

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

In the Matter of)	
)	
State of Maryland)	
and Sprint Nextel)	WT Docket No. 02-55
)	
Mediation No. TAM-11128)	

MEMORANDUM OPINION AND ORDER

Adopted: October 24, 2006

Released: October 24, 2006

By the Associate Chief, Public Safety and Homeland Security Bureau:

I. INTRODUCTION

1. In this *Memorandum Opinion and Order*, we address a case referred to us for *de novo* review from Wave 1, Phase 1 mediation by the 800 MHz Transition Administrator (TA) and involving issues in dispute between the State of Maryland (Maryland) and Sprint Nextel Corporation (Sprint). The sole issue in dispute is whether it is necessary for Maryland to conduct drive testing under the TSB 88 standard as the basis for determining whether it has received comparable facilities following band reconfiguration. Based on our *de novo* review of the mediation record, the recommended resolution submitted by the TA-appointed mediator in this case, and the parties' position statements, we find that Sprint should not be required to underwrite TSB 88 drive testing by Maryland, and that Sprint should not be bound by the results of such testing if Maryland elects to use TSB 88 procedures.

II. BACKGROUND

2. The *800 MHz R&O* and subsequent orders in this docket require Sprint to negotiate a frequency relocation agreement (FRA) with each 800 MHz licensee that is subject to rebanding.¹ The FRA must provide for relocation of the licensee's system to its new channel assignment at Sprint's expense, including the expense of retuning or replacing the licensee's equipment as required.² Sprint must provide the relocating licensee with "comparable facilities" on the new channel(s), and must provide for a seamless transition to enable licensee operations to continue without interruption during the retuning process.

3. To facilitate FRA negotiations, the Commission established a three-month voluntary negotiation period and a three-month mandatory negotiation period for Sprint to negotiate with each

¹ See *Improving Public Safety Communications in the 800 MHz Band, Report and Order, Fifth Report and Order, Fourth Memorandum Opinion and Order, and Order*, 19 FCC Rcd 14969, 15021-45, 15069 ¶¶ 88-141, 189 (2004) as amended by Erratum, 19 FCC Rcd 19651 (2004), and Erratum, 19 FCC Rcd 21818 (2004) (*800 MHz R&O*); *Improving Public Safety Communications in the 800 MHz Band, Supplemental Order and Order on Reconsideration*, 19 FCC Rcd 25120 (2004) (*800 MHz Supplemental Order*); and *Improving Public Safety Communications in the 800 MHz Band, Memorandum Opinion and Order*, 20 FCC Rcd 16015 (2005) as amended by Erratum, DA 05-3061 rel. Nov. 25, 2005 (*800 MHz MO&O*).

² The channel change(s) are commonly referred to as a "retuning" of the system. In some instances, however, a channel change requires that equipment must be replaced rather than retuned. For convenience, unless the context requires otherwise, "retuning" as used herein also encompasses equipment replacement if existing equipment cannot be retuned.

relocating licensee.³ If a licensee and Sprint are unable to negotiate a FRA at the end of the mandatory negotiation period, they must enter into a thirty-day mediation period under the auspices of a TA-appointed mediator. If the parties do not reach agreement by the end of the mediation period, the mediator forwards the mediation record and a recommended resolution to the Commission's Public Safety and Homeland Security Bureau (PSHSB).⁴ Within ten business days of the mediator's submission of the record and recommended resolution, the parties may file position statements. Position statements may not, however, raise issues not presented during mediation.⁵ Thereafter, PSHSB conducts a *de novo* review of the mediation record, evaluates the parties' position statements and the mediator's recommended resolution, and issues an order disposing of all disputed issues.⁶

4. In the instant case, Maryland's 800 MHz system (licenses WNRM957 and WNHW417) involves two agencies: (1) Baltimore Washington International – Thurgood Marshall Airport (BWI) and (2) the Maryland Port Authority (Port Authority).⁷ The BWI system consists of 33 radios and a single repeater. The Port Authority system is a 5-channel trunked system with approximately 300 radios and five repeater base stations.⁸ The TA's Regional Prioritization Plan calls for Maryland to relocate its system during Wave I of the multi-phased reconfiguration process.⁹ In negotiations, the parties could not reach agreement on what type of testing is required to ensure that Maryland has received "comparable facilities," who should pay for the testing, and what happens if the testing demonstrates that Maryland has not received "comparable facilities."¹⁰ As a result, Maryland and Sprint did not conclude a FRA during either the voluntary mediation period, which began on June 27, 2005, and ended on September 26, 2005, or during the mandatory negotiation period, which began on September 28, 2005 and ended on December 26, 2005.¹¹ Because the parties had not negotiated a FRA by that date, they entered into mediation on December 26, 2005. The mediation period ended on February 8, 2006, but was extended to March 3, 2006.¹² The issue regarding the appropriate level of testing to determine whether Maryland has received comparable facilities remained unresolved.¹³ On March 13, 2006, the mediator forwarded the mediation record and his Recommended Resolution to PSCID.¹⁴ Maryland and Sprint filed their position statements on March 27, 2006.

5. Under the Commission's orders in this proceeding, Sprint bears the burden of proving that Maryland's relocated facilities are "comparable" on their new channel assignment within the meaning of the *800 MHz R&O*.¹⁵ Maryland bears the burden of proving that the funding it has requested

³ Wireless Telecommunications Bureau Approves the Basic Reconfiguration Schedule Put Forth in the Transition Administrator's 800 MHz Regional Prioritization Plan, *Public Notice*, 20 FCC Rcd 5159, 5160 (2005).

⁴ The *800 MHz R&O* originally provided for referral and *de novo* review of unresolved mediation issues by the Public Safety and Critical Infrastructure Division of the Commission's Wireless Telecommunications Bureau (PSCID). *800 MHz R&O*, 19 FCC Rcd at 15075 ¶ 201. However, on September 25, 2006, the Commission delegated this authority to the Public Safety and Homeland Security Bureau. *See* Establishment of Public Safety and Homeland Security Bureau, *Order*, FCC 06-35, rel. Sep. 25, 2006.

⁵ Wireless Telecommunications Bureau Announces Procedures For De Novo Review In The 800 MHz Public Safety Proceeding, *Public Notice*, 21 FCC Rcd 758 (WTB 2006) (*De Novo Procedures PN*). ¶ 4.

⁶ *Id.* at 758-59 ¶¶ 4, 10.

⁷ TA Mediator Recommended Resolution (RR) at 3.

⁸ *Id.*

⁹ *Id.* at 1.

¹⁰ *Id.* at 2-3.

¹¹ *Id.* at 2.

¹² *Id.*

¹³ *Id.* at 2-3.

¹⁴ Transmittal of Record and Request for Confidential Treatment (March 13, 2006).

¹⁵ *800 MHz R&O*, 19 FCC Rcd at 15064 ¶ 178.

for relocation is reasonable, prudent, and the “minimum necessary to provide facilities comparable to those presently in use.”¹⁶

A. The TSB 88 Standard

6. This matter involves TSB 88, a technical standard published by the Telecommunications Industry Association (TIA). It is a technical bulletin describing a methodology for predicting coverage and interference in the narrowband spectrum environment that the Commission created for Private Land Mobile Radio Services (PLMRS) stations operating below 512 MHz.¹⁷ In general, the TSB 88 methodology is used by frequency coordinators and others to determine channel availability in the PLMRS bands below 512 MHz based on predicted contours, *i.e.*, TSB 88 is used to ensure that the predicted interference contour of a proposed station does not impinge on the service contours of co-channel and adjacent channel stations.

B. Parties' Positions

7. Maryland asserts that TSB 88 testing is necessary in this case to ensure that it receives comparable 800 MHz facilities in the retuning process.¹⁸ Maryland proposes to conduct drive tests using TSB 88 standards that would measure the quality of the system's signal at various locations.¹⁹ Maryland then proposes to conduct the same drive tests after rebanding to determine whether the interference environment has changed as a result of the proximity of other co-channel systems on the new channel to which Maryland has relocated, or as a result of adjacent channel systems.²⁰ Maryland proposes that it would pay the initial cost of testing, but that Sprint must agree to accept and be bound by the TSB 88 test results. Maryland further seeks to include language in the FRA that if TSB 88 testing demonstrates that Maryland has not received comparable facilities; Sprint will fix the problem promptly at its own expense and reimburse the Maryland for its costs, including the costs of the TSB 88 tests.²¹ Maryland argues that such comparative drive testing is necessary because public safety is at stake and no other type of testing will adequately demonstrate whether it has received comparable facilities.²²

8. Sprint contends that the BWI and Port Authority systems are not sufficiently complex to require such drive testing. Sprint expresses the view that the TA would reject the costs of such testing at BWI and the Port as “unnecessary and imprudent.”²³ Sprint notes that in the *800 MHz Report & Order*, the Commission declined to use TSB 88 as the basis for defining public safety interference protection rights in the 800 MHz band.²⁴ Sprint further notes that in guidance provided at the request of the mediator, the TA questioned the need for TSB 88 testing in this case: the TA found that “the context of

¹⁶ *Id.* at 15074 ¶ 198; *800 MHz Supplemental Order*, 19 FCC Rcd at 25152 ¶ 71; *De Novo Procedures PN*, 21 FCC Rcd at 259 ¶ 9.

¹⁷ TSB-88-B-1, *Wireless Communications Systems – Performance in Noise and Interference – Limited Situations – Recommended Methods for Technology-Independent Modeling, Simulation, and Verification* (May 2005). This iteration of TSB 88 supersedes other earlier versions, including TSB 88 (January 1998), TSB-88-1 (December 1998), TSB-88-A (June 1999), TSB-88-A-1 (January 2002), and TSB-88-B (September 2004).

¹⁸ *See generally* Supplemental Comments and Proposed Resolution Memorandum of the State of Maryland (February 6, 2006).

¹⁹ *Id.* at 11.

²⁰ Maryland's Proposed FRA Language (February 21, 2006).

²¹ *Id.* at 11

²² Supplemental Comments and Proposed Resolution Memorandum of the State of Maryland (February 6, 2006) at 3.

²³ Reply of Nextel Communications, Inc. to the Supplemental Comments and Proposed Resolution Memorandum of the State of Maryland (February 10, 2006) at 2.

²⁴ *Id.* at 3-4, *citing 800 MHz R&O*, 19 FCC Rcd at 15038 ¶ 125.

TSB-88A was for spectrum refarming (not reconfiguration) and the potential for interference from mixing digital and analog modulation and means to provide prior coordination. In this case the licensee is looking to do some sort of TSB-88A study after the fact, in a case where the situation is not predictive but reactive.”²⁵ Sprint concludes that the only testing necessary for the Maryland systems at issue herein is repeater-site measurements of transmitter power, receiver sensitivity, insertion loss, and duplexer frequency response and antenna/feedline return loss sweep.²⁶

9. The TA mediator found no compelling reason to require Sprint to accept TSB 88 testing, much less require Sprint to pay for it.²⁷ The mediator found that the systems in question are relatively simple and can be adequately tested using simpler and less costly methods, and that the Commission in the *800 MHz R&O* clearly concluded that TSB 88 testing is generally not applicable to the 800 MHz reconfiguration process.²⁸

III. DISCUSSION

10. For the reasons set forth below, we do not believe that drive testing is necessary to ensure that Maryland will receive comparable facilities. Comparable facilities are those that will provide the same level of service as the incumbent’s existing facilities, with transition to the new facilities as transparent as possible to the end user.²⁹ In this case, the record indicates that the BWI and Port Authority systems are not complex and that relocation of the systems will involve retuning rather than replacement of equipment. In a non-complex returning case such as this, the comparable facilities standard is typically satisfied where the licensee is using the same equipment and is operating at the same effective radiated power and antenna height on the replacement channel that it used on its original channel.

11. The guidelines established by the TA also support the conclusion that drive testing is not necessary because the Maryland systems can be adequately tested using simpler and less costly methods.³⁰ The TA has issued guidelines stating that as a general matter, “(i)n the case of testing simpler systems or smaller changes to large systems, repeater-site measurements of transmitter power, receiver sensitivity, insertion loss, duplexer frequency response, and antenna/feedline return loss should be adequate to verify comparable coverage.”³¹ The TA has identified drive testing is appropriate only (1) where significant changes are made to the antenna and transmissions subsystems, or (2) for larger, more complex systems such as simulcast systems.³² Neither of these circumstances applies in this case.

²⁵ *Id.* at note 6, Appendix B.

²⁶ Statement of Position of Nextel Communications, Inc. (March 27, 2006) at 8.

²⁷ RR at 8.

²⁸ *Id.* citing *800 MHz R&O*, 19 FCC Rcd 15038 ¶ 125.

²⁹ The standards for comparable facilities are: (1) equivalent channel capacity; (2) equivalent signaling capability, baud rate and access time; (3) coextensive geographic coverage; and (4) operating costs. *800 MHz R&O*, 19 FCC Rcd at 15077 ¶ 201.

³⁰ These systems are not simulcast systems, and there is nothing in the record to indicate that significant alterations will be made to the antennas or any transmission subsystems.

³¹ TA Reconfiguration Handbook, 2.0, at 92. This version of the Handbook was released toward the latter stages of the mediation in this matter, but is consistent with informal guidance provided by the TA at the request of the parties. See Nextel Supp. Reply, Appendix B.

³² *Id.* “Simulcast” systems use two or more base stations operating on the same channel with overlapping coverage. In a simulcast system, a channel change can require certain adjustments to the relative phase of the signal from respective transmitters so that a dead spot does not develop because the two signals cancel one another in the overlap area. The TA’s guidelines provide that signal strength measurements in the overlap area may be necessary to validate the adjustments. Thus, the TA Handbook provides: “For larger systems, primarily simulcast systems, coverage drive testing may also be part of the acceptance test.”

12. Moreover, TSB 88 is generally not used to test 800 MHz band systems because the 800 MHz channel assignments are based on minimum fixed distance separation rather than on predicted contours. The applicable rules provide that 800 MHz co-channel systems (both pre-rebanding and post-rebanding) are to be spaced at least seventy miles apart.³³ Thus, the Maryland systems will receive this same level of protection on their new channels that they received on their old channels. Even if TSB 88 testing were to reveal differences in the Maryland systems' pre- and post-rebanding environment with respect to signals generated by co-channel and adjacent channel systems, such differences are not germane to the issue of comparability because licensing and interference protection are distance-based rather than contour-based. So long as a licensee's replacement channel has no co-channel stations within seventy miles, and so long as adjacent channel operations comply with the applicable rules limiting out-of-band emissions, the replacement channel is presumptively comparable to the licensee's original channel even if the original channel did not have the same configuration of co-channel and adjacent channel systems. The two channels are comparable because even if rebanding had not occurred, the licensee would have had to accept the presence of such operations under the rules had they been licensed on or adjacent to its original channel.³⁴ Comparable facilities does not entitle a licensee to the exact same interference environment that it had prior to rebanding, provided that the licensee's retuned system is protected by the same interference rules that applied prior to rebanding.

13. In the *800 MHz R&O*, the Commission rejected a proposal to apply TSB 88 standards in defining the interference protection rights of public safety licensees in the 800 MHz band.³⁵ Measuring coverage and interference on a given channel by drive test measurements is complex, time-consuming, and expensive. Measurements of relatively weak signals must be taken at a large number of points in order to be statistically significant and the distant, potentially interfering, transmitters must be active when the measurements are made.³⁶ Even then, as the TSB 88 bulletin notes, "the entire concept of conformance testing relies on statistics" and the results of the measurements will not necessarily determine whether reliable interference-free service is available other than at the point and during the time the measurement was made. Moreover, differences in TSB 88 measurements may be the result of environmental factors that have nothing to do with rebanding.³⁷

14. Finally, we note that the purpose of reconfiguration of the 800 MHz band is to eliminate the interference-prone interleaving of ESMR and public safety systems in the 800 MHz band.³⁸ The reconfigured 800 MHz band will permit future public safety radios to be more interference resistant.³⁹ This is particularly true with respect to low-site ESMR and cellular telephone signals.⁴⁰ After

³³ See 47 CFR § 90.621(b). Co-channel spacing may be less than 70 miles if stations use reduced antenna height and lower power in accordance with the Commission's short-spacing table.

³⁴ The Commission rejected requests that "comparable facilities" should guarantee exact post-reconfiguration replication of a relocating licensee's service area and spectrum capacity, in large part because of the dynamic licensing environment in the private land mobile radio services and in public safety radio spectrum. See *800 MHz MO&O*, 20 FCC Rcd 16031-33 ¶¶ 36-40.

³⁵ *800 MHz R&O*, 19 FCC Rcd at 15038 ¶ 125. Although the Commission found that some parts of TSB 88 might be useful in 800 MHz interference analysis, it concluded that "we do not think it wholly applicable to the environment in which 800 MHz public safety systems operate."

³⁶ "Using [TSB 88] methodology, the State has determined that 678 test locations are required to test the CPC [Channel Performance Criterion] reliability at the Port and BWI Airport." Supplemental Comments Proposed Resolution Memorandum of the State of Maryland (February 6, 2006) at 11.

³⁷ For example, the strength of an 800 MHz signal at a given location before and after a channel has been changed may be affected by factors independent of the operating parameters of the station, such as foliage whose density varies as a function of the time of year.

³⁸ *800 MHz R&O*, 19 FCC Rcd at 15047-15048 ¶ 147.

³⁹ *Id.* at 15046 ¶ 145.

⁴⁰ *Id.* note 389.

reconfiguration, a public safety licensee will be entitled to avail itself of the unique interference protection standards and interference abatement rules and procedures that are valuable components of the re-channelization process.⁴¹ As a result, the Maryland systems will also receive enhanced post-rebanding protection against interference caused by low-site systems without the need for the type of testing proposed by Maryland.

15. Accordingly, we conclude that Sprint should not be required to underwrite TSB 88 drive testing by Maryland, and that Sprint should not be bound by the results of such testing if Maryland elects to use TSB 88 procedures. Thus, the testing proposed by Maryland is inconsistent with the TA's guidelines, and is not necessary or germane to ensuring that Maryland receives comparable facilities as provided by the *800 MHz R&O*.

IV. ORDERING CLAUSE

16. Accordingly, pursuant to the authority of Sections 0.131 and 0.331 of the Commission's rules, 47 C.F.R. §§ 0.131, 0.331; Section 4(i) of the Communications Act of 1934, as amended, 47 U.S.C. § 154(i), and Section 90.677, of the Commission's Rules, 47 C.F.R. § 90.677, IT IS ORDERED that the issues submitted by the Transition Administrator are resolved as discussed above.

FEDERAL COMMUNICATIONS COMMISSION

David L. Furth
Associate Bureau Chief
Public Safety and Homeland Security Bureau

⁴¹ *Id.* at 15021-15045 ¶¶ 88-141.