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

To: The Commission

COMMENTS OF AT&T INC.

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SUMMARY

No one questions the importance of E911 and the benefits associated with providing accurate information regarding the location of 911 callers to public safety answering points ("PSAPs"). AT&T certainly agrees with the objective of the proceeding — to improve the location accuracy of wireless and VoIP E911 calls — and is committed to working with the Commission to further that goal. As a first step, however, the Commission should review the technical capabilities and economical feasibly of existing and/or proposed location technologies prior to implementing a new location accuracy requirement. As demonstrated in AT&T's initial comments, the best approach for making this determination would be through the establishment of a technology advisory group — the E911 Technical Advisory Group ("ETAG").

The ETAG process offers the best and most constructive path towards improved E911 accuracy. Until the capabilities of location technologies are fully understood, it would be premature to adopt new accuracy or other E911 requirements. Thus, it is premature to address the variety of questions posed by the Commission in this proceeding. Nevertheless, although AT&T is not a location-technology vendor, it supplies a preliminary response to the key issues and tentative conclusions referenced in the *NPRM*.

Capabilities of Location Technologies. The Commission correctly recognizes that it must "develop a full understanding of the capabilities and limitations of existing location technologies, as well as any new technologies that may provide improvements in location accuracy," before it adopts new accuracy requirements. Actual, real world data, *not* the unsupported claims of vendors seeking to develop a business plan or attract investors, is essential. The ETAG would provide a neutral forum for verifying vendor claims regarding the accuracy of location technologies in different usage environments, (*e.g.*, urban, suburban, rural, in-building).

Single Location Accuracy Standard. The Commission tentatively concludes that "the public interest would be better served by a single location accuracy requirement" that is "at least as stringent as that currently in place for handset-based technologies, *i.e.*, 50 meters for 67 percent of calls, 150 meters for 95 percent of calls." Although a single standard ultimately may be achievable, there are numerous hurdles that must be overcome. First and foremost, no single technology is currently capable of satisfying the 50/150 meter requirement in all environments. Rather than a single accuracy standard, a tiered standard based on technology and environment is a better approach. Data could be compiled, preferably as part of the ETAG, to determine the capabilities of handset- and network-based location technologies in varying topologies and different usage environments. Accuracy standards could then be adopted and applied based on the environment in which the technology was deployed.

Compliance Testing and Testing Schedule. The Commission seeks comment on whether compliance testing should occur every two years and whether OET Bulletin No. 71 or some other standard should be imposed as a mandatory methodology for verifying compliance. OET Bulletin No. 71 recommended compliance testing every two years. AT&T supports this approach. Moreover, the establishment of an ETAG subcommittee group, under the direction of the Commission, should be established to determine whether compliance testing should occur every two years or if the methodology outlined in OET Bulletin No. 71 remains the appropriate method for verifying compliance. The starting point for this analysis should be the work already completed by ESIF and set forth in documents such as ATIS-0500001 and ATIS-0500010.

Implementation Schedule. The Commission asks how long carriers should be given to comply with any new E911 accuracy requirements. This question is premature. It is impossible

to comment on the length of time necessary to comply with an unknown accuracy requirement. This question is best answered as part of the ETAG process. As data is gathered regarding the capabilities of location technologies, the ETAG can determine what improvements can be made and how long it should take to implement these improvements.

Accuracy Data. The Commission tentatively concludes that carriers should be required to automatically provide accuracy data upon PSAP request. This requirement should be unnecessary if the ETAG is formed. PSAPs would be eligible for ETAG membership and would gain first hand knowledge of the capabilities of location technologies in a variety of topologies and usage environments, thus eliminating the need for carrier and location-specific data.

Availability of Phase II Data for Roamers. The Commission expressed concern over the inability of some location solutions to provide Phase II data for 911 calls placed by roamers and seeks comment on requiring Phase II data for all callers, including roamers. AT&T generally supports this approach. As a carrier utilizing a network-based solution, the availability of Phase II location information is not entirely dependent upon the phone used by the caller. The caller need not be a subscriber or own a particular handset for location data to be associated with an E911 call placed over the AT&T wireless network. The ETAG should evaluate all existing as well as any new proposed location solutions, however, to determine if technical variances exist in providing Phase II data for 911 calls placed by roamers and report its findings to the Commission.

Interconnected VoIP Services. AT&T supports the development of technology to automatically locate interconnected VoIP callers that dial 911. In order to foster the development of such technology, we would encourage the Commission to task the ETAG with examining the specific 911 challenges, and potential solutions, for interconnected VoIP service. At the same time, we would strongly urge the Commission not to adopt its tentative conclusion that providers of nomadic interconnected VoIP services "must employ an automatic location technology that meets the same accuracy standards that apply to . . . CMRS services." As the Commission has candidly acknowledged, "currently there is no way for portable VoIP providers reliably and automatically to provide location information to PSAPs for these services without the customer's active cooperation." Given this technical reality, the Commission should not as a matter of public policy – and could not as a matter of law – mandate the deployment of VoIP 911 solutions that, by the Commission's own admission, do not yet exist.

Commission Reports. The Commission proposes to evaluate location technologies and issue reports detailing (i) methods for improving in-building accuracy and (ii) whether hybrid technology solutions would improve accuracy generally and eliminate the shortcomings associated with handset- and network-based solutions. The ETAG would conserve scarce Commission resources and accomplish this critical objective. The resources of all interested stakeholders would be harnessed to develop the record necessary to determine the capabilities of location technologies.

Effective Date of New Rules. It is imperative that the Commission complete an evaluation of the technical and economic feasibility of wireless and interconnected VoIP E911 solutions before adopting any new E911 requirements. No evidence has surfaced to date demonstrating that it is technically possible to satisfy existing wireless accuracy standards on a PSAP-level to the approximately 6,000 PSAPs, let alone accurately locate mobile, interconnected VoIP callers. Nor is there any record evidence as to how much satisfaction of these requirements would cost even if technically and economically feasible. AT&T's own analysis indicates that the costs would be staggering. Detailed information as to both cost and

technical feasibility is critical to reasoned decisionmaking. Accordingly, the Commission should delay the effective date of any new rules — including a requirement to measure compliance with the existing accuracy requirement at the PSAP level — until a determination is made that such requirements are technically and economically feasible. A realistic deployment schedule with appropriate performance benchmarks should then be established for satisfying the requirements.

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COMMENTS

AT&T Inc., on behalf of its wholly-owned and controlled affiliates (collectively "AT&T"), hereby submits comments in response to the Federal Communications Commission's ("FCC" or "Commission") *Notice of Proposed Rulemaking* in the above-captioned docket.[1] The FCC established a two-step process in this proceeding for evaluating wireless E911 accuracy requirements. The expedited, first stage of the proceeding largely revolved around the Commission's tentative conclusions that (i) Section 20.18(h) should require carriers to meet Phase II accuracy requirements at the PSAP level and (ii) enforcement thereof should be stayed.[2] No evidence has surfaced to date demonstrating that it is technically and economically feasible to

[1] *Wireless E911 Location Accuracy Requirements*, PS Docket No. 07-114, *Notice of Proposed Rulemaking*, FCC 07-108 (rel. Jun. 1, 2007) ("*NPRM*").

[2] *Id.* at ¶¶ 5-7.

satisfy the existing wireless accuracy requirements on a PSAP-level and there was near universal support for a stay if the new PSAP-level requirement is adopted.

These comments are being submitted in stage two, which was established largely to gather evidence regarding the capabilities and limitations of location technologies, to determine the appropriate implementation schedule, and to determine how long a stay of the PSAP-level accuracy requirement should be maintained.[3]

Location information is a critical component of enhanced 911 services. Without location information, public safety entities may be unable to locate an emergency caller in a timely manner. Thus, AT&T supports efforts to improve location accuracy[4] for 911 calls and has spent more than $1.8 billion to deliver information regarding the location of wireless 911 callers to public safety.[5]

No party contests the need for location information — the principal debate involves the level of accuracy that is technically and commercially feasible for wireless and interconnected VoIP providers. As discussed below and in AT&T's initial comments, the best way to resolve this debate is to establish a Technology Advisory Group — the E911 Technical Advisory Group ("ETAG") — modeled after the WARN Act advisory group. Given the importance of location accuracy for 911 calls, it is imperative that any FCC requirement be based on hard data —

[3] *Id.* at ¶¶ 5-6.

[4] Location information is worthless, however, if a public safety answering point ("PSAP") is not capable of processing the data. Accordingly, AT&T also supports efforts designed to increase the number of PSAPs capable of utilizing location information.

[5] Moreover, AT&T is an active participant in a variety of organizations established to improve public safety communications, such as the National Security Telecommunications Advisory Committee's Emergency Communications and Interoperability Task Force, which was formed to analyze potential interoperability approaches and provide solutions to address public safety needs. It also has worked extensively with a variety of vendors to develop a suite of broadband services targeted for public safety use and provides Wireless Priority Service to numerous public safety entities.

preferably data compiled by the ETAG during real world tests identifying a technically and commercially feasible solution. New accuracy rules (including the proposal to require the current accuracy standards to be met at the PSAP level) should not become effective until a final decision is reached on the appropriate accuracy standard and a realistic deployment schedule with appropriate performance benchmarks is established.

DISCUSSION

I. AN ADVISORY COMMITTEE SHOULD BE ESTABLISHED TO DETERMINE TECHNICALLY FEASIBLE AND ECONOMICALLY VIABLE WAYS TO IMPROVE E911 ACCURACY

The Commission seeks comment on a number of issues targeted at improving the accuracy of location data associated with wireless and interconnected VoIP 911 calls. In particular, the Commission asks:

- Whether the two Phase II location standards set forth in Section 20.18 should be replaced by a single standard?
- Whether a more stringent accuracy requirement should be adopted and, if so, what should be the new uniform accuracy requirement?
- What are the capabilities of existing location technologies and what factors impact the performance of these technologies?
- Whether a hybrid solution combining network- and handset-based technologies would improve accuracy and should hybrid solutions be required?
- What is the best method for improving location accuracy in both the short and long term?
- How long should carriers be given to comply with a new accuracy standard?
- How should compliance with the FCC's E911 accuracy requirements be measured?
- How often should compliance be measured?
- Should accuracy information be provided to PSAPs and, if so, in what form?
- Should carriers be required to satisfy the accuracy requirement for 911 calls placed by roamers?
- Should providers of interconnected VoIP services be required to satisfy the same accuracy requirements as CMRS carriers?

The best approach for developing a comprehensive and informed response to these questions is through the establishment of the ETAG.[6] This group should be comprised of key representatives from the public safety community, the wireless industry, local exchange carriers, interconnected VoIP providers, technology vendors, and government officials.[7] It should be chaired by Chairman Martin and assigned the responsibility for testing, compiling data, and ultimately answering each of the questions posed in the *NPRM*. This would include issuance of a recommendation regarding the appropriate geographic area for measuring accuracy and the accuracy level achievable within that area. Given the importance of wireless E911, the advisory group should be required to complete its evaluation and provide recommendations to the Commission within 12 months of the initial meeting.

Any new rules must be based on hard test data rather than hollow promises.[8] Companies touting certain technologies should be required to prove the accuracy of those technologies

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[6] *See NPRM*, Separate Statement of Commissioner Jonathan S. Adelstein at 28-29.

[7] *See* Comments of AT&T Inc., PS Docket No. 07-114 at 3-6 (July 5, 2007) ("AT&T Comments"); Comments of CTIA, PS Docket No. 07-114 at 6-7 (July 5, 2007) ("CTIA Comments"); Comments of NENA, PS Docket No. 07-114 at 4-5 (July 5, 2007) ("NENA Comments"); Comments of Polaris Wireless, Inc., PS Docket No. 07-114 at 8-9 (July 5, 2007) ("Polaris Wireless, Inc. Comments"); Comments of QUALCOMM, Inc., PS Docket No. 07-114 at 7-8 (July 5, 2007) ("QUALCOMM, Inc. Comments"); Comments of Rural Cellular Association, PS Docket No. 07-114 at 8-10 (July 3, 2007) ("RCA Comments"); Comments of SunCom Wireless, Inc., PS Docket No. 07-114 at 6 (July 5, 2007) ("SunCom Wireless Comments"); Comments of Sprint Nextel Corp. Reply at 6 (July 5, 2007) ("Sprint Nextel Comments"); Reply Comments of T-Mobile USA, Inc., PS Docket No. 07-114 at 15-16 (July 11, 2007); Reply Comments of SouthernLINC Wireless PS Docket No. 07-114 at 15-17 (July 11, 2007) ("SouthernLINC Wireless Reply Comments"); *see also* Initial Comments of the Texas 9-1-1 Alliance, PS Docket No. 07-114 at 3-8 (filed July 5, 2007) ("Texas 9-1-1 Alliance Initial Comments") (noting the need for public safety and the wireless industry to reach consensus).

[8] *See* AT&T Comments at 3-10 (July 5, 2007). In particular, the data compiled by the ETAG, as well as any data relied on by the Commission in support of a new accuracy standard, must comply with the Data Quality Act ("DQA"), Pub. L. 106-554, § 1(a)(3) [Title V, § 515], 114 Stat. 2763, 2763A-153 (2000), *codified at* 44 U.S.C. § 3516 note (entitled "Policy and Procedural Guidelines"), and the related OMB implementation rules and guidelines. *See* AT&T Comments at 4, n.6.

across all usage environments (*e.g.*, urban, suburban, rural, in-building) through real-world field trials and rigorous field testing. These tests should be conducted under the auspices of the ETAG, with all interested stakeholders having access to the data. The Commission has recognized that "[t]here are risks to relying exclusively on data supplied by parties with a financial stake in the use of such data as part of Commission decisions."[9] It would be patently unfair to base new E911 accuracy rules on untested claims of manufacturers and vendors.

The establishment of the ETAG would be consistent with precedent. The E911 proceedings have been largely the product of consensus building by interested stakeholders. For example, the initial wireless E911 proposals were based on an Emergency Access Position Paper prepared by APCO, NENA, NASNA, and PCIA.[10] A subsequent consensus agreement among CTIA, NENA, NASNA, and APCO formed the basis for adopting E911 rules.[11] Similarly, OET

[9] *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, WT Docket No. 02-379, *Notice of Inquiry*, 17 F.C.C.R. 24923, ¶ 16 (2003); *accord* Concurring Statement of Commissioner Michael J. Copps, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Eighth Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, FCC 03-150, *Report*, 18 F.C.C.R. 14783, 14927 (2003) (criticizing the Order because "[m]uch of the limited data included are unverifiable and are derived from sources with a stake in the outcome of our determination") ("*8th Competition Report*, Copps Statement").

[10] *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, *Notice of Proposed Rulemaking*, 9 F.C.C.R. 6170, 6176 (1994).

[11] *See* Letter from Thomas E. Wheeler, CTIA, to Reed E. Hundt, Chairman, FCC, CC Docket No. 94-102 (Feb. 12, 1996) ("Wheeler Letter"); *Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, *Report and Order and Further Notice of Proposed Rulemaking*, 11 F.C.C.R. 18676, 18687-89 (1996) ("*First Report*").

Bulletin 71 was adopted after the Office of Engineering Technology ("OET") and Wireless Bureau ("Bureau") solicited input from all interested stakeholders.[12]

Moreover, the ETAG could improve on the efforts of the Network Reliability and Interoperability Council – VII ("NRIC VII"), an advisory organization established pursuant to the Federal Advisory Committee Act, to "recommend accuracy requirements for location information particularly for rural, suburban, and urban areas and recommend ways to verify that accuracy requirements are met."[13] Although NRIC VII's efforts were laudable, APCO abandoned the effort apparently because of dissatisfaction with the ultimate recommendation — that compliance should be measured at the State level.[14] The ETAG could resolve any questions APCO may have regarding the feasibility of PSAP-level testing by conducting a broad array of tests (with the full participation of APCO and its membership) that would produce hard data on this issue.

The Commission has identified the key questions to be addressed before adoption of new accuracy requirements. AT&T is not a location-technology vendor, however, and believes it would be premature to address these questions before concrete, real-world data is compiled regarding the capabilities of location technologies. Nevertheless, AT&T provides a preliminary response to the key questions and tentative conclusions referenced in the *NPRM*.

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[12] *See Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems*, CC Docket No. 94-102, *Third Report and Order*, 14 F.C.C.R. 17388, 17397-98 (1999) ("*Third Report*").

[13] NRIC VII Charter at 2, *available at* http://www.nric.org/charter_vii/NRICVII_Charter_FINAL_Amended_2004_3_12_04.pdf at 2 (last visited Aug. 10, 2007).

[14] NRIC VII, Focus Group 1A, Near Term Issues for Emergency/E911 Services, Final Report at 21 (Dec. 2005), *available at* http://www.nric.org/fg/index.html. APCO refused to join in the final report, but numerous the majority of public safety NRIC members — NASNA and NENA — supported the recommendation.

Location Technologies

As the Commission recognizes, it must "develop a full understanding of the capabilities and limitations of existing location technologies, as well as any new technologies that may provide improvements in location accuracy," before it adopts new accuracy requirements.[15] This is the foundational step — fact finding based on rigorous and objective testing in multiple operating environments. Otherwise, there can be no defensible basis for establishing that a new accuracy requirement is technically and economically feasible.[16]

Given the importance of location information, it is essential that the Commission's knowledge of location technologies be based on actual, real world data — *not* the unsupported claims of vendors seeking to develop a business plan or attract investors.[17] As discussed above, the analysis of location technologies should be based on real-world test data compiled by the ETAG. The ETAG would provide a neutral forum for evaluating conflicting claims regarding the accuracy of location technologies.[18]

Single Location Accuracy Standard

The Commission's rules currently contain two different accuracy standards for CMRS carriers — one for network-based solutions and one for handset-based solutions.[19] The Commission's tentative conclusion is that "the public interest would be better served by a single

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[15] *NPRM* at ¶ 11.

[16] *See Citizens to Preserve Overton Park, Inc. v. Volpe*, 401 U.S. 402, 416 (1971); *Bunker Hill Co. v. EPA*, 572 F.2d 1286, 1301 (9th Cir. 1977) (emphasis in original); *see Essex Chem. Corp. v. Ruckelshaus*, 486 F.2d 427, 433 (D.C. Cir. 1973), *cert. denied*, 416 U.S. 969 (1974).

[17] *See 8th Competition Report*, Copps Statement.

[18] ETAG members could be required to sign limited non-disclosure agreements ("NDAs") that are designed to protect the intellectual property of vendors. The NDAs, however, should not limit the ability of the ETAG to report test results.

[19] *See* 47 C.F.R. § 20.18(h).

location accuracy requirement" that is "at least as stringent as that currently in place for handset-based technologies, *i.e.*, 50 meters for 67 percent of calls, 150 meters for 95 percent of calls."[20]

AT&T shares the Commission's objective of ensuring "that PSAPs receive reliable and accurate location information irrespective of the location of the caller or the technology that may be used."[21] Although a single standard ultimately may be achievable, adoption of a single accuracy standard would be premature and, absent a substantial implementation period, would create an industry-wide state of non-compliance for all CMRS providers. The Commission states that "location technologies have continued to advance,"[22] but the record demonstrates that no single technology is currently capable of satisfying the 50/150 meter requirement in all environments.[23]

AT&T has deployed a network-based solution to satisfy the existing Phase II E911 accuracy requirements. For a network-based solution, carriers are required to provide location data that is accurate with 100 meters for 67 percent of calls and 300 meters for 95 percent of calls.[24] The record demonstrates that these solutions only satisfy the Commission's rules because of the current regulatory flexibility that permits carriers to aggregate data from all

[20] *NPRM* at ¶¶ 9-10, 12.

[21] *NPRM* at ¶ 9.

[22] *NPRM* at ¶ 9.

[23] *See* AT&T Comments at 6-13; Comments of Cincinnati Bell Wireless LLC, PS Docket No. 07-114 at 3-4 (July 5, 2007) ("CBW Comments"); Polaris Comments at 3, 6; QUALCOMM Comments at 4-7; RCA Comments at 4-7; SunCom Comments at 2; Sprint Nextel Comments at 8-12; Comments of T-Mobile USA, Inc., PS Docket No. 07-114 at 2-10 (July 5, 2007) ("T-Mobile Comments); Comments of U.S. Cellular Corp., PS Docket No. 07-114 at 2-5 (July 5, 2007) ("USCC Comments"); Comments of Verizon Wireless PS Docket No. 07-114 at 14-22 (July 5, 2007) ("Verizon Comments"); NENA Comments at 1-2; Comments of National Association of State 9-1-1 Administrators, PS Docket No. 07-114 at 1-2 (July 5, 2007).

[24] 47 C.F.R. §20.18(h).

environments.[25] If compliance with the existing rules was required on a PSAP-by-PSAP basis, network-based solutions could not meet the existing requirement, let alone the more stringent 50/150 meter requirement.[26]

Rather than a single accuracy standard, a tiered standard based on topologies, technology, and usage environments may be a better approach. Data could be compiled, preferably as part of the ETAG, to determine the capabilities of handset- and network-based location technologies in different environments. Accuracy standards could then be adopted and applied based on the environment in which the technology was deployed. A different standard would apply for urban, suburban, rural, and in-building environments. Such a tiered approach also would give PSAPs a better understanding of the location data they are receiving — one of the principal objectives of the proposed PSAP-level accuracy requirement. The ETAG process would give public safety access to the test data and to verify first hand the capabilities of the various location technologies in different environments.

The ETAG also should evaluate the feasibility and practical utility of expanding the E911 accuracy requirement to include an elevation component. To date, the record does not

[25] *See* AT&T Comments at 7; Dale N. Hatfield, "A Report on Technical and Operational Issues Impacting the Provision of Wireless Enhanced 911 Services" at 36 ("Hatfield Report"); Linda K. Moore, *An Emergency Communications Safety Net: Integrating 911 and Other Services* at 9 (Congressional Research Service Report for Congress) (updated Jan. 30, 2006) ("CRS Report").

[26] TruePosition, one of AT&T's Phase II E911 vendors, recognized that its technology is only capable of satisfying the 100/300 meter accuracy requirement "in the majority of situations." Comments of TruePosition, PS Docket No. 07-114 at 2 (July 5, 2007). The Commission's proposal, however, would require carriers to satisfy a 50/150 meter accuracy requirement for every PSAP. *NPRM* at ¶ 12. TruePosition indicated that such a requirement could not be satisfied even by a hybrid solution in all cases. TruePosition Comments at 5; *accord* QUALCOMM Comments at 6.

demonstrate that an elevation calculation is technically feasible,[27] or what the costs of this capability would be. The record does demonstrate, however, that there is no widespread support for such a requirement.

Compliance Testing and Testing Schedule

The Commission seeks comment on whether OET Bulletin No. 71 should be converted from a voluntary guideline to a mandatory methodology for verifying compliance or whether some other methodology should be adopted.[28] An ETAG subcommittee should be formed to address this issue. It is important to note, however, that considerable work has already been done in this area. The Alliance for Telecommunications Industry Solutions ("ATIS"), through its Emergency Services Interconnection Forum ("ESIF"), has issued a number of reports involving compliance testing.[29] These reports, which were developed with the participation of the National Emergency Number Association which works closely with ESIF, should be the starting point for ETAG evaluation.[30]

The Commission also questions whether compliance testing should occur every two years to verify that location information provided to PSAPs remains in conformance with the FCC's requirements.[31] AT&T agrees with APCO that such testing should occur every two years.[32] OET Bulletin No. 71 recommended such an approach[33] and this recommendation was

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[27] *See* Comments of Motorola Inc. and Nokia Inc., PS Docket No. 07-114 at 5-6 (July 5, 2007) ("Motorola and Nokia Comments").

[28] *NPRM* at ¶ 14.

[29] *See, e.g.*, ATIS Technical Report — Maintenance Testing, ATIS-05000010.

[30] *See* ATIS: Emergency Services Interconnection Forum Home Page, *available at* http://www.atis.org/esif.

[31] *NPRM* at ¶ 15.

[32] *See NPRM* at ¶ 15.

[33] OET Bulletin No. 71, Guidelines for Testing and Verifying the Accuracy of Wireless E911 Locations Systems 5 (April 12, 2000).

incorporated into AT&T's internal E911 guidelines. Nevertheless, the ETAG should evaluate whether this remains the optimum approach.

Implementation Schedule

The Commission asks how long carriers should be given to comply with any new E911 accuracy requirements.[34] This question is premature. It is impossible to comment on the length of time necessary to comply with an unknown accuracy requirement. This question is best answered as part of the ETAG process. As data is gathered regarding the capabilities of location technologies, the ETAG can determine what improvements can be made and how long it should take to implement these improvements.

In establishing an implementation schedule for any new requirement, the Commission should factor in the technologies currently deployed. For example, AT&T has deployed a network-based solution that provides location information for all callers, including roamers. The ubiquitous nature of this solution justifies a lengthy implementation period. Carriers opting for a handset-based solution to satisfy the existing rules were given at least four years to do so in the absence of a safety net — there was no Phase II data unless the handset was replaced. In contrast, carriers currently offering network-based solutions would be able to supply Phase II data (pursuant to the existing rules) while their location solutions are being updated to meet any new accuracy requirements. Thus, network-based carriers should be given at least four years to satisfy a new accuracy requirement or deploy the necessary handset component of any required solution to 95 percent of its customer base. Moreover, as Commissioner Adelstein has noted, "30% of PSAPs . . . still rely on E911 Phase I or something even less."[35]

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[34] *NPRM* at ¶ 13.

[35] *See NPRM,* Separate Statement of Commissioner Jonathan S. Adelstein at 2.

Accuracy Data

The Commission tentatively concludes that carriers should be required to automatically provide accuracy data upon PSAP request.[36] As participants in the ETAG, however, PSAPs would gain first hand knowledge of the capabilities of location technologies in a variety of environments. This knowledge should eliminate the need for additional data. AT&T understands the desire to provide PSAPs with additional information regarding the performance of E911 solutions, but questions whether the usefulness of this information would offset the substantial burdens imposed on carriers and PSAPs alike. AT&T recommends that a subcommittee within the ETAG be formed to analyze whether PSAPs need detailed location information.

Availability of Phase II Data for Roamers

The Commission expressed concern over the inability of some location solutions to provide Phase II data for 911 calls placed by roamers and seeks comment on requiring Phase II data for all callers, including roamers.[37] AT&T generally supports this approach. As a carrier utilizing a network-based solution, Phase II location information is not entirely dependent upon the handset of the caller. The ETAG should evaluate whether it is technically and economically feasible, however, to provide location data for roamers that complies with any new accuracy requirements. The new rules may force the deployment of new technologies that are incapable of serving roamers. Under such a scenario, the Commission may wish to consider requiring carriers to deploy a safety-net that would provide detailed location information for roamers, albeit with a lesser degree of accuracy than afforded subscribers.

[36] *NPRM* at ¶ 16.

[37] *NPRM* at ¶ 17.

Interconnected VoIP Services

AT&T supports the development of technology to automatically locate interconnected VoIP callers that dial 911.[38] To that end, AT&T previously suggested that "the Commission should convene a joint agency/industry/emergency responder task force that includes all necessary industry participants, including VoIP providers, ILECs, and PSAP administrators" to bring their collective expertise to bear in addressing the location identification challenges of interconnected VoIP services.[39] The creation of the ETAG would be the ideal vehicle to implement this suggestion. The collection of technical experts assembled through the ETAG to address wireless 911 issues could be easily expanded to include those with expertise in VoIP 911 issues. A specific ETAG working group could be formed to focus on the unique challenges of developing and deploying automatic location technology for VoIP 911 purposes. For all of the same reasons discussed above with respect to CMRS 911 services, the ETAG would provide the Commission with a valuable tool for advancing the state of the art for interconnected VoIP 911 services.

Although AT&T supports efforts to identify technologies capable of automatically providing location information for 911 calls placed via nomadic interconnected VoIP services, it cannot support the Commission's tentative conclusion that "to the extent that an interconnected VoIP service may be used in more than one location, providers must employ an automatic

[38] Reply Comments of AT&T Corp., WC Docket No. 05-196 at 2 (Sept. 12, 2005) ("AT&T VoIP Reply Comments"); Comments of SBC Communications Inc., WC Docket No. 05-196 at 1-3 (Aug. 15, 2005) ("SBC VoIP Comments").

[39] AT&T VoIP Reply Comments at 3. *See also* SBC VoIP Comments at 8 ("The Commission should hold forums, sponsor workshops, and generally exercise its ability to focus industry attention on working through the technological challenges to automatically identifying a VoIP end user's location for 911 purposes").

location technology that meets the same accuracy standards that apply to . . . CMRS services."[40] In reaching this tentative conclusion, the Commission did not explain why location accuracy standards developed for mobile *wireless* services would be appropriate for all nomadic interconnected VoIP services, many of which are provided over *wired* access links today (e.g., cable, DSL, fiber). Nor did the Commission cite any evidence to demonstrate that such a requirement is technically or economically feasible.[41] In fact, the Commission itself has previously recognized that it "is not always technologically feasible for providers of interconnected VoIP service to automatically determine the location of their end users without end users' active cooperation."[42] Absent any evidence to disprove this determination of infeasibility – and there is no such evidence in the record here – the Commission cannot change course and adopt a tentative conclusion that is directly at odds with its own prior findings.[43]

To be sure, the Commission is likely to hear from a number of companies that *claim* to have location solutions for nomadic interconnected VoIP services. But until those proposed solutions are thoroughly tested in a neutral environment by a technically competent group of

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[40] *NPRM* at ¶ 18.

[41] Courts have determined that "[i]mpossible requirements imposed by an agency are perforce unreasonable" and that the "law does not compel the doing of impossibilities." *Alliance for Cannabis Therapeutics v. DEA*, 930 F.2d 936, 940 (D.C. Cir. 1991); *Hughey v. JMS Development Corp.*, 78 F.3d 1523, 1530 (11th Cir. 1996) (quoting Black's Law Dictionary 912 (6th ed. 1990) ("*Lex non cogit ad impossibilia:* The law does not compel the doing of impossibilities")). Once technological impossibility or infeasibility is raised, the Commission must address such claims. *Bunker Hill Co.*, 572 F.2d at 1294 (citing *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 402 (D.C. Cir. 1973)), *cert. denied*, 417 U.S. 921 (1974). To establish that its rules are "based on a consideration of the relevant factors" and not "a clear error of judgment," the "record must establish that the required technology is feasible, not merely *possibly* feasible." *Overton Park*, 401 U.S. at 416; *Bunker Hill Co.*, 572 F.2d at 1301 (emphasis in original); *see Essex Chem.*, 486 F.2d at 433.

[42] *E911 Requirements for IP-Enabled Service Providers*, WC Docket No. 05-196, *First Report and Order*, 20 F.C.C.R. 10245, 10271 (2005).

[43] *See Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 852 (D.C. Cir. 1970), *cert. denied* 403 U.S. 923 (1971); *Office of Communication of United Church of Christ v. FCC*, 707 F.2d 1413, 1425 (D.C. Cir. 1983).

experts, it would be premature – and potentially harmful to public safety and consumers – for policymakers to advocate their deployment in interconnected VoIP services available to American consumers. Indeed, a group of Master's Degree candidates at the University of Colorado at Boulder recently completed a thesis that evaluated the ability of existing technologies to provide location information for VoIP calls.[44] Numerous location technologies were analyzed, including — A-GPS, Skyhook Wireless' Received Signal Strength ("RSS") Fingerprinting, active-beacon passive-listener architecture, S5 Wireless chip solutions, Rosum's hybrid solution that relies on GPS and television signals, and a combination of these technologies. The thesis concluded:

> [T]here is presently no single, comprehensive solution to improve location accuracy for indoor cellular and nomadic VoIP users. The evaluation of the technologies lead us to believe that there is no silver bullet to mitigate the problem of indoor cellular and nomadic VoIP location. . . .[45]

The thesis recommended that "an independent body such as the FCC Technical Advisory Committee or the National Academy of Science spearhead this problem and seek to find a comprehensive solution."[46] AT&T agrees with this general recommendation, and believes that the ETAG would be ideally suited to take on this role.

Commission Reports

The Commission proposes to evaluate location technologies and issue reports detailing (i) methods for improving in-building accuracy and (ii) whether hybrid technology solutions would improve accuracy generally and eliminate the shortcomings associated with handset- and

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[44] Patrick W. Spradling, et al., *E911 Caller Location of Indoor Cellular and VoIP Devices*, Univ. of Colo. Interdisciplinary Telecommunication Program (2007) ("Spradling Thesis").

[45] *Id.* at 23; *accord* AT&T Comments, WC Docket No. 05-196 at 6 (Aug. 15, 2005); SBC VoIP Comments at 6-11.

[46] Spradling Thesis at 30.

network-based solutions.[47] Under the ETAG model, the ETAG would undertake this evaluation with Commission involvement. This approach would conserve scarce Commission resources by involving the experts in location technology development in a detailed testing regime. The results of the ETAG tests, rather than isolated Commission analysis, could then form the basis of any new requirements.

II. NEW ACCURACY REQUIREMENTS SHOULD NOT BECOME EFFECTIVE BEFORE THE FCC DETERMINES THAT THE REQUIREMENT IS TECHNICALLY AND ECONOMICALLY FEASIBLE

The Commission seeks comment on how long enforcement should be deferred if it were to adopt its proposed PSAP-level accuracy requirement.[48] As noted in AT&T's initial comments, AT&T agrees that the rule should not and could not be immediately enforced.[49] The record demonstrates that there are substantial legal impediments to adopting a PSAP-level accuracy requirement,[50] as well as a lack of any certainty that compliance with such a requirement can be achieved.[51] In fact, Chairman Martin recently recognized:

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[47] *NPRM* at ¶ 19.

[48] *NPRM* at ¶ 8.

[49] AT&T Comments at 13-14; *accord* Comments of APCO, PS Docket No. 07-114 at 4 (July 6, 2007); Comments Of Corr Wireless Communications, LLC On Section III.A Of Proposal, PS Docket No. 07-114 at 8-9 (July 5, 2007); Comments of the King County E911 Program, PS Docket No. 07-114 at 9-10 (July 5, 2007) ("King County Comments"); Motorola Nokia Comments at 10-11; Sprint Nextel Comments at 3, 15; SunCom Comments at 5-6; Texas 9-1-1 Alliance Initial Comments at 3, 6-8; Comments of Wichita Falls, Texas Police Department, PS Docket No. 07-114 at 2 (July 5, 2007) (supporting a limited deferral for as long as 12 months).

[50] AT&T Comments at 6-14; SouthernLINC Reply Comments at 11-13; T-Mobile Comments at 10-15; Verizon Wireless Comments at 4-28.

[51] *See, e.g.*, AT&T Comments at 6-13; CBW Comments at 3-4; King County Comments at 4-7, 9-10 (noting that tests demonstrate that no technology currently satisfies the existing requirements on a PSAP basis); Polaris Comments at 6; QUALCOMM Comments at 4-7; RCA Comments at 4-7; SunCom Comments at 2-4; Sprint Nextel Comments at 8-12; T-Mobile Comments at 2, 4-10; USCC Comments at 2-5; Verizon Comments at 14-22; Wheeler Letter at 3; E9-1-1 Institute, Wireless Networks Issue Committee Report (Sept. 21, 2004) ("E9-1-1 Institute Report") (The E9-1-1 Institute has approximately 1,000 members devoted to the
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> We have long known that the two location technologies used by carriers — handset-based GPS and network-based triangulation — each have limitations. Network-based technologies are not as effective in rural areas often due to lack of sufficient towers. Handset-based technologies are not as effective in urban areas, as signals often have difficulty penetrating buildings.[52]

Given the inability of handset- and network-based E911 solutions to satisfy the existing accuracy requirements in all environments, AT&T continues to urge the Commission not to adopt any new requirements until the ETAG process has been completed.

Nevertheless, if carriers are required to measure compliance with the existing accuracy requirements on a PSAP-by-PSAP basis, a reasonable deployment schedule must be established that accounts for the time necessary to modify or replace existing location solutions (including the need to obtain zoning approvals in many instances). Moreover, the Commission should stay the effective date of its decision (rather than enforcement) until a determination is made that the requirement is technically and economically feasible. The Administrative Procedure Act does not permit the Commission to promulgate a rule and give it legal effect, while developing its basis in a later proceeding.[53]

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promotion and advancement of E911); Cingular Wireless LLC, Petition for Limited Waiver of Section 20.18(e)-(h), CC Docket No. 94-102 at 3 (July 6, 2001) (citing numerous instances where AT&T's predecessor wireless companies notified the FCC that the accuracy requirements were technologically infeasible); CRS Report at 9. This conclusion was reached by the independent expert hired by the Commission to evaluate E911 implementation issues, as well as the formal advisory committee established by the Commission — NRIC VII — to address the issue of accuracy verification. Hatfield Report at 36; NRIC VII, Focus Group 1A, Near Term Issues for Emergency/E911 Services, Final Report at 21 (Dec. 2005) (All NRIC VII participants except APCO supported state-level accuracy. Although APCO refused to join in the final report, the majority of public safety NRIC members — NASNA and NENA — supported the recommendation.).

[52] FCC Chairman Kevin J. Martin, Remarks at the APCO International Annual Conference (Aug. 7, 2007).

[53] *See* 5 U.S.C. §553(c); *Competitive Telecomm. Ass'n v. FCC*, 87 F.3d 522, 531 (D.C. Cir. 1996) ("[T]he Commission also invited further comments regarding the proper level of a permanent TST-S charge, but it has yet to release its analysis of those comments and now urges

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The Commission's proposal — to establish a new wireless E911 accuracy requirement and then *afterwards* obtain evidence on what is technically and commercially feasible — puts the cart before the horse.[54] There can be no relationship between the facts found and the choice made, because the Commission is making its decision *before* gathering the relevant facts.[55] Moreover, the evidence compiled to date makes clear that it is not possible to satisfy the existing wireless E911 requirements on a PSAP-level basis.[56]

It is not just carriers that will be placed in an untenable situation if the Commission adopts impossible-to-meet E911 accuracy standards. As the National Association of State 9-1-1 Administrators recently noted, states also will be adversely affected:

> If the Commission adopts Phase II accuracy testing requirements that currently available location technologies cannot meet (such as a requirement for PSAP level testing), states with carrier cost recovery will be responsible for the cost of new technologies that have not yet been developed to meet those requirements. …

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us not to consider an issue that it has not finally decided. This course would permanently immunize the FCC from review of the 'interim' TST-S rate and the RIC. The Commission can not expect to avoid judicial scrutiny so easily — especially when the 'interim' is measured in years and follows almost a decade of 'transition.'").

[54] The FCC's authority under 47 U.S.C. § 154(j) to "order its own proceeding as it reasonably sees fit . . . does not extend to dispensing with a reasoned explanation for its decisions." *Verizon Tel. Cos. v. FCC,* 374 F3d 1229 (D.C. Cir. 2004); *see WAIT Radio v. FCC,* 418 F.2d 1153, 1159 (D.C. Cir. 1969). It is a fundamental principle of administrative law that "agency action [must] be 'based on a consideration of the relevant factors,' …and rest on reasoned decisionmaking in which 'the agency must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.'" *U.S. Telecom Ass'n v. FCC,* 227 F.3d 450, 461 (D.C. Cir. 2000) ("*USTA*") (citations omitted) (quoting *Overton Park,* 401 U.S. at 416; *Motor Vehicle Mfrs. Ass'n v. State Farm Mutual Auto. Ins. Co*., 463 U.S. 29, 43 (1983)). This analysis requires the Commission to take into account the comment record and address significant issues that are raised. *See* 5 U.S.C. §553(c); *Telocator Network of America v. FCC*, 691 F.2d 525, 537 (D.C. Cir. 1982). The Commission also must conduct a cost-benefit analysis. *U.S. Telecom Ass'n v. FCC*, 359 F.3d 554, 570 (D.C. Cir. 2004).

[55] *See USTA*, 227 F.3d at 461; *see also* note 41 *supra*.

[56] *See* note 51 *supra*.

> It is important to remember that the current accuracy requirement (distance measurement) was based on the promise of the location technology BEFORE it was actually developed as a solution. To hold a new technology solution to this same requirement would be highly inappropriate. We must instead determine the optimal accuracy to save lives and focus our efforts to achieving that goal. …
>
> To adopt an accuracy testing process that cannot be achieved at this time not only puts the carrier in a compliance limbo, but also puts many states in a budgetary limbo until someone can figure out how to achieve the requirement.[57]

For these same reasons, the Commission should not adopt additional wireless or VoIP E911 requirements until a determination has been made that such requirements are technically and economically feasible. Once this determination has been made, rules can be adopted and a reasonable implementation schedule established for the deployment of the technologies or upgrades necessary to satisfy the new requirements. The failure to adhere to this approach could jeopardize the goal of this proceeding — to improve E911 accuracy.

CONCLUSION

For the foregoing reasons, the Commission should create a WARN Act-like advisory group comprised of all interested stakeholders to evaluate the capabilities of location technologies and determine whether new, more stringent requirements are technically and economically feasible. The rules should include a reasonable implementation schedule that

[57] *Ex Parte* Comments of the National Association of State 9-1-1 Administrators, CC Docket No. 94-102 (filed May 23, 2007) (emphasis in original); *accord* Comments of the State of Montana, PS Docket No. 07-114 at 1 (filed Jun. 29, 2007) (stating that "[i]f the Commission adopts Phase II accuracy testing requirements that currently available location technologies cannot meet (such as a requirement for PSAP level testing), states like Montana with carrier cost recovery will be responsible for the cost of new technologies that have not yet been developed to meet those requirements. . . . The State of Montana supports the Ex Parte Comments filed by the National Association of State 9-1-1 Administrators (NASNA) [which] recommend[] the Commission accept Phase II as it is, test it to the NRIC VII 1A report recommendation and create a new phase (call it Phase III) that identifies the public safety need for accuracy and develops a plan to achieve that goal").

factors in the time necessary to modify or replace existing location solutions, including for example the time necessary to obtain zoning approvals in many instances. Moreover, any new E911 accuracy requirements should be made effective only after the Commission determines that the requirement is technologically and economically feasible and a reasonable deployment schedule is developed.

Respectfully submitted,

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