, we believe that adoption of a relocation plan that is based on the proposed Nextel-BAS relocation plan, as described herein, provides certain benefits to MSS licensees. In particular, Nextel has agreed to clear BAS nationwide within thirty months and to pay the upfront costs for BAS relocation.

271. We deny Boeing's petition with respect to its request for the reinstatement of the original two-phase MSS plan for BAS relocation. As we discussed in the *MSS Third R&O*, we found that given the need to provide for rapid introduction of AWS in the 2 GHz BAS band, a two-phase relocation was no

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[645] *Id.*

[646] MSTV/NAB/Nextel *May 3, 2004 Ex Parte* at 7-8.

[647] Under the MSS plan, MSS licensees may invoke involuntary relocation of BAS operations in the top 30 TV markets and fixed BAS stations, regardless of market size, after December 8, 2004. As we stated earlier, MSS licensees will have an opportunity to coordinate with Nextel on which top 30 BAS markets and fixed BAS stations the MSS licensees plan to invoke involuntary relocation. *See* ¶ 257 *supra.*

[648] This deadline applies to all 2 GHz MSS licensees except TMI. TMI must certify that its system is fully operational by November 2008. *See* TMI Communications and Company, Limited Partnership and TerreStar Networks, Inc. Application for Review and Request for Stay, *Memorandum Opinion and Order*, FCC 04-144 (released June 29, 2004).

longer appropriate.[649] We affirm this finding. We note that our decision herein to allow Nextel to enter the band requires that BAS incumbents be relocated expeditiously to the final Phase II channel plan. We also find that adoption of the Boeing plan is not necessary to address its concerns (*e.g.*, lower MSS upfront relocation costs) because these concerns will be satisfied by implementation of the Nextel-BAS relocation plan, as revised herein.

272. We now address the remaining arguments proffered by the parties. We find that our decision to adopt a relocation plan that is based on the Nextel-BAS relocation plan, as described herein, renders moot MSTV and NAB's procedural and public interest arguments.[650] Further, our decision today addresses the relocation obligations of Nextel, a new entrant into the 1990-2025 MHz band. With respect to the broadcast and MSS parties' request to resolve the relocation obligations of other new entrants in the 2 GHz band, we defer resolution of these issues to the appropriate docket.[651]

273. *Issues for Clarification.* Pointing to Paragraph 58 of the *MSS Third R&O*, SBE, MSTV and NAB request that the Commission clarify the relationship between BAS licensees operating on different channel plans to avoid causing coordination problems within and between TV markets.[652] Paragraph 58 of the *MSS Third R&O* states in part that:

> [b]ecause the continued use of the existing channel plan could disrupt BAS licensees that have relocated to the Phase II channel plan and lead to the difficulties in coordination that SBE describes, we will permit continued use of the 'old' channel plan only if all BAS licensees in a market will agree to such operation.[653] Moreover, BAS licensees in such markets must operate on a secondary basis to other BAS licensees using the Phase II channel plan and must be prepared for the potential disruption associated with secondary operation, such as the interference likely to be caused by a BAS licensee operating on the Phase II channels that enters the market to cover a sporting event or breaking news story.[654]

274. According to SBE, there is a conflict between Section 74.24(c) and Paragraph 58 of the *MSS Third R&O*[655]. Under Section 74.24(c), a top-thirty market TV pickup station that has converted to digital and operating on the new band plan but is temporarily operating outside its licensed area to

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[649] *MSS Third R&O*, 18 FCC Rcd at 23653-61.

[650] MSTV and NAB state that the *MSTV/NAB/Nextel May 3, 2004 Ex Parte* addresses the concerns raised in their joint petition. *See MSTV/NAB/Nextel May 3, 2004 Ex Parte* at 5; *see also* SBE May 7, 2004 *Ex Parte* at 2.

[651] *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, including Third Generation Wireless Systems, ET Docket No. 00-258.

[652] MSTV/NAB Joint Petition at 22; SBE Petition at 4-5.

[653] In the *MSS Second R&O*, we permitted BAS licensees the choice of surrendering BAS channel 1 during Phase I or relocating to the 14.5 MHz- and 15 MHz-wide Phase I channels. To facilitate an orderly coordination process and to prevent interference, we required all BAS licensees within the same Nielsen DMA to coordinate and chose one of these channel plans. *MSS Second R&O*, 15 FCC Rcd at 12330 ¶ 45.

[654] *MSS Third R&O*, 18 FCC Rcd at 23668 ¶ 58.

[655] SBE Petition at 4.

respond to a major news event would be secondary to the local TV pickup station where the major news event is occurring.[656] SBE contends that, under Section 74.24(c), if the local TV pickup station is in a market that has not converted to digital and the new band plan, it would have primary status over any visiting TV pickup station. However, we stated in the *MSS Third R&O* that a visiting TV pickup station that had converted to the Phase II channel plan would have primary status over the local TV pickup station that had not converted. Thus, SBE seeks clarification on whether Section 74.24(c) trumps Paragraph 58 of the *MSS Third R&O* or vice versa. Further, MSTV/NAB claim that it is unclear whether this applies to all broadcasters operating on the old channel plan or only in markets that elect to remain on the old channel plan even after they are entitled to relocation compensation.[657]

275. SBE also requests that the Commission clarify what it means by the "if all BAS licensees in a market will agree" language in Paragraph 58 of the *MSS Third R&O* mentioned above.[658] Specifically, SBE seeks clarification on whether: 1) a single station would be able to block or force the conversion to the new band plan of other stations in the market; or 2) the station that chooses not to convert becomes secondary to the stations that do convert.[659] According to MSTV and NAB, it is also unclear whether the primary status of BAS licensees operating on the new channel plan would allow a single broadcaster in a small or medium market to essentially compel other broadcasters in the market to convert to the new channel plan before receiving compensation by self-relocating during the transition period.[660]

276. We clarify that Paragraph 58 does not alter the operation of Section 74.24(c), *i.e.*, that any local TV pickup station will have primary status over any visiting TV pickup station, even if the local market as a whole or the individual local TV pickup station itself has not converted to the Phase II channel plan. We believe this outcome is consistent with the overall purpose of the short-term use rule when will continue to operate after the BAS relocation is completed. Further, although we believe it would be best if all stations in a market agree to use the same channel plan, an individual station that chooses to remain on the old channel plan will be secondary to other stations within the same market that convert to the Phase II plan and also to any TV pickup station that has converted to the Phase II plan and is visiting the local market. This should encourage parties to convert to the final channel plan expeditiously.

4. Method for Determining Equitable Compensation

277. The record reflects considerable disagreement among the parties on whether the grant of 1.9 GHz spectrum rights to Nextel constitutes equitable compensation or an unwarranted windfall.[661]

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[656] 47 C.F.R. §74.24(c). Section 74.24(c) states that a BAS station operating under short-term authority does so on a secondary, non-interference basis to regularly authorized stations.

[657] MSTV/NAB Joint Petition at 22.

[658] SBE Petition at 4-5.

[659] *Id.*

[660] MSTV/NAB Joint Petition at 22.

[661] *See* Comments of Alltel, et. al. to Consensus Parties Reply Comments at 12-13; Comments of Verizon to Consensus Parties Reply Comments at 10; Comments of Access Spectrum to Supplemental Comments of the Consensus Parties at 13-14; Comments of Alltel, et. al. to Supplemental Comments of the Consensus Parties at 7; Comments of Verizon to Supplemental Comments of the Consensus Parties at 11-12; (claiming that the grant of 1.9 GHz spectrum to Nextel would result in a windfall). *But see* Comments of Nextel to Consensus Parties Reply Comments at 24-27; Comments of Nextel to Supplemental Comments of the Consensus Parties at 15-17; Reply Comments of the Consensus Parties to Supplemental Comments of the Consensus Parties at 50; Reply Comments of (continued....)

Initially, the Consensus Parties proposed that Nextel would relinquish approximately ten megahertz of 700, 800 and 900 MHz spectrum, pay for band reconfiguration, and receive ten megahertz of 1.9 GHz spectrum.[662] Other parties, however, argue that the Commission should determine whether the value of the spectrum being relinquished by Nextel, when added to the costs Nextel incurs in band reconfiguration, is equal to the fair market value of the 1.9 GHz spectrum.[663] Many of these parties further argue that the market value (FMV) of the 1.9 GHz spectrum far exceeds the value of relinquished spectrum and other costs that Nextel would incur under the Consensus Parties' proposal.[664] Nextel responds that the 1.9 GHz spectrum is equitable compensation even under a value-for-value approach.[665]

278. We conclude that a "value for value" approach is the most appropriate for determining equitable compensation in this instance. We reject the approach proposed by the Consensus Parties because we do not regard the combined 700, 800, and 900 MHz spectrum that Nextel offered to relinquish as being equivalent to the 1.9 GHz spectrum. First, as discussed in ¶ 207 *supra*, we are excluding Nextel's 900 MHz spectrum from consideration in this order, so it does not help to "balance" the bandwidth exchange. Second, while we are accepting Nextel's offer to relinquish its 700 MHz Guard Band spectrum, we regard the value of this spectrum as *de minimis* because it cannot be made available to public safety in the near term and any potential long-term benefit it might afford to public safety or any value it might have in the marketplace is purely speculative at this point. Having excluded 700 MHz and 900 MHz from consideration, the remaining 800 MHz spectrum that Nextel is relinquishing—even as recently augmented to an average of 4.5 megahertz—does not equate on a megahertz-for-megahertz basis with ten megahertz of 1.9 GHz spectrum, absent some further balancing of the equities. We also reject the option of adjusting the megahertz-for-megahertz "balance" by providing Nextel with a smaller bandwidth increment, *e.g.*, 4.5 megahertz in the 1.9 GHz band. We believe this approach would segment the 1.9 GHz band in a fashion that does not make sense from a technical standpoint and would result in inefficient use of the spectrum. We believe that providing Nextel uniform nationwide access to ten megahertz in the 1.9 GHz band not only helps to ensure that Nextel receives comparable value for its loss of spectrum rights and expenses it will incur, but also will promote efficient use of the 1.9 GHz band. To account for these and other differences, therefore, we conclude that the comparative value of spectrum and other costs incurred by Nextel to support rebanding must be considered under a "value for value" approach.

a. Valuation of 1.9 GHz Spectrum

279. We begin with the value of the ten megahertz of spectrum at 1910-1915 MHz/1990-1995 MHz. Three parties—Verizon, CTIA, and Nextel—have submitted valuation studies of the 1.9 GHz spectrum, using different analytical methods and yielding different conclusions:

280. *Verizon Wireless – Kane Reece Study*. On October 27, 2003, Verizon Wireless submitted a valuation report prepared by Kane Reece Associates, a national appraisal firm.[666] The Kane Reece study

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Nextel to Supplemental Comments of the Consensus Parties at15-17 (claiming that grant of 1.9 GHz spectrum to Nextel will make Nextel whole in return for substantial spectral contributions).

[662] *See* Consensus Parties Reply Comments at 17-19.

[663] *See* Kane Reece Study; Kane Reece Study II; CTIA April 29 *Ex Parte*.

[664] *See* Kane Reece Study at 41-58; Kane Reece Study II at 8-12.

[665] *See* Sun Fire Study at 13-33.

[666] *See generally* Kane Reece Study n. 185 *supra*; Letter from John Scott, Vice President and Deputy General Counsel – Regulatory Law, Verizon Wireless, WT Docket No. 02-55 at 2 (dated Feb. 26, 2004) (Verizon Feb. 26, 2004 *Ex Parte* Letter).

concludes that "[i]f the Consensus Plan were adopted, the value of Nextel's spectrum would increase by $7.2 billion."[667] The Kane Reece study avers that "[a] giveaway of the 1.9 GHz PSC band ... would result in a significant windfall to Nextel while denying the public the value of this public resource."[668] The Kane Reece study further estimates that "[t]he FMV of 10 MHz at 1.9 GHz is appraised at nearly $ 5.3 billion,"[669] which would equate to approximately $1.82 per MHz per person (MHz-pop). This estimate is based primarily on an approach which estimates (using several different approaches) the enterprise value (EV) of mobile wireless operators and then subtracts the value of physical assets and identifiable intangible assets. The remaining residual is then interpreted as the value of the spectrum licenses.

281. *CTIA*. In a July 9, 2003, *ex parte* letter, CTIA proposed that the Commission use two private market transactions involving PCS licenses to estimate the value of the 1.9 GHz G block that would be assigned to Nextel as replacement spectrum under the Consensus Plan.[670] In the first transaction, Verizon Wireless acquired PSC licenses and other assets from Northcoast Communications for $750 million.[671] In the second transaction, Cingular seeks to acquire PCS licenses from NextWave Telecom for $1.5 billion.[672] Based on these transactions, CTIA estimates the value of the 1.9 GHz spectrum at between $4.5 billion and $5.3 billion.[673]

282. *Nextel*. In a November 20, 2003 filing, Nextel, through the Sun Fire Group LLC, asserts that a reliable estimate of the value of a nationwide G block license would use a representative selection of large, medium, and small market transactions to better account for market size value variations in constructing a nationwide value estimate.[674] The following transactions were used by Nextel to calculate an average national spectrum price:

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[667] Verizon Feb. 26, 2004 *Ex Parte* Letter at 2.

[668] *Id.*

[669] *Id.*

[670] *See* Letter from Diane Cornell, Vice President, CTIA, WT Docket No. 02-55 (filed July 9, 2003) (CTIA Filing).

[671] The data used by CTIA in its evaluation of the Verizon-North Coast Transaction are as follows:

Purchase Price	$750,000,000
POPS	47,400,000
MHz	10
Price/POP/MHz	$1.58

See Id.

[672] The data used by CTIA in its evaluation of the Cingular-NextWave Transaction are as follows:

Purchase Price*	$1,500,000,000
POPS	80,700,000
MHz	10
Price/POP/MHz	$1.86

*We note that CTIA bases the purchase price estimate on press and analyst reports. *See id.*

[673] *Id.*

[674] *See* Sun Fire Study at 32-33 and Appendix G.

- Verizon-North Coast Transaction[675]
- Pittsburgh, PA BTA Transaction[676]
- Lebanon, NH Transaction[677]

Based on these three transactions, Nextel estimates that the value of ten megahertz of spectrum at 1.9 GHz is worth $1.25 per MHz-pop, or approximately $3.5 billion.[678]

283. As an initial matter, we note that the valuing of spectrum is not an activity in which the Commission typically engages. We know from experience that the value of spectrum is seldom static and hinges on multiple variables, some of them intangible, which exist at the moment a willing buyer and willing seller agree to a transaction, or when an informed bidder places its bid an auction. When attempts are made to value a spectrum asset prospectively, the estimator must choose a model and employ underlying assumptions that serve as proxies for multiple variables. Given these approximations and limitations, any single figure derived cannot be exact; it necessarily has an associated uncertainty.

284. In our analysis of the three major valuations in the record, the models and assumptions differed and, in many instances, appeared tailored to reach a desired result. We believe that no strictly economic analysis can satisfactorily resolve the ultimate question of whether interference-free public safety communications—a largely unquantifiable benefit—has a dollar value commensurate with the fair market value of the 1.9 GHz spectrum Nextel will receive. However, we still believe such financial analyses are relevant to the extent that they provide a benchmark for determining whether the costs incurred and benefits received by Nextel reflect an equitable balance for the public and our licensees, or a windfall to Nextel. We further note that to the extent the possibility of a windfall may have existed under the Consensus Proposal, it is eliminated by the plan we adopt and the safeguards we impose today.

285. The studies all provide evidence relevant to determination of the FMV of the 1.9 GHz spectrum. The task of evaluating this evidence to reach a specific monetary value for the spectrum license asset, however, is complex, and any single figure derived is inherently uncertain. The standard approaches to valuation all have strengths and weaknesses, and appraisal experts often find that the best estimate of value is one that is a synthesis of several approaches.[679]

286. Because they reasonably apply standard and valid asset appraisal techniques, we conclude that the Verizon Wireless and Nextel studies, taken together, define a reasonable range for the value of a ten megahertz nationwide spectrum license of $1.25 to $1.82 per MHz-pop. One estimate provided in the CTIA filing exceeds $1.82 per MHz-pop; however that estimate relies on information in a press account of a spectrum sale transaction that later proved to be inaccurate.[680] Further, although Verizon Wireless

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[675] According to Nextel, the Verizon-Northcoast Transaction consisted of fifty BTAs with an average value of $1.58 per MHz-pop. *Id.*

[676] Nextel states that the average value per MHz-pop was $0.42. *See id.*

[677] The average value per MHz-pop was $0.25. *See id.*

[678] *See id.*

[679] *See*, for example, Shannon P. Pratt, Robert F. Reilly, and Robert P. Schweihs, *Valuing a Business: The Analysis and Appraisal of Closely Held Companies*, Fourth Edition, McGraw-Hill (2000), at 437-448.

[680] The CTIA Filing, made at a time that the Cingular acquisition of certain NextWave spectrum was only "Proposed/Reported," uses a $1.5 billion purchase price, citing as sources the New York Times and three analyst (continued....)

presents several other figures as being consistent with its preferred estimate, all such figures are less than $1.82 per MHz-pop. That is, Verizon Wireless applied a discounted cash flow analysis to a hypothetical firm by adding ten megahertz of spectrum to its ongoing business value; and, on that basis estimated the ten megahertz of spectrum at $1.73 per MHz-pop.[681] A market approach of looking at guidelines from publicly traded companies values the spectrum at $1.61 per MHz-pop,[682] and a comparable spectrum sales approach values the spectrum at $1.51 per MHz-pop.[683]

287. In order to identify an appropriate value amount that is attributed to Nextel for receipt of the 1.9 GHz spectrum rights, one must go beyond identifying a reasonable valuation range and place a specific value on the 1.9 GHz license. As further explained below, in reviewing the detailed application of the valuation methods used in the Kane Reece Study and Sun Fire Study, and also considering all the subsequent filings on valuation, we find that the $1.82 estimate likely overstates the true value of this spectrum, and the $1.25 estimate likely understates the true value.[684] Thus, neither end point in the reasonable value range likely represents the best point estimate for this value. We identify a best point estimate by focusing on several recent comparable secondary market transactions.

288. We believe the Verizon Wireless application of an EV-based calculation results in an uncertain and likely overestimated value of the spectrum license. A significant degree of uncertainty arises for several reasons. First, the EV approach inherently requires making a large number of assumptions. This is particularly true when, as is the case with the Kane Reece Study, enterprise value is estimated by a mix of "income" (or discounted cash flow) and "market" approaches. Thus, for example, under the market approach, the EV and license value estimates are very sensitive to the stock prices taken as starting points, and stock prices in this sector have fluctuated significantly over the recent past.[685] In addition, the calculations rely upon a mix of market values (such as the current equity prices) and book values (such as the values placed on firm debt and many tangible assets). Combining market and book figures in this way might result in overstating or understating the residually determined value of spectrum, depending on exactly how the various book values differ from true market values. Further, under the income approach, the result is also dependent on a large number of assumptions such as forecasts of future streams of revenues and costs, the choice of the appropriate discount rate to employ, and the choice of long term, or "terminal," growth rate to employ in the analysis. The exact assumptions made can greatly influence the outcome of an analysis,[686] and yet it can be difficult to determine the appropriate choices or

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reports (Bear Stearns 6/12/03, Credit Suisse/First Boston (5/28/03, and Goldman (5/28/03). As the Sun Fire Study points out (at 31, footnote 73), the correct purchase price was later disclosed to be $1.4 billion. *See* Cingular Press Release, Aug. 5, 2003 (http://www.cingular.com/about/latest_news_/03_08_05).

As the Sun Fire Study also points out (at 31), the CTIA Filing additionally errs in not recognizing that Cingular is acquiring twenty megahertz, rather than ten megahertz in two cities. Finally, we note that the CTIA Filing's estimate of population living in the areas included in the transaction differs slightly from the official U.S. Census figures for 2000, which we use below in determining the price per MHz-pop for this transaction.

[681] Kane Reece Study at 21 and Exhibit B.

[682] *Id.* at 26 and Table 2.

[683] *Id.* at 40 and Exhibit F.

[684] *See* ¶¶ 288-292 *infra.*

[685] Morgan Stanley, "Wireless Operator Valuation Table," Dec, 19, 2003, at 1.

[686] *See* the analysis by American Appraisal Associates (American Appraisal Report), submitted in Nextel ex parte filing, May 6, 2004, at 6-7.

justify choices made as most reasonable. Finally, as shown in a study submitted by Nextel, when the Kane Reece Study approach is applied to each wireless company individually, the result is a wide range of estimates of spectrum license values.[687] These estimates vary from a low of $0.41 per MHz-pop for T-Mobile to a high of $3.74 for Verizon Wireless. Nextel argues "Across all companies in its report, the Kane Reece values for spectrum vary by a factor of nearly nine. These wide variations in spectrum values further demonstrate that Kane Reece's methodology is unreliable."[688] Because the appropriateness and impact of the many detailed assumptions is unclear, and because of the great variation in resulting spectrum value estimates across companies, we believe there is considerable uncertainty about the resulting average license value estimate resulting from the EV based approach in this instance.

289. More significantly, we believe Verizon Wireless's application of the EV method introduces an upward bias to the valuation of the spectrum licenses. This occurs in two basic ways. In part, EV itself is overstated, and this overstatement flows through to overstate license value. And in part, too little value is subtracted from EV, so that again license value is overstated. One step in the analysis likely causes an overstatement in enterprise value. This occurs with the use of a "control premium" adjustment when computing the EV of the publicly traded firms in the group Verizon Wireless analyzes. That is, after determining the market capitalization of each of these firms (essentially the stock price times the number of outstanding shares), the Kane Reece Study increases the totals by thirty percent. This is said to produce the value that results from the ability to exert control of the assets and firm's operations.[689] Applying a control premium is standard and appropriate when, for example, attempting to value an entire corporation in order to determine a reasonable acquisition price for the entire firm.[690] The Sun Fire Study and the American Appraisal Report argue that it is inappropriate to employ a control premium when calculating the EV of an entire industry or when placing a value on an asset, the spectrum rights.[691] We agree with Nextel that a control premium adjustment is inappropriate when valuing assets such as spectrum licenses. The valuation/appraisal literature associates the use of control premiums with firm ownership values, not asset values.[692]

290. Even if the Verizon Wireless analysis has computed EV correctly, we believe it likely subtracts away too little of this value, and so attributes too much of the measured EV to the residual, the spectrum licenses. First, and most fundamentally, it is well recognized that the value of ongoing businesses may—and often does—exceed the sum of the values (or costs to replace) the capital stock.[693]

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[687] "Economic Analysis of the Kane Reece Spectrum Valuation," by Gregory L. Rosston, submitted in Nextel ex parte filing, Mar. 18, 2004, Exhibit A.

[688] *Id.* at 14.

[689] *See*, for example, Frank C. Evans, Evans and Evans, Certified Public Accountants, "Valuation of Companies: The Practical Aspects," Copyright 1994, American Management Association, at 100-105.

[690] "Source of Control Premium Data & What It Doesn't Tell Us," Mercer Capital, Transaction Advisor, Vol. 11, No. 3, 1999, available at http://www.bizval.com/publications/articlelibrary/SourceControlPremiumData.htm.

[691] Sun Fire Study at 24, American Appraisal Report at 8-9.

[692] *See* Pratt, Reilly, and Schweihs at 25-26, 48-49, and 354-361; "Goodwill Hunting: Part II," Mercer Capital, Transaction Advisor, Vol. 4. No. 3, 2001, available at http://www.bizval.com/publications/articlelibrary/GoodwillHuntingPart2.htm.

[693] *See,* for example, James Tobin, Money Credit and Capital, McGraw Hill (1998) at 147-155. The ratio of the market value of the firm to the replacement costs of its assets is known as "Tobin's q."

It has been estimated that market values for U.S. industries in general have significantly exceeded the replacement costs of their assets in recent years.[694] Second, other intangible elements may have value and thus should also be subtracted from EV. The Kane Reece Study does not account for the fact that market values may exceed the sum of the asset values, and it makes an adjustment for only one other intangible asset, the value of the current customer base. In so doing, it does not address factors such as brand equity firms may possess or any unique assets firms may have that create value (such as a uniquely strong management team or an important patent). At least one study has found, however, that in the mobile wireless sector intangible assets arising from advertising expenditures and research and development expenditures are important and statistically significant in explaining firms' market values.[695] Thus, the EV approach as applied by Verizon Wireless would be expected to leave as the residual not only the value of the spectrum licenses, but also the value of other important intangible contributors to firm value, as well as the synergies created by bringing all the assets together in an ongoing business. As a result, this approach attributes to the spectrum licenses value that is due to other critical factors and accordingly overstates the value of these licenses.

291. Turning to the Nextel's $1.25 per MHz-pop estimate, we find this likely understates the true value of a ten megahertz spectrum license. Nextel argues that the two comparable secondary market transactions employed by CTIA—the Verizon Wireless acquisition of fifty Northcoast licenses and the Cingular acquisition of NextWave spectrum in thirty-four cities—overstate the average value of a nationwide license because both of those transactions principally involved large markets.[696] Therefore, Nextel derives its figure using a "tiered pricing model" that relies on three comparable sales benchmarks: the Verizon Wireless/Northcoast acquisition and two other single-license transactions (Pittsburgh, PA and Lebanon, NH). This model, in effect and in intent, places a lower price per MHz-pop on spectrum in smaller cities. We find, first, however, as argued by Verizon Wireless, that this approach places undue reliance on the two single-license sales, and that this is particularly worrisome when those sales may not have been true arms-length transactions.[697]

292. Second, while we agree with Nextel in principle that the average value derived from the comparables used by CTIA need not equal the value of a nationwide license, and that some geography-based value adjustment may be required, we find that in this instance the tiered pricing model likely results in an exaggerated downward adjustment. We have investigated the difference in value between the average of each of the comparable transactions and a true nationwide average by reviewing data from Auction No. 11, for the D, E, and F Block PCS licenses, which closed in January, 1997. This auction provides the most recent complete set of data on how PCS license prices vary across geographic areas.[698] Specifically, we have compared the average price, in terms of dollars per MHz-pop, that the license areas

[694] That is, Tobin's q has been estimated as significantly greater than one. *See* "A New Bull, or a Bear Market Rally?" by David Edwards, in TheSreet.com, June 3, 2003, available at: http:/thestreet.com/funds/managerstoolbox/10090875.html.

[695] "Measuring and Valuing Intangible Capital in the Wireless Communications Industry," by Mark Klock and Pam Megna, The Quarterly Review of Economics and Finance, 40 (200) 519-532.

[696] Sun Fire Study at 22, 26-27, 32-33.

[697] Kane Reece Study at 18-19.

[698] While these auction data are seven years old, and are not useful for estimating the absolute value of spectrum today, we are using them here only to estimate the relative level of prices across geographic areas. While different geographic areas, of course, have grown at different rates over the last seven years, we do not believe that the relative pattern of values across licenses today is significantly different from that at the time the auction closed.

encompassed in each comparable transaction sold for in Auction No. 11 to the overall average for all licenses in that auction. We find no support for a downward adjustment to $1.25 per MHz-pop based on variations in value across geographic areas.[699]

293. Having concluded that the $1.82 estimate is higher than, and the $1.25 estimate lower than, the best point estimate of the FMV of the G Block, we compute the best estimate as follows. Given the problems with application of the EV-based approach, we find that an approach based on comparable spectrum sales is most reliable. Two recent benchmark secondary market transactions—those identified by CTIA—provide strong evidence of the current FMV of the 1.9 GHz spectrum. These are:

- the December 2002 purchase by Verizon Wireless of fifty Northcoast licenses at a price equating to approximately $1.58 per MHz-pop; and
- the Fall 2003 agreement to purchase by Cingular Wireless of NextWave spectrum in thirty-four cities at a price equating to approximately $1.66 per MHz-pop.[700]

294. These two transactions are compelling benchmarks for several reasons. Both are relatively recent, and represent arms-length transactions. Both transactions essentially involve spectrum licenses alone, as opposed to spectrum bundled with other assets, thus obviating the need to estimate the proportion of the purchase price that represents the value of the spectrum. Finally, since both transactions involve a relatively large number of licenses spanning a representative range of small to large markets, they should reasonably reflect the value of a nationwide license.

295. More recently, Qwest Communications and Verizon Wireless agreed to another transaction involving a large number of licenses. Verizon Wireless will acquire from Qwest sixty-two spectrum licenses in fifty-seven areas in Qwest territory for $418 million. While this transaction does not solely involve spectrum licenses, however it appears to place an average value on the licenses themselves of about $1.36 per MHz-pop.[701] While this is somewhat lower than our other two comparables, we believe it is consistent with them given the different mix of markets included in this transaction: a greater preponderance of small and mid-sized markets, and a lesser preponderance of very large metro areas. In general, licenses for large metropolitan areas are more highly valued per MHz-pop than licenses for the smaller cities and rural areas.

296. Secondary market transactions that involve only small numbers of licenses are more likely to reflect values that are specific to local conditions, and therefore may be inappropriate models for valuation of nationwide spectrum. Notwithstanding the limited data provided by such transactions, two other recently announced agreements also provide some relevant evidence of current value. First, in late May of this year, as part of a larger transaction between the two firms, it was announced that T-Mobile USA will acquire from Cingular Wireless ten megahertz of PCS spectrum in three BTAs, San Francisco-

[699] While we find the Auction No. 11 evidence sufficient to conclude that the estimate resulting from the tiered pricing model is too low, we do not attempt to use Auction No. 11 results to make any alternative value estimates. Differences among the three auctioned license blocks in how prices varied across license areas suggest that the Auction No. 11 results should not be relied upon to produce an adjustment to the result of the tiered pricing model.

[700] Throughout our analysis here of secondary market transactions, where we compute per MHz-pop values we employ population counts for the appropriate geographic areas from the 2000 Census. *See* the data at: http://wireless.fcc.gov/auctions/data/maps/cntysv2000_census.xls

[701] "Sale of Wireless Assets Positive for both VXW and Q," Analyst Comment, Goldman Sachs, July 2, 2004.

Oakland-San Jose, Sacramento, and Las Vegas. The agreed price is $180 million,[702] which corresponds to approximately $1.67 per MHz-pop. Second, on July 8 NextWave Telecom, Inc. sold three PCS licenses for a total of $973.5 million.[703] A ten megahertz license in the New York BTA was purchased by Verizon Wireless for $4.74 per MHz-pop. And ten megahertz licenses in two Florida BTAs were purchased by MetroPCS: Sarasota-Bradenton for $1.37 per MHz-pop and Tampa-St. Petersburg-Clearwater for $1.33 per MHz-pop. While not yet consummated, both of these transactions appear to be firm, arms-length transactions between willing buyers and sellers.

297. We view all these more recently announced transactions as confirming our two primary comparables, which yield an average value of $1.62 per MHz-pop. However, we believe that this value may understate the current FMV of a nationwide 1.9 GHz spectrum because a nationwide license—or a near-nationwide license that encompasses the great majority of areas where mobile telephony service coverage would be desired—may command a small value premium. We do not expect such a premium to be large, because today many likely buyers of spectrum already hold large spectrum footprints, and may be most interested in filling holes in those footprints or adding to capacity in local areas. Nonetheless, some firms would likely still see added value in having a nationwide license for a single set of frequencies, for example because such a license could enable less costly equipment development and deployment. Accordingly, we make a five percent upward adjustment in the average price of our primary comparable transactions. Our final point estimate of the value of the 1.9 GHz spectrum is $1.70 per MHz-pop, or approximately $4.86 billion.[704]

b. Offsets

298. Having determined the value of the 1.9 GHz spectrum, we must balance it against the costs that will be incurred by Nextel pursuant to this *Report and Order*. We conclude that the following categories of costs to Nextel merit compensation, and therefore should be offset against the above-determined value of the 1.9 GHz spectrum: (1) Nextel's costs to relocate incumbents within the 800 MHz band, including payments Nextel has made for the services of the Transition Administrator; (2) Nextel's own relocation costs; (3) Nextel's costs to clear the 1.9 GHz spectrum; and (4) the net value of the 800 MHz spectrum that Nextel will relinquish for public safety use.[705] We also assign *de minimis* value to the 700 MHz Guard Band spectrum that Nextel will relinquish.

(i) Relocation and Band-Clearing Costs

299. *Cost to Relocate 800 MHz Incumbents*. In the Consensus Parties proposal, Nextel has estimated the cost of relocating public safety, CII, and other 800 MHz incumbents at $850 million.[706] Nextel asserts that these costs should be credited to Nextel because they are integral to accomplishing

[702] "T-Mobile USA to End Network Venture with Cingular and Acquire California/Nevada Network and Spectrum," Press Release, May 25, 2004.

[703] "NextWave Auction Attracts Winning Bids Totaling $973.5 Million," News Release, NextWave Telecom, July 8, 2004.

[704] For the calculation of the total dollar amount, we use the total year 2000 population for the United States including possessions, or 285.62 million.

[705] We provide these offsets pursuant to our authority under Section 4(i) of the Act. 47 U.S.C. § 154 (i). *See* ¶¶ 75-76 *supra*.

[706] *See* Supplemental Comments of the Consensus Parties at 5-6.

band reconfiguration without imposing a prohibitive cost burden on public safety.[707] Verizon Wireless argues that Nextel should not receive credit for the cost of relocating other 800 MHz licensees on the grounds that these are "necessary costs of doing business" to remedy interference that has been caused by Nextel itself.[708] Verizon also asserts that Nextel has not provided documentation to support its $850 million relocation cost estimate.[709]

300. We reject Verizon's argument that Nextel should not receive credit for these relocation costs. First, we disagree with Verizon's premise that Nextel is legally responsible as the sole "cause" of the interference problem being remedied, and therefore could be compelled to pay these costs without compensation. The record in this proceeding has documented that while Nextel has been implicated in great number of interference incidents, the interference problem has not been not "caused" by any single party—Nextel, cellular, or public safety—but rather has been caused collectively by the proximity of all of these parties to one another in the 800 MHz band, even though all parties are operating in compliance with Commission rules. Moreover, Nextel is not only bearing the entire cost of solving the problem, but is supporting the optimal solution to the problem—band reconfiguration—even though this is considerably more costly to Nextel than other, less optimal solutions, such as exclusive reliance on Enhanced Best Practices. Based on these considerations, crediting Nextel for the cost of relocating other incumbents is consistent with equitable principles and furthers the public interest goals of this proceeding in achieving a comprehensive long-term solution to the interference problem. Finally, we do not require documentation of Nextel's estimate, as Verizon contends, because the offset will be calculated based on actual relocation costs, not estimated costs, as verified by the Transition Administrator.

301. *Nextel's Own 800 MHz Relocation Costs.* Nextel identifies two categories of costs associated with relocation of its own operations in the reconfigured 800 MHz band. First, to protect non-cellular systems below 816/861 MHz from OOBE, Nextel will install improved filters for all of its 800 MHz base station transmitters to achieve a sharper OOBE roll-off.[710] Nextel previously projected these filter costs at $150 million, but in conjunction with the revised band plan under which Nextel will relinquish an additional two megahertz of spectrum at 816-817/861-862 MHz, Nextel has revised its projected filter costs to $407 million.[711] Second, to implement band reconfiguration, Nextel will need to relocate its own operations to new channels. In some instances, this will require Nextel equipment to be retuned more than once in order to provide a seamless transition for other licensees.[712] Nextel estimates

[707] *See* Comments of Nextel to Supplemental Comments of the Consensus Parties at 15-17.

[708] Verizon June 30 ex parte at 3-4. *See also* Verizon June 9 ex parte at 6.

[709] *Id.* at 4.

[710] Nextel July 27 ex parte at 1-2. *See* n. 401 *supra.*

[711] Nextel June 21, July 27 ex partes. Nextel states as a result of giving up the additional 2 megahertz, it will require more expensive filters so that it can operate closer to the band edge while still protecting the relinquished spectrum from OOBE. In addition, Nextel will need to install filters at a greater number of base station sites than under the previous plan. Nextel July 27 ex parte at 2.

[712] Nextel July 27 ex parte at 2. Although Nextel will ultimately relocate from the current General Category and interleaved channels to the old NPSPAC block, it will not do so directly. Instead, it will need to relocate many of its operations to temporary channels in the 800 MHz band or to spectrum in the 900 MHz band while it is clearing the General Category block and moving non-Nextel General Category licensees to channels it has vacated in the interleaved bands. Only after the new NPSPAC block is cleared of incumbents and NPSPAC operations can be relocated there will Nextel be able to move its operations back from the 900 MHz band to the old NPSPAC block.

the cost at $400 million. Nextel seeks credit for both of these cost categories, while Verizon contends that Nextel should be required to bear these costs without credit or compensation.[713]

302. Verizon's argument that Nextel should not receive credit for its own relocation costs also fails. The costs that Nextel is incurring to relocate its own system are just as integral to the optimized solution of band reconfiguration as are the costs of relocating other 800 MHz licensees. The installation of new filters in Nextel's system will provide needed interference protection to public safety, CII, and other 800 MHz licensees on the additional spectrum that is being provided to them by Nextel under the new band plan. With respect to retuning costs, Nextel is paying for multiple relocations of its own operations to ensure that other incumbents can operate seamlessly while band reconfiguration is taking place. Thus, giving credit to Nextel for these costs is not tantamount to paying a "polluter" to stop polluting, as Verizon contends.[714] Instead, it is recognizing that Nextel—alone among the parties to this proceeding—is paying to support a comprehensive solution to a collective "pollution" problem even though this will require more expensive changes to its own system than would otherwise be required. We conclude that Nextel should be entitled to credit for these costs, as verified by the Transition Administrator. These costs will include payments Nextel has made for the services of the Transition Administrator.

303. *Cost of Clearing 1.9 GHz Spectrum.* As discussed in ¶¶ 239-263, *supra*, as a condition of receiving 1.9 GHz spectrum rights, Nextel is required (1) to pay UTAM for the cost of clearing the 1910-1915 MHz band and (2) to clear BAS from the 1990-2025 MHz band within thirty months. Nextel seeks credit for these costs as an offset against the value of the 1.9 GHz spectrum.[715] Verizon objects to this offset on the same grounds as the 800 MHz relocation cost offsets discussed above. In addition, Verizon argues that Nextel should not receive credit for clearing BAS from the entire 1990-2035 MHz band when clearing of the 1990-1995 MHz band is all that is required for Nextel's purposes.[716]

304. We conclude that Nextel should receive credit for all BAS relocation costs, less any MSS-reimbursed expenses incurred prior to the end of the thirty-six month reconfiguration period, when the offsets will be calculated.[717] First, the value we have determined for the 1.9 GHz spectrum is based on comparable transactions that involved unencumbered spectrum. Because the 1.9 GHz is encumbered, however, it is appropriate to consider the costs of clearing the band as an offset against this value. Second, we disagree with Verizon's contention that Nextel should not receive credit for the full cost of clearing BAS from the 1990-2025 MHz band. Although Nextel will only have spectrum rights in the 1990-1995 MHz portion of this band, as discussed in ¶¶ 251-263, *supra*, we are requiring Nextel to clear the entire band as a condition on those spectrum rights. We impose this requirement because it promotes responsible use by Nextel of the 1.9 GHz spectrum we are granting as part of our solution to the public safety interference problem, and because it provides a rapid and efficient band-clearing solution at 1.9 GHz that benefits all parties—Nextel, BAS, MSS, other prospective users of the band above 1995 MHz, and the public. Having required Nextel to incur these costs as an integral component of this order, we

[713] Nextel June 21 ex parte at 2; Verizon June 30 ex parte at 3-4.

[714] Verizon June 9 *ex parte* at 6.

[715] MSTV/NAB/Nextel May 3, 2004 Ex Parte at 4; Nextel June 21 *ex parte* at 2.

[716] Verizon June 9 *ex parte* at 6.

[717] In the event that Nextel were to incur any BAS-related relocation expenses after the thirty-six month reconfiguration period, they are outside the scope of this proceeding and Nextel may not claim credit for them, under the band clearing expense offset process we have established herein.

conclude that it is reasonable to allow Nextel to obtain credit for these same costs. Moreover, there is no risk in our decision of double recovery by Nextel because it cannot claim credit for any BAS relocation expenses for which it seeks or obtains reimbursement from MSS licensees.

305. We recognize that giving Nextel credit for the costs it incurs in clearing the 1.9 GHz band, differs from the Commission's usual practice of auctioning spectrum "as is," *i.e.*, a typical auction winner acquires spectrum rights subject to encumbrances such as incumbent users. We decline to take the "as is" approach in the instant situation, however, because the comparable transactions used above to determine the value of the 1.9 GHz band involved unencumbered spectrum. Thus, we believe it more accurate to grant Nextel credit for the verifiable costs of clearing the 1.9 GHz band instead of incorporating an estimate of these costs into our spectrum valuations.

306. *Combined Relocation and Band-Clearing Costs.* Nextel has estimated the cost of relocating 800 MHz incumbents at $850 million, its own relocation costs (retuning and additional filters) at $807 million, and the cost of clearing or relocating 1.9 GHz incumbents (UTAM and BAS) at $527 million.[718] If these estimates prove to be accurate, Nextel will be credited with combined offsets for these costs totaling $2.184 billion against the value of the 1.9 GHz spectrum. However, it is unnecessary to rely on Nextel's estimate, because the final offsets will be based on actual relocation and band-clearing costs incurred by Nextel, as verified by the Transition Administrator at the conclusion of the thirty-six month transition period for 800 MHz band reconfiguration. Thus, if the combined relocation and band-clearing costs prove to be higher than Nextel's estimate, Nextel will receive a correspondingly larger offset; similarly, if its costs are lower than this estimate, the offset will be correspondingly lower.

(ii) 800 MHz Spectrum Relinquished to Public Safety and Other 800 MHz Incumbents

307. As noted above, Nextel is relinquishing all of its spectrum in the 800 MHz General Category and interleaved bands, and two megahertz of spectrum at 816-817/861-862 MHz from the Upper 200 SMR channel block, for relocation and use by public safety and other non-ESMR incumbents. At the same time, once band reconfiguration and relocation are complete, Nextel will hold the rights to the six megahertz of contiguous spectrum in the current NPSPAC band (821-824/866-869 MHz). Nextel states that through its relinquishment of 800 MHz General Category and interleaved spectrum, it is giving up an average of 8.5 megahertz of bandwidth, resulting in an average net gain of 2.5 megahertz to public safety.[719] Combined with the two megahertz of spectrum that Nextel is giving up from its spectrum holdings in the Upper 200 block, the average net amount of spectrum being relinquished by Nextel is 4.5 megahertz.[720]

308. Nextel's relinquishment of these spectrum rights to public safety accomplishes an important public interest objective of this proceeding by increasing the amount of 800 MHz spectrum available for public safety use. Parties to this proceeding differ, however, on whether it also imposes a cost on Nextel, because the General Category and interleaved spectrum that Nextel is relinquishing is non-contiguous, while the NPSPAC band is contiguous. Verizon contends that Nextel's gain of rights to contiguous 800 MHz spectrum exceeds the value of the rights to non-contiguous 800 MHz spectrum being relinquished by Nextel.[721] Thus, Verizon contends that Nextel's exchange of spectrum rights in the 800

[718] Nextel June 21 ex parte at 2.

[719] *See* Nextel Reply Comments at 7. *See also* Consensus Parties Reply Comments at 18.

[720] Nextel June 9 *Ex Parte* at 2.

[721] *See* Kane Reece Study at Table 7; Kane Reece Study II at 2.

MHz band constitutes a windfall gain, notwithstanding the net loss of bandwidth. Nextel, on the other hand, contends that there is no difference in the per-megahertz value of the non-contiguous spectrum rights it is relinquishing and the contiguous spectrum rights it is gaining, so that the net loss of bandwidth imposes a substantial net cost on Nextel.[722]

309. As discussed more fully below, we do not agree with Verizon's contention that Nextel will realize a windfall gain from the net loss of spectrum rights at 800 MHz. While we conclude that Nextel will realize some technical efficiency benefit from being able to operate its network on contiguous 800 MHz spectrum, that benefit is relatively small and does not translate into a windfall for Nextel. We further conclude that the gain that Nextel will realize from the exchange of non-contiguous for contiguous spectrum rights at 800 MHz is more than offset by the total value of the 800 MHz spectrum rights being relinquished by Nextel, and the fact that Nextel will be unable to fully utilize the additional contiguous 800 MHz spectrum until the end of the transition. On balance, the result is a net cost to Nextel—though not as great a cost as Nextel contends—for which compensation is appropriate.

310. Verizon argues that the exchange of spectrum at 800 MHz is a windfall for Nextel based on the disparate valuations of contiguous and non-contiguous spectrum rights presented in the Kane Reece report. First, the Kane Reece report uses the same "enterprise valuation" method that Kane-Reece applied to the 1.9 GHz spectrum to value the rights to the contiguous six-megahertz NPSPAC band at $1.82/MHz-pop, or about $3.2 billion. Then, using an engineering analysis that compares non-contiguous spectrum used for mobile voice and data against contiguous spectrum in a CDMA 1xRTT use, the Kane-Reece report values the non-contiguous spectrum rights given up by Nextel at $.45/MHz-pop, or about $.9 billion—approximately twenty-five percent of the value Kane-Reece claims for rights to contiguous spectrum.[723] Combining these two figures, the Kane-Reece report asserts that Nextel will realize a $2.3 billion net benefit from the exchange of spectrum rights at 800 MHz.[724]

311. We believe Verizon's analysis is unpersuasive in several respects. First, Verizon asserts that Nextel will derive significantly increased value from exchanging contiguous for non-contiguous spectrum at 800 MHz because contiguous spectrum affords flexibility to use wideband technologies, such as CDMA, that cannot be deployed on non-contiguous spectrum. In Nextel's case, however, such flexibility is more theoretical than real. The record indicates that, as a practical matter, Nextel is unlikely to abandon its iDEN network and switch to wideband technology as a result of this exchange of contiguous for non-contiguous spectrum.[725] Given Nextel's existing investment in iDEN and its large customer base, it is more cost-effective for Nextel to extend its existing network into the additional six megahertz than to switch to an alternative technology such as CDMA, which would be very costly and time-consuming for Nextel and would impose significant burdens on its customers. In addition, to ensure continued service to its twelve million iDEN customers, Nextel will need to use the six megahertz for added spectrum capacity in its system to compensate for the lost capacity associated with spectrum rights being relinquished to public safety pursuant to rebanding. Thus, while we agree with Verizon that under most circumstances, contiguous spectrum offers more technical flexibility and is more highly valued by the marketplace, we believe the analysis here must focus on the practical effect of this specific exchange of spectrum rights on Nextel's existing network and service. In this context, the highest-value use that Nextel is likely to derive from the six megahertz it will acquire is to use it for iDEN expansion. This

[722] *See* Sun Fire Study at 27-28.

[723] *See* Kane Reece Study at 43-52.

[724] *Id.* at 42, Table 7.

[725] *See* Rosston Study at 7-9.