

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Wireless E911 Location Accuracy Requirements)	PS Docket No. 07-114
)	
)	
Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems)	CC Docket No. 94-102
)	
Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling)	
)	
911 Requirements for IP-Enabled Service Providers)	WC Docket No. 05-196

**REPLY COMMENTS OF
SPRINT NEXTEL CORPORATION**

Sprint Nextel Corporation (“Sprint Nextel”) hereby submits its reply comments in connection with Section III.B of the Federal Communications Commission’s (“FCC” or “Commission”) Notice of Proposed Rulemaking (“NPRM”) in the above-captioned proceeding.¹

I. Introduction and Summary

The record before the Commission demonstrates that the vast majority of commenters, including Sprint Nextel, support the Commission’s goal of advancing location accuracy toward a “next generation” 911 system. The record remains unequivocal, however, that it is not technically feasible to achieve the new accuracy

¹ *In the Matter of Wireless E911 Location Accuracy Requirements*, Notice of Proposed Rulemaking, PS Docket Nos. 07-114, 94-102, 05-196, FCC 07-108 (rel. June 1, 2007) (“NPRM”).

levels the Commission established at its Open Meeting on September 11, 2007.²

Accordingly, it is more imperative than ever that the Commission refer those issues remaining in Section III.B to an industry wide working group for careful analysis and review.

The record demonstrates overwhelming support for a technical advisory group to provide the Commission with informed, technical advice concerning what is achievable now, what may be achievable in the long term, and what are reasonable timeframes for progress. Sprint Nextel, once again, urges the Commission to heed the advice of commenters and allow a technical advisory body adequate time to investigate the technical issues raised in this NPRM, so that the record may be more fully developed *before* the Commission makes any further decisions in this proceeding.

With respect to location accuracy for voice over internet protocol (“VoIP”) services, most commenters agree in principle with the Commission’s goals to extend location accuracy to VoIP services. The record, however, demonstrates that there are severe technical limitations that do not make it possible to provide automatic location information (“ALI”) on mobile or nomadic VoIP services anytime soon. The Commission, therefore, should also refer this matter to a technical advisory group to investigate possible solutions; the Commission must also provide VoIP service providers with a reasonable period of time to implement any ALI solutions.

Finally, Sprint Nextel is compelled to note that the Federal Communications Commission (“Commission” or “FCC”) order adopted on September 11, 2007,

² Press Release, September 11, 2007, PS Docket 07-114, CC Docket 94-102, *FCC Clarifies Geographic Area Over Which Wireless Carriers Must Meet Enhanced 911 Location Accuracy Requirements*. (“911 Accuracy Order”).

prematurely resolved several items raised in Section III.B effectively foreclosing further comment.

II. The Comments Reflect Overwhelming Support for a Technical Advisory Group to Investigate Technical Issues Raised in the NPRM

The record in this proceeding shows overwhelming support for a technical advisory group or technical forum charged with investigating and making recommendations to the Commission regarding the technical aspects of the issues raised in this NPRM. Support for such a forum comes from wireless carriers, equipment manufacturers, location technology vendors, public safety and other interested parties.³ Moreover, as indicated by their separate statements released in conjunction with the adoption of the Report and Order on September 11th, three of the five FCC Commissioners believe further technical collaboration would benefit this proceeding.

- Commissioner Adelstein notes the “overwhelming support for a joint FCC, industry and public safety forum on new requirements ... in a forum that is open and conducive to a dialogue with all of the involved parties.”⁴
- Commissioner Copps stated that “the FCC – in full partnership with public safety and industry – needs to test and really understand the capabilities and limitations of our existing E911 systems, and we need to assess developing and future technologies that can improve these capabilities.”⁵

³ Comments of AT&T Inc. at 2, Comments of T-Mobile at p. 2, Comments of Sprint Nextel Corporation at p. 3, Comments of Nokia Inc. and Nokia Siemens Networks at p. 1, Comments of Motorola, Inc. at p. 2, Comments of Texas Instruments Incorporated at p. 6, Comments of Polaris Wireless, Inc. at p. 24, Comments of Andrew Corporation at p. 3, Comments of Intrado Inc. at p. 15, Comments of Rosum Corporation at p. 10, Comments of The 911 Industry Alliance at p. 2, Joint Initial Comments of the Texas 9-1-1 Alliance and the Texas Commission on State Emergency Communications at p. 2, Comments of the Wireless Communications Association International, Inc. at p. 14, Comments of Rural Cellular Association at p. 8, Comments of the Telecommunications Industry Association at p. 2, Comments of the Alliance for Telecommunications Industry Solutions’ Emergency Services Interconnection Forum at p. 2, and Comments of CTIA – The Wireless Association at p. 2.

⁴ See, *Wireless E911 Accuracy Location Requirements*, PS Docket No. 07-114, Statement of Commissioner Jonathan S. Adelstein, Approving In Part, Dissenting in Part, at p. 2 (rel. Sept. 11, 2007) (“Commissioner Adelstein Statement”).

⁵ See, *Wireless E911 Accuracy Location Requirements*, PS Docket No. 07-114, Statement of Commissioner Michael J. Copps, Approving, at p. 2 (rel. Sept. 11, 2007) (“Commissioner Copps Statement”).

- Commissioner McDowell states, “I continue to believe that harnessing the expertise of all interested stakeholders in this manner will serve the public interest and move all of us ahead to quickly solve these technology challenges in a straightforward, comprehensive and transparent manner.”⁶

Sprint Nextel could not agree more with these statements. The highly technical issues raised in Section III.B demand thoughtful and rigorous analysis, and certainly should have been addressed and resolved prior to reaching a conclusion on carriers’ technical capabilities.

As suggested by several parties, most notably CTIA – The Wireless Association (“CTIA”) and AT&T, the Commission should establish a technical forum “charged with developing technical solutions and producing reports by certain Commission-set deadlines.”⁷ Sprint Nextel further agrees with AT&T and CTIA that the technical advisory group be comprised of engineers and technical experts from all stakeholders as well as the government.⁸ Ultimately, the technical forum will provide the Commission with guidance on how best to meet the goals outlined in the NPRM while also serving to advise the Commission of technical and other limiting factors that may cause the Commission to reassess some of its goals.

III. Comments Confirm That PSAP-Level Accuracy is Not Technically Feasible with Existing Location Technologies Including Hybrid Technologies

In Section III.B, the Commission sought comment on the “various location technologies that are available to provide accurate E911 location information and their capabilities” with a particular interest in hybrid technologies.⁹ Importantly, not a single

⁶ See, *Wireless E911 Accuracy Location Requirements*, PS Docket No. 07-114, Statement of Commissioner Robert M. McDowell (rel. Sept. 11, 2007).

⁷ CTIA Comments at p. 3; see also, Comments of AT&T Inc. at p. 4 (an advisory committee “should be chaired by Chairman Martin and assigned the responsibility of testing, compiling data, and ultimately answering each of the questions posed in the NPRM.”).

⁸ *Id.* at p. 3-4.

⁹ NPRM at ¶11.

party filed comments stating that currently deployed location technologies (including handset-based, network-based and hybrid technologies) can meet location accuracy standards on a PSAP-by-PSAP basis. Indeed, many parties reiterated the technical infeasibility of PSAP-level accuracy including location technology vendors and handset manufacturers.

Andrew Corporation, for example, states “given Andrew’s extensive experience in the field of location technology, Andrew would note generally that it does not believe there is a current technological basis for tightening the existing, in-place location error standards.”¹⁰ And, Nokia states that “today’s current location technologies have severe limitations” and technologies in development “have [not] been adopted by the industry as the ultimate solution for all technologies in all environments.”¹¹ Likewise, Sprint Nextel advised the Commission that it has deployed a hybrid technology combining handset-based Assisted Global Positioning System (“AGPS”) with network-based Advanced Forward Link Trilateration (“AFLT”).¹² While this hybrid technology has, indeed, improved overall performance, Sprint Nextel stated that its hybrid solution will not meet location accuracy standards in each and every PSAP.¹³

Not surprisingly, however, several location technology vendors filed comments espousing hybrid technologies as a means of increasing wireless 911 accuracy.¹⁴ These vendors generally would couple Assisted Global Positioning System (“AGPS”) with a variety of proprietary network-based trilateration technologies including TruePosition’s

¹⁰ Comments of Andrew Corporation at p. 4.

¹¹ Comments of Nokia Inc. and Nokia Siemens Networks at p. 2.

¹² Comments of Sprint Nextel Corporation at p. 11.

¹³ *Id.*

¹⁴ *See, eg.*, Comments of TruePosition, Inc., Comments of Polaris Wireless, Inc., and Comments of Rosum Corporation.

Uplink Time Difference of Arrival (“U-TDOA”), Polaris’ Wireless Location Signature (“WLS”), and Rosum Corporation’s use of television broadcast signals. It is unclear, however, what incremental benefit these systems might provide or what the associated cost would be. Moreover, these vendors were careful to avoid claims that these hybrid technologies would meet the Commission’s accuracy standard in all PSAPs.

None of the vendors discuss the shortcomings of their hybrid technology proposals; nor do they discuss the costs to implement a hybrid technology. Without access to the data underlying their claims and detailed technical information about their proposed systems, it is impossible to judge whether they in fact can provide the benefits they claim or are generalizing based upon idealized conditions, much as these same vendors did when the original 911 rules were established. Sprint Nextel cautions the Commission not to rely upon vendor promises without first conducting an independent, objective analysis of the various hybrid technologies. Rigorous testing on varying networks, in varying geographies and topologies is the only reasonable avenue for ascertaining the actual and potential capabilities of vendors’ proposed solutions.

As succinctly stated by AT&T, “[c]ompanies touting certain technologies should be required to prove the accuracy of those technologies across all usage environments (e.g., suburban, rural, in-building) through real-world field trials and rigorous field testing.”¹⁵ Sprint Nextel believes the Commission’s Office of Engineering and Technology (“OET”) and the proposed technical advisory group should be provided detailed information about the operation of these systems, testing data in real world environments and actual cost data before the Commission adopts further modifications of its 911 rules.

¹⁵ Comments of AT&T Inc. at pp. 4-5.

IV. Automatic Location for Mobile and Nomadic VoIP Is Not Technically Feasible and Should be Referred to a Technical Advisory Group

While many commenters, including Sprint Nextel, support the Commission's objective to provide mobile and nomadic VoIP users with ALI, the vast majority of commenters do not believe there are proven technologies that can meet this objective.¹⁶ Indeed, commenters fear that premature Commission action may have a chilling effect on mobile VoIP technologies.¹⁷ For example, Nokia states, "interconnected VoIP services, especially over wireless, are in a nascent stage of development and believes the Commission should take care not to impose unachievable regulatory obligations on these services that may hinder their development and the great promise they show for U.S. consumers."¹⁸

Sprint Nextel agrees with several other parties that the Commission should refer this important topic to the proposed technical advisory group.¹⁹ This would permit technical experts an opportunity to do a deep-dive into a variety of technologies such as the YMAX magic-Jack device and the S5 Wireless chip-based solution that utilizes the unlicensed 900 MHz band.²⁰

¹⁶ Comments of Wireless Communications Association International, Inc., at p. 4, Comments of WiMAX Forum at p. 2, Comments of Voice on the Net Coalition at p. 2, Comments of AT&T Inc. at pp. 14-15, Comments of Clearwire Corporation at p. 2, Comments of CTIA at p. 9, Comments of Motorola, Inc. at p. 2, Comments of Nokia Inc. and Nokia Siemens Networks at pp. 5-6, Comments of Qwest Communications International, Inc. at pp. 2-5, Comments of Telecommunications Systems, Inc. at pp. 4-5, Comments of Verizon at pp. 1-2.

¹⁷ Comments of Nokia Inc. and Nokia Siemens Networks at p. 6, Comment of Telecommunications Industry Association at p. 7 ("if the Commission imposes heightened autolocation requirements on these new and emerging [wireless VoIP] services, it will likely stop these services in their tracks.")

¹⁸ Comments of Nokia Inc. and Nokia Siemens Networks at p. 6.

¹⁹ Comments of AT&T Inc. at p. 13, Comments of CTIA at p. 9, Comments of Nokia Inc. and Nokia Siemens Networks at p. 6, Comments of the Wireless Communications Association International, Inc. at p. 1, Comments of Telecommunications Industry Association at p. 9, and Comments of ATIS at p. 10.

²⁰ Comments of YMAX Corporation at p. 2, Comments of S5 Wireless, Inc. at pp. 1-2.

V. The Commission's Order Adopted on September 11, 2007, Has Foreclosed Further Comment on Many Issues in Section III.B

The Commission established a bi-furcated NPRM and comment cycle to investigate wireless E911 location accuracy requirements.²¹ In Section III.A, the Commission sought comment on one issue – the appropriate geographic area for testing Phase II location accuracy (tentatively concluding that the PSAP service area level is the most appropriate geographic area) and whether to defer enforcement of this new rule.²² In Section III.B of its NPRM, the Commission sought comment on a variety of other issues including how long to defer enforcement, whether benchmarks should be established, whether to adopt a single location accuracy standard, whether it should require hybrid technologies, and a host of other issues related to testing, roaming and voice over internet protocol (“VoIP”).²³

Although the comment period for Section III.B was still open at the time of its adoption, the *911 Accuracy Order* appears to have resolved several issues raised in Section III.B.²⁴ Thus, without the benefit of a fully developed record, the Commission has foreclosed further comment on these issues. As Commissioner Adelstein states:

[T]oday's item is fraught with highly dubious legal and policy maneuvering that bypasses a still developing record on what should be the reasonable and appropriate implementation details. Instead of giving the public safety community, industry and this Commission the benefit of a decision based on a full record, the majority plows forward with details on benchmarks and compliance determinations – findings that are the very subject of the III.B portion of this bifurcated proceeding.²⁵

²¹ NPRM at ¶ 7.

²² NPRM at ¶ 6.

²³ See, NPRM Section III.B.

²⁴ See, FCC News Release, *FCC Clarifies Geographic Area Over Which Wireless Carriers Must Meet Enhanced 911 Location Accuracy Requirements* (Sept. 11, 2007)(“September 11th News Release”).

²⁵ Commissioner Adelstein Statement at p. 1.

This premature decision-making effectively prevents the parties to this proceeding from further comment on the remaining issues raised in Section III.B.

VI. Conclusion

Sprint Nextel continues to support the Commission's overarching goal of fostering the "next generation" E911 system. The Commission has raised many important issues in Section III.B of its NPRM, but it should proceed in a cautious and deliberate manner before reaching further decisions on these issues. Sprint Nextel believes the Commission and stakeholders would benefit greatly by referring these issues to a technical advisory group.

Respectfully submitted,

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