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 which 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

[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

(Continued from previous page)

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.

would not create a significant increase in value for Nextel because iDEN does not require contiguous spectrum.

312. For similar reasons, we find that Verizon's analysis understates the value of the non-contiguous spectrum rights being given up by Nextel. While the market value of non-contiguous spectrum is generally lower than that of contiguous spectrum, Verizon's analysis does not sufficiently account for Nextel's highly effective use of iDEN technology to maximize the capacity that it derives from non-contiguous spectrum. Using iDEN, Nextel can and does provide interconnected mobile voice and data at current-generation speeds on the spectrum it currently uses.[726] In fact, Nextel has been able to achieve capacity and throughput levels that are superior to many providers that operate on contiguous spectrum. Therefore, from a technology perspective, Nextel does not gain significant new capability to provide these services as a result of converting from non-contiguous spectrum to contiguous spectrum in the 800 MHz band.[727]

313. While we conclude that Verizon has not taken Nextel's efficient use of non-contiguous spectrum into account, we do not agree with Nextel's contention that its use of iDEN means that non-contiguous and contiguous spectrum rights should be valued equally. Even in an iDEN configuration, Nextel will realize some increase in technical efficiency as a result of using contiguous spectrum. For example, moving to contiguous spectrum will give Nextel somewhat more flexibility to optimize frequency reuse in its iDEN network, and Nextel will have fewer constraints on spectrum use because once relocation is complete, the contiguous band will be cleared of non-Nextel incumbents. Because Nextel has not taken these variables into account in its valuation of the 800 MHz spectrum it is relinquishing, we have conducted our own analysis to determine the appropriate offset for contiguous and non-contiguous spectrum.

314. *Contiguous Spectrum at 800 MHz.* We start by estimating the value to Nextel of the spectrum rights to the six megahertz of contiguous spectrum currently occupied by NPSPAC. We believe that Verizon's proposed market valuation of the six megahertz at $1.82 MHz-pop, for a total of $3.2 billion, is overstated. This valuation figure is derived using the same "enterprise valuation" method that Verizon uses to value the 1.9 GHz spectrum. As noted above, we find that this method results in an inflated value for the 1.9 GHz spectrum, and accordingly, it overstates the value of 800 MHz spectrum to at least an equal degree.

315. We believe that our above-determined $1.70/MHz-pop valuation of the 1.9 GHz spectrum represents a more appropriate baseline for determining the value of the contiguous 800 MHz spectrum being acquired by Nextel. Although Nextel asserts a higher value for 800 MHz spectrum (both contiguous and non-contiguous) based on propagation characteristics, based on our analysis of comparable sales discussed above, we have not found that this factor adds appreciable value to 800 MHz spectrum in comparison to 1.9 GHz spectrum. Moreover, to the extent that it may add value, there are other factors that tend to cancel out any such difference as applied to the 800 MHz spectrum that Nextel will acquire. First, we assume that the market value of six megahertz of spectrum would not be proportional on a per-megahertz basis to the market value of ten megahertz of spectrum. Where we have established new bands for advanced wireless services, we have never established licensing blocks smaller than ten megahertz. In addition, a six megahertz block provides no more capacity than a five megahertz block for the typical CDMA configuration based on 1.25 MHz channels, *i.e.*, only four channels can be

[726] *See* Sun Fire Study at 17.

[727] *See* Letter dated Dec. 19, 2003 from Regina Keeney, Esq. Counsel for Nextel to Michael J. Wilhelm, Esq., WTB at 16. *See also* Nextel Communications, Inc. Proposed Spectrum Swap: Working Through the Noise, *UBS Investment Research Report* dated April 15, 2004 at 6 (*April 15 UBS Report*).

accommodated in either case.

316. We also find that an offset should be made against the six megahertz of contiguous 800 MHz spectrum that Nextel is gaining because it is also relinquishing two megahertz of contiguous spectrum at 816-817 MHz/861-862 MHz. This reduces Nextel's net gain of contiguous spectrum from six megahertz to four megahertz. We also make an adjustment for operational restrictions that Nextel is accepting under this order at the new lower edge of its contiguous 800 MHz ESMR spectrum. As described by Nextel, these restrictions will effectively limit Nextel's use of half a megahertz of its ESMR spectrum after rebanding.[728] Based on all of the above factors, we conclude that Nextel should be credited with the net gain of 3.5 megahertz of contiguous 800 MHz spectrum as opposed to six megahertz. Applying our baseline of $1.70/MHz-pop to this amount of spectrum on a nationwide basis yields an approximate value of $1.739 billion.[729]

317. *Non-Contiguous Spectrum at 800 MHz.* In addition to determining the value of contiguous spectrum at 800 MHz, we also must consider the value of the non-contiguous 800 MHz spectrum rights being relinquished by Nextel in the General Category and interleaved spectrum bands. Again, we are presented with a range of values by the parties. Verizon values Nextel's non-contiguous spectrum rights at $.45/MHz-pop—one quarter the value it ascribes to contiguous spectrum—which we regard as too low.[730] Nextel, on the other hand, argues for a valuation of $2.02/MHz-pop, which we regard as thinly supported, since it is based on a single secondary market transaction.[731] As in our discussion of contiguous spectrum above, we focus our analysis of non-contiguous spectrum on its specific use in Nextel's existing network and service, which we consider more relevant than its hypothetical market value to other parties. In particular, we focus on the differences in technical efficiency that affect iDEN operation on contiguous versus non-contiguous spectrum. While these differences are difficult to quantify with precision, we have identified variables that we believe provide a reasonable measure of the increase in efficiency that Nextel will realize as a result of obtaining rights to contiguous spectrum, and which can be used to provide an appropriate discount on the value of the non-contiguous spectrum rights it is relinquishing. We set forth this analysis below.

318. *Interleaved Channels.* In the 809.75-816/854.75-861 MHz band, 80 SMR channel pairs totaling 4 megahertz of bandwidth are interleaved with public safety and B/ILT channels. The interleaved nature of the band plan puts twenty of these channels at band edges adjacent to non-SMR spectrum, including public safety spectrum. Using the OOBE limits applicable to EA licenses,[732] we assume that if Nextel is operating on one of its band-edge channels in the vicinity of an adjacent-channel non-SMR

[728] Nextel June 4, 2004 *Ex Parte* at 3. This record statement by Nextel, as with all such statements in the record, is governed by Section 1.17 of the Commission's rules governing accuracy in written statements to the Commission. *See* 47 C.F.R. § 1.17.

[729] We make a small downward adjustment to the two megahertz offset because while Nextel is giving up all of its spectrum holdings at 816-817/861-862 MHz, our records indicate that there are seventeen EA licenses in this band licensed to parties other than Nextel, which these licensees are not required to relinquish. Accordingly, in calculating the MHz-pop (11.56 million pops) value of the two megahertz of spectrum given up by Nextel, we have deducted the population of those non-Nextel EAs from the calculation.

[730] Kane Reece Report at Table 7.

[731] *See* Sun Fire Study. The Sun Fire valuation is based on Nextel's acquisition of Chadmoore Communications. Although this transaction is a useful data point, we do not believe it provides sufficient support in and of itself for the valuation proposed in the report.

[732] 47 C.F.R. § 90.683.

licensee, Nextel must limit use of its band-edge channel to avoid interference. We estimate that this reduces the utility of the band edge channels by fifty-percent, because they can still be used in areas where the adjacent non-SMR licensee is operating on a non-band-edge channel. A fifty-percent impairment to one quarter of the eighty interleaved channels translates to a 12.5 percent reduction in capacity—effectively one out of every eight channels that Nextel is unable to use on interleaved spectrum but could use if the same channels formed a single contiguous block. Thus, we believe a 12.5 percent discount is an appropriate benchmark for the technical efficiency loss in an iDEN configuration from the spectrum being non-contiguous.

319. Applying this analysis to the interleaved spectrum rights being given up by Nextel, we have reviewed Nextel's interleaved spectrum holdings in eleven top US markets.[733] We believe that focusing on Nextel's spectrum holdings in top markets is appropriate because these are the markets where Nextel's gains and losses of spectrum are likely to have the most significant impact on efficiency. In less populated markets, efficiency gains from using contiguous as opposed to non-contiguous spectrum are less likely to translate into an economic benefit for Nextel, and the net loss of bandwidth is less likely to translate into an economic loss. In these markets, Nextel holds an average of 3.84 megahertz of interleaved SMR spectrum—in fact, in all but two of these markets, it holds all eighty available interleaved SMR channels.[734] On average, non-Nextel incumbents occupy only 0.08 megahertz of spectrum in the interleaved EA blocks licensed to Nextel. Because these non-Nextel incumbents must be protected by Nextel, we attribute an average of 3.76 megahertz of interleaved spectrum to Nextel.

320. To determine the value of this spectrum, we start with our $1.70/MHz-pop baseline value for contiguous 800 MHz spectrum, and discount it by 12.5 percent, resulting in a MHz-pops value of $1.49.[735] In addition, because Nextel does not have full nationwide coverage on interleaved spectrum, we adjust the population coverage figure from 286 million to 234 million.[736] This results an approximate valuation of $1.309 billion for Nextel's interleaved spectrum rights.

321. *General Category.* The 806-809.75/851-854.75 MHz General Category band more closely resembles contiguous spectrum than the 800 MHz interleaved band, because it is not divided into interleaved band segments specifically assigned to SMR, public safety, and B/ILT. Instead, the General

[733] For purposes of this review, we have analyzed eleven of the top fifteen US markets, excluding three border markets—Detroit, Seattle, and San Diego—as well as Atlanta. The border markets are excluded because under band reconfiguration, Nextel will both give up and receive smaller amounts of 800 MHz spectrum in these markets, so they are not representative. We have excluded Atlanta because Southern LINC may receive a significant portion of the contiguous 800 MHz spectrum in that market if it elects ESMR status. *See* ¶¶ 164-169 *supra*. Thus, it is also not a representative market.

[734] *See* Exhibits attached to Letter, dated July 26, 2002, from Michael K. Powell, Chairman, Federal Communications Commission to the Honorable W.J. (Billy) Tauzin, Chairman, Committee on Energy and Commerce, U .S. House of Representatives (*2002 Report to Congress*).

[735] We recognize that the $1.70 MHz-pops value we have derived for 1.9 GHz is based in part on the nationwide nature of that spectrum block, whereas the 800 MHz spectrum being given up by Nextel does not cover 100 percent of the population. However, the coverage afforded by Nextel's 800 MHz interleaved and General Category spectrum is substantial: Nextel covers approximately 234 million pops (about eighty-one percent of the national population) and virtually all major markets. We regard this as sufficiently close to nationwide coverage that applying the same valuation is appropriate.

[736] *See* Kane Reece Study at 36, Table 5B. Kane Reece bases the estimate of Nextel's coverage on Commission licensing records.

Category band is segmented into six contiguous twenty-five channel blocks licensed on an EA basis.[737] The vast majority of these EA licenses are held by Nextel. The band is not fully contiguous, because EA licensees must protect grandfathered site-based licenses in the General Category band. Thus, in markets where there are non-Nextel incumbents, Nextel must maintain a seventy-mile spacing for co-channel interference protection,[738] which will likely prevent Nextel from employing that channel in that same market. To account for this circumstance, we discount Nextel's spectrum rights in the General Category by the number of channels that it is prevented from using because of the need to protect co-channel incumbents. But in contrast to the interleaved band, we do not consider it necessary to discount Nextel's General Category spectrum rights holdings based on the presence of adjacent channel non-SMR incumbents. Most of the General Category incumbents are single-channel conventional systems rather than the five-channel trunked systems found in the interleaved block. In addition, over the past several years Nextel has purchased the spectrum rights of many of these incumbents in order to clear and consolidate its General Category spectrum rights. This affords Nextel more channels to choose from in the General Category band than it has in the interleaved band, even where incumbents in adjacent non-SMR bands that must be protected.

322. Using the same markets that we have reviewed to assess Nextel's interleaved spectrum rights, our licensing records indicate that Nextel holds an average of 6.9 megahertz of General Category spectrum in these markets (out of a total of 7.5 megahertz) through EA licenses. On average, non-Nextel incumbents occupy 1.78 megahertz of spectrum in the EA blocks licensed to Nextel in these markets.[739] Because these co-channel incumbents prevent Nextel from using all of its General Category channels in a particular market, Nextel is on average only able to use 5.12 megahertz of its total 6.9 megahertz of General Category spectrum. We therefore apply our $1.70/MHz-pop baseline to 5.12 megahertz, and use the same adjusted population figure (234 million) applied to the interleaved spectrum, resulting in an approximate valuation of $2.037 billion for Nextel's General Category spectrum rights.

323. *Combined 800 MHz Spectrum Offsets.* Offsetting the valuation amounts for Nextel's contiguous and non-contiguous spectrum rights as determined above results in an offset to Nextel of approximately $1.622 billion for its net loss of 800 MHz spectrum. We note that our calculation is based on a spectrum amount that is slightly higher than the 4.5 megahertz identified by Nextel as the average amount of 800 MHz net bandwidth it is giving up in the exchange.[740] However, we believe this amount also provides a reasonable basis for valuation if we were to use 4.5 megahertz as our benchmark. By relinquishing 4.5 megahertz of spectrum on a nationwide basis, Nextel is giving up forty-five percent of the bandwidth it is gaining at 1.9 GHz. But our $1.607 billion valuation of Nextel's relinquished 800 MHz spectrum is approximately one third of the $4.86 billion value we attribute to the 1.9 GHz spectrum. Thus, on a per-MHz basis, this spectrum has a value twenty-seven percent lower than the 1.9 GHz spectrum. We regard this as an appropriate discount to account for the non-contiguous nature of some of the spectrum and for the somewhat lower population coverage. Accordingly, in the financial reconciliation to be made by the Transition Administrator at the end of the band reconfiguration process,

[737] *See* 47 CFR § 90.615

[738] *See* 47 C.F.R. § 90.621.

[739] *See 2002 Report to Congress.*

[740] Our calculations based on the top markets show Nextel giving up an average of 4.96 megahertz in these markets rather than the 4.5 megahertz that Nextel identified based on a running average of all markets nationwide. Because the top markets are where demand for spectrum capacity is likely to be highest, we see them as providing an appropriate measure of the value of spectrum that Nextel is giving up, even if the average amount of spectrum on a nationwide basis is slightly lower.

Nextel will receive a credit of $1.607 billion for its relinquishment of 800 MHz spectrum rights.[741]

(iii) 700 MHz Guard Band Spectrum

324. Nextel submits that it paid $350 million at auction for its 700 MHz Guard Band spectrum and thus should be credited that amount as part of the Commission's determination of compensation that is equitable to Nextel. We disagree. Given the slow development of services in the 700 MHz Guard Band, and the presence of incumbent television stations that may remain there beyond the period contemplated in the 700 MHz Guard Band licensees' business plans, there is no assurance that the Guard Band spectrum is worth today what Nextel paid for it in 2001. Moreover, as noted, *supra,* this spectrum 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.[742] That said, however, we have no basis to conclude, absolutely, that the record in the future rule making proceeding will not inform us that the 700 MHz Guard Band spectrum may be used to benefit of public safety. The above factors considered, we have determined that Nextel's relinquishing its 700 MHz Guard Band spectrum—although its present worth cannot legitimately be quantified in monetary terms—it does add *de minimis* value to the overall bundle of spectral and financial benefits that Nextel brings to the table to justify giving it access to the 1.9 GHz spectrum. Thus, Nextel's surrender of this spectrum has weighed, albeit not heavily, in the equities that undergird our determination that the balance we establish today is equitable to all concerned.

5. Financial Aspects of Band Reconfiguration

325. The financial and other aspects of band reconfiguration will be conducted in a manner that provides optimum transparency and protection of affected licensees and the public. The first step in the process will be Nextel's delivery to the Commission the following set of documents. The items listed in the first three bullets below ensure that funds for band reconfiguration will remain available until the project is completed. The item in the fourth bullet governs companies related to Nextel such as Nextel Partners, which will be required to perform certain acts, *e.g.*, reconfiguration of their own facilities, in connection with band reconfiguration. Moreover, certain of such companies and, it is believed, Nextel, have operations in Canada and Mexico, which operations may have to be modified in order to derive suitable border band plans.[743] The document referenced in the fourth bullet binds all such entities to the obligations assumed hereunder by Nextel to the extent necessary to implement 800 MHz band reconfiguration, nationwide. Specifically,

- Within sixty days of the publication of this *Report and Order* in the Federal Register, Nextel shall comply with the following conditions precedent commencing any operations within the 1.9 GHz band:

[741] *See* ¶ 35 *supra.*

[742] *See* ¶ 278 *supra.*

[743] Nextel Partners (Partners) is an affiliate of Nextel Communications, Inc. (Nextel.) Nextel holds about a thirty-percent non-controlling interest in Partners which is separately listed and traded on NASDAQ. Nextel and Partners have an agreement concerning the branding of Partner's service as Nextel and associated quality, marketing, switch sharing and related standards and provisions. Partners, an independent FCC licensee, was created for the express purpose of speeding the deployment of Nextel's iDEN service in secondary, tertiary and rural markets. Partners filed in this proceeding confirming its support of the Consensus Plan and agreement to contribute its spectrum to and participate in the 800 MHz realignment along with Nextel. Accordingly, Nextel's commitments include Partners' service areas as well.

- Certify that it has obtained an irrevocable letter of credit, in all material respects identical to that contained in Appendix E hereto, which provides assurances that $2.5 billion will be available for band reconfiguration, notwithstanding the financial condition of Nextel, or its successor(s).

- Specify on the initial letter of credit and any subsequent letters of credit, a Trustee, acceptable to the Commission, which shall draw upon and disburse funds in accordance with the terms thereof and the Transition Administrator's instructions. Further, on the occasion of a material breach by Nextel of its obligations hereunder, as declared by the Commission, said trustee shall receive the remaining balance of the letter(s) of credit to hold in trust and disburse in accordance with the terms of this *Report and Order*. Said funds shall be devoted exclusively to reconfiguration of the 800 MHz band except as otherwise provided in this *Report and Order*.

- Deliver an opinion letter from counsel clearly stating, 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 letter. 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.

- Supply a letter or letters, in content satisfactory to the Commission, from any and all parties having a financial or equitable interest in any existing or proposed 800 MHz system, whether in the United States, Mexico or Canada, and connected in any way to Nextel by way of being a subsidiary, partner, or otherwise; to the effect that such parties are bound to perform the obligations imposed on Nextel herein to the extent such obligations are necessary or desirable in the completion of reconfiguration of the 800 MHz band.

326. With this *Report and Order*, the Commission is hereby modifying the licenses of certain 800 MHz band licensees, as specified herein. As indicated above, once the details of the band reconfiguration become clear (*e.g.*, the specific relocation channel and any other necessary operating parameters are identified), affected licensees will file applications for further modification with the Commission, which will be acted upon by the Wireless Telecommunications Bureau under its delegated authority. As conditions precedent to Nextel's commencement of any operations under its 1.9 GHz licenses, however, (a) Nextel shall provide the documents specified in the previous paragraph within the required sixty day timeframe, (b) the Commission must approve these documents,[744] (c) Nextel must pay to UTAM the amount of required reimbursement specified in paragraph 249 *supra*; and (d) Nextel shall file such additional applications, notifications, *etc.* as the Commissions Rules may require. In addition,

[744] We hereby delegate to the Wireless Telecommunications Bureau this approval authority.

the 1.9 GHz licenses, which shall be for a ten-year term, are subject to the following license conditions:[745]

- Operations on the 1.9 GHz spectrum shall be discontinued in any EA region where Nextel fails to timely abate unacceptable interference to any 800 MHz public safety or CII system as described in ¶¶ 139-141, *supra*.

- Nextel must reconfigure the 800 MHz band within thirty-six months as described herein. If Nextel fails to meet the final 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.

- Nextel shall certify to the Commission that all BAS facilities have been relocated within 30 months after the effective date of this *Report and Order*. 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.

- The 1.9 GHz licenses shall not be assigned to any person or entity who or which has not demonstrated to the satisfaction of the Commission that it will, and has the capacity to, assume all of Nextel's obligations hereunder.

327. The Transition Administrator will provide to the Commission a monthly report, in form and substance satisfactory to the Commission, describing the progress of band reconfiguration. This report shall include a disclosure of the Transition Administrator's expenses and salary. Salary of Transition Administrator and staff shall be reasonable and customary with salary of employee having analogous responsibilities. Nextel shall pay the Transition Administrators salary and reasonable expenses within thirty days of the presentation of an invoice therefore and may not condition payment in any way nor may it delay or deny payment without prior Commission approval. "Reasonable expenses" will be determined according to standards provided by the Commission. Such standards shall be informed by expenses that are reasonable and customary with similar projects entailing similar responsibilities as those envisioned for the Transition Administrator.

328. Nextel shall keep accurate records of the labor and material reasonably expended or acquired in connection with clearance of the 1.9 GHz band. An annual audit of these expenses shall be made, at Nextel's expense, by an auditing firm satisfactory to the Commission. All Nextel claims for labor and equipment shall be at Nextel's actual cost, without markup.

6. Financial Reconciliation Process

329. As noted above, we seek to ensure that Nextel is treated equitably in facilitating 800 MHz band reconfiguration but does not realize an undue windfall.[746] To this end, we condition the grant of 1.9 GHz band spectrum rights to Nextel on its meeting the obligations imposed by this *Report and Order*, and on its payment to the U.S. Treasury of any difference between the value of the 1.9 GHz band spectrum rights and the net sum of: (a) the value of spectrum rights relinquished by Nextel, and (b) Nextel's costs

[745] The expiration of the 1.9 GHz licenses shall be ten years from the date this *Report and Order* is published in the Federal Register. In the event that the Commission must revoke Nextel's license for failing to complete reconfiguration in a timely fashion, the Commission will provide Nextel a Special Temporary Authorization to allow its customers a reasonable amount of time to migrate to other CMRS providers.

[746] *See* ¶ 212 *supra*.