

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

In the Matter of)
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Wireless E911 Location Accuracy Requirements) PS Docket No. 07-114
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**COMMENTS OF T-MOBILE USA, INC. AND THE RURAL CELLULAR
ASSOCIATION ON THE 911 LOCATION ACCURACY REMAND**

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T-Mobile USA, Inc. (“T-Mobile”) and the Rural Cellular Association (“RCA”) hereby comment in response to the Commission’s Public Notice of September 22, 2008.¹ That Notice sought comment on recent location accuracy proposals submitted after the Commission filed a Motion for Voluntary Remand and Vacatur in the United States Court of Appeals for the District of Columbia Circuit with respect to its prior location accuracy order.² On September 17, 2008, the Court granted the Commission’s motion, returning jurisdiction over this matter to the Commission.³ T-Mobile and RCA applaud AT&T, Verizon Wireless, APCO and NENA for reaching agreements on these new approaches to assessing compliance with wireless E911 accuracy standards and believe that in doing so they have helped move the process forward toward a lawful resolution of the difficult issues in this area. As we pointed out previously, however, these agreements

¹ Public Notice, Comment Sought on Proposals Regarding Service Rules for Wireless Enhanced 911 Phase II Location Accuracy and Reliability, PS Docket No. 07-114, DA-08-2129 (rel. September 22, 2008).

² Motion of Federal Communications Commission for Voluntary Remand and Vacatur, *Rural Cellular Association and T-Mobile et al v. Federal Communications Commission and United States of America*, No. 08-1069 (D.C. Cir. July 31, 2008).

³ *Rural Cellular Association and T-Mobile USA, Inc., v. Federal Communications Commission and United States of America*, No. 08-1069, Order at 1 (D.C. Cir. Sep. 17, 2008).

do not eliminate the need for the Commission to assess whether these proposals are technically and economically feasible for other carriers.⁴

These comments are primarily limited to the proposals as they affect carriers using network-based 911 solutions. Although they provide a potentially usable framework, these proposals will not be technically and economically feasible for network-based carriers unless they are provided the same amount of time as AT&T has had from 3G network deployment to roll out A-GPS capable handsets to customers, and unless, among other things, counties in which terrestrial triangulation is impossible are excluded from compliance assessments until A-GPS handsets are sufficiently deployed so that compliance in those counties can be measured through the use of only A-GPS measurements and standards.⁵

I. Introduction and Summary

APCO's and NENA's recognition that county-level assessments could be an acceptable and more feasible way to measure compliance with CMRS location accuracy standards is a major step forward, as is the joint proposal that they negotiated with AT&T. In contrast to the previously-adopted rule mandating PSAP-level accuracy, this proposal presents a potentially workable framework for achieving county-level accuracy, and provides network-based carriers a clear path for migrating to handset-based A-GPS

⁴ Letter of Russell D. Lukas, Counsel for Rural Cellular Assoc., and Thomas Sugrue, Counsel for T-Mobile, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 07-114 (filed September, 19, 2008).

⁵ Many RCA members that operate with CDMA or iDEN technology rely on a handset-based E911 Phase 2 solution. The proposed outdoor location accuracy standards by Verizon Wireless and public safety groups are not reasonably achievable by the Tier II and Tier III carriers that RCA represents. Tier II carriers will need at least an additional six months after the effective date of any new rules to meet the 67%/80% requirement proposed by Verizon Wireless. Tier III carriers will need at least an additional 12 months to meet the proposed 67%/80% requirement. In addition, RCA recommends increasing the percentage of counties that can be excluded from the 150 meter requirement based upon "heavy forestation" for Tier II and Tier III carriers to 25% for purposes of meeting the 67%/80% requirement and 20% for the proposed 67%/90% requirement (*i.e.*, the Year 8 benchmark). Even with these changes the Commission should anticipate a need for waivers where small and regional carriers face unusual circumstances that render compliance technically or economically unachievable.

solutions. However, as is not surprising for a plan that was negotiated by a single carrier, the AT&T plan reflects its unique starting point as the only GSM carrier to have launched a 3G network and A-GPS handsets prior to this year, as well as its cell site density, local topography in its service areas, network designs, anticipated customer mix, and resources as the nation's largest wireless carrier. AT&T did not consult with other carriers as it negotiated its plan, and it had no obligation to do so. Nor could AT&T reasonably have attempted to address the wide range of circumstances facing other GSM carriers across the United States. But this also means that the Commission cannot simply assume – or “predict” – without any evidence that other carriers with different starting points and different cell site densities, local topographies, network designs, customer mixes, and resources can meet AT&T's benchmarks. Indeed, it will be impossible for other carriers to do so.

Because as a practical matter a carrier must implement A-GPS and reach certain handset penetration levels in order to meet some of the proposed benchmarks, and because implementation of A-GPS for GSM carriers is directly tied to implementation of 3G service, several of the proposed benchmarks will not be technically and economically feasible for carriers other than AT&T unless these other carriers have a more nearly comparable period from the introduction of their own 3G services to meet the benchmarks. AT&T Wireless launched 3G services in 2004. Cingular, which acquired AT&T Wireless in 2005, began the rollout of its 3G network in 2005 and had achieved a near-nationwide deployment by the end of 2006. T-Mobile, by contrast, began rolling out its 3G service only a few months ago, and is therefore at a nascent stage of A-GPS-capable handset deployment. For T-Mobile, this means that the second, third and fourth

benchmarks need to be delayed by at least two years in order for T-Mobile to have a timeline from 3G deployment similar AT&T's. For RCA members, the second, third, and fourth benchmarks need to be delayed further as their deployment of 3G services and A-GPS handsets has not yet begun. In addition, the rate of uptake of 3G A-GPS handsets will be somewhat slower for low-end than for high-end customers, a factor that disproportionately affects T-Mobile as compared with AT&T. Accordingly, T-Mobile and RCA request that the required handset penetration to assess compliance using only handset measurements and standards be reduced to 85% for the third benchmark. This creates a better, more technically and economically feasible transition path to the ultimate objective of 95% handset penetration.

In addition, for those benchmarks that rely on network-based solutions in whole or in part – i.e., notably the first, second and possibly third benchmarks when a carrier has not yet reached the handset penetration needed to rely only on A-GPS measurements and standards in a particular county – the Commission should temporarily permit carriers to exclude from their compliance any counties with fewer than three cell sites. In these counties, terrestrial triangulation is impossible as a practical matter, and thus compliance must rely exclusively on the use of A-GPS. This exclusion will ensure that carriers are required to achieve the best possible accuracy performance from their current network-based solution, without having to do the mathematically impossible.

Furthermore, for the first benchmark, two other important changes are necessary to render these benchmarks technically feasible for carriers other than AT&T – although some carriers may still need to be able to obtain waivers to address their unique

circumstances. In particular, T-Mobile and RCA ask the Commission to make the following additional changes to the first benchmark in the AT&T proposal:

- Defer the first benchmark by 6 months (to 18 months after the effective date) for Tier I and Tier II carriers and by at least one year (to at least 24 months after the effective date) for Tier III carriers to give all carriers more time to implement necessary changes in their networks, to conduct necessary empirical tests, and to make any further refinements to optimize performance of network based solutions at the county level. All carriers in the country will be attempting to make changes at the same time, which could cause significant logistical constraints.
- Permit a carrier to blend handset-based and network-based results at the first benchmark, just as with later benchmarks.

With these proposed changes, the benchmarks are summarized in the following table:

Table 1 – Summary of T-Mobile/RCA Proposed Benchmarks

<i>Benchmark No.</i>	<i>Proposed Year (assuming Dec. 2008 effective date)</i>	<i>67%/100 Meters Requirement</i>	<i>90%/300 Meters Requirement</i>	<i>Permitted Measurements</i>
<i>Benchmark 1</i>	Year 1.5 for Non-Tier III (June 2010) and at least Year 2 for Tier III (Dec. 2010)	60% of counties covering 70% of POPs	Not applicable	Network-based; or Blended Network-based and A-GPS – but permit carriers to exclude counties with < 3 cell sites
<i>Benchmark 2</i>	Year 5 (2013, or 5 years after start of a carrier’s A-GPS handset deployment)	70% of counties covering 80% of POPs	60% of counties covering 70% of POPs	Network-based; or Blended Network-based and A-GPS – but permit carriers to exclude counties with < 3 cell sites
<i>Benchmark 3</i>	Year 7 (2015, or 7 years after start of a carrier’s A-GPS handset deployment)	100% of counties	70% of counties; 80% of POPs	Network-based; Blended Network-based and A-GPS; or A-GPS only if handset penetration is > 85% nationwide – but permit carriers to exclude counties with < 3 cell sites if handset only threshold not reached
<i>Benchmark 4</i>	Year 10 (2018, or 10 years after start of a carrier’s A-GPS handset deployment)	100% of counties	85% of counties	Network-based; Blended Network-based and A-GPS; or A-GPS only if handset penetration is > 95% nationwide.

For all benchmarks, the Commission should clarify that, as with the Verizon Wireless proposal for handset-based solutions, these new county-level accuracy standards would be for outdoor measurements only. These standards would not be technically feasible if they incorporated indoor test measurements. T-Mobile and RCA believe that the approach in the AT&T plan to utilize confidence and uncertainty should be adopted, as should the proposal to establish an E911 Technical Advisory Group (“ETAG”) to address future issues.

There is no basis for concluding that all other carriers are similarly situated to AT&T at the initiation of the new regime. Ignoring critical differences between AT&T and other GSM carriers would be arbitrary and capricious. Even with the changes proposed above, compliance with both the intermediate and final benchmarks will be extremely challenging. Only with these proposed changes would carriers who have different network topologies and differing starting points with respect to 3G and A-GPS deployment than AT&T have a realistic migration path to the same ultimate county-level accuracy performance.

II. The AT&T County Level Proposal Is a Potentially Workable Framework Provided Changes Are Made to Make It Technically Feasible for Other Carriers.

In their July 14, 2008 ex parte letter, APCO and NENA indicated that they were “now willing to accept compliance measurements at the county level.”⁶ “Counties,” they pointed out, “unlike PSAP service areas, also reflect a stable geographic area and would be a more appropriate regulatory criteria.”⁷ At the same time, they also “recognize[d]

⁶ Letter from Willis Carter, President, APCO International, and Ronald Boneau, President, NENA, to Chief Derek Poarch, Chief, Public Safety and Homeland Security Bureau, FCC, PS Docket No. 07-114 and CC Docket No. 94-120 (filed July 14, 2008)(“APCO/NENA July 14, 2008 Letter”).

⁷ *Id.*

that it may not be technically feasible for carriers to meet the modified location accuracy requirements in every county.”⁸ They indicated that they were in the process of meeting with wireless carriers to attempt to address these issues. With this step, APCO and NENA opened the door for the Commission to seek vacatur of its *Part A E911 Accuracy Order*,⁹ and potentially to reach a new E911 location accuracy standard that may be technically achievable for all carriers.

On August 20 and 25, 2008, Verizon Wireless and AT&T respectively filed proposals, agreed upon with APCO and NENA, for county-level accuracy standards for handset-based and network-based carriers.¹⁰ Both proposals span an 8 year implementation period, proposing similar, county level benchmarks that modify the existing handset and network accuracy standards, and that must be achieved by the end of the eighth year after adoption of the rules. In the Verizon Wireless proposal, handset-based carriers must meet an accuracy standard of 50 meters for 67% of calls in all Phase 2 counties and 150 meters for 90% of calls in at least 85% of Phase 2 counties by the end of the eighth year.¹¹ In the AT&T proposal, for all Phase 2 counties in which a carrier has at least one cell site, network-based carriers must meet an accuracy standard of 100

⁸ *Id.*

⁹ *Wireless E911 Location Accuracy Requirements, Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, Association of Public-Safety Communications Officials-International, Inc. Request for Declaratory Ruling, 911 Requirements for IP-Enabled Service Providers*, Report and Order, 22 FCC Rcd. 20105 (rel. Nov. 20, 2007).

¹⁰ Letter of Brian Fontes, CEO, NENA, Robert M. Gurss, Director, Legal & Government Affairs, APCO, and John T. Scott, III, Vice President and Deputy General Counsel, Verizon Wireless, to Chairman Kevin Martin, PS Docket No. 07-114 (filed August 20, 2008)(“Verizon Wireless Proposal”); Letter of Brian Fontes, CEO, NENA, Robert M. Gurss, Director, Legal & Government Affairs, APCO, and Robert W. Quinn, Jr., Senior Vice President – Federal Regulatory, AT&T, to Chairman Kevin Martin, PS Docket NO. 07-114 (filed August 25, 2008)(“AT&T Proposal”).

¹¹ Verizon Wireless Proposal at 1. The proposal states, “90% of Phase II calls must be accurate to within 150 meters in all counties, provided, however that a carrier may exclude up to 15% of counties from the 150 meter requirement based on heavy forestation that limits handset-based technology accuracy in those counties,” which means that the 150 meter requirement for 90% of calls must be met in at least 85% of Phase 2 counties.

meters for 67% of calls in all counties and 300 meters for 90% of calls in at least 85% of counties by the end of the eighth year after the Commission adopted new rules.¹² In addition, under the AT&T proposal, once a carrier reaches 95% handset penetration, it can opt to meet the Year 8 benchmarks (and one of the Year 5 benchmarks) in a county according to the handset-based standards.¹³ As a practical matter, because network-based providers will likely need to reach 95% A-GPS handset penetration in order to meet the Year 8 benchmark (so they can use only handset-based measurements and standards in some counties), the AT&T and Verizon Wireless proposals will largely unify the E911 accuracy standards after eight years.

For network-based providers, which include all GSM carriers, AT&T's proposal also contains a set of intermediate benchmarks that carriers must meet. These benchmarks, together with the final fourth benchmark, are summarized in the table below:¹⁴

¹² AT&T Proposal at 2.

¹³ *Id.* at 3.

¹⁴ *Id.* at 2-3.

Table 2 – AT&T Proposed Benchmarks

<i>Benchmark No.</i>	<i>AT&T Proposed Year (assuming Dec. 2008 effective date)</i>	<i>67%/100 Meters Requirement</i>	<i>90%/300 Meters Requirement</i>	<i>Permitted Measurements</i>
<i>Benchmark 1</i>	Year 1 (2009)	60% of counties covering 70% of POPs	Not applicable	Network-based only
<i>Benchmark 2</i>	Year 3 (2011)	70% of counties covering 80% of POPs	60% of counties covering 70% of POPs	Network-based; or Blended Network-based and A-GPS
<i>Benchmark 3</i>	Year 5 (2013)	100% of counties	70% of counties; 80% of POPs	Network-based; Blended Network-based and A-GPS; or A-GPS only if handset penetration is > 95% nationwide.
<i>Benchmark 4</i>	Year 8 (2016)	100% of counties	85% of counties	Network-based; Blended Network-based and A-GPS; or A-GPS only if handset penetration is > 95% nationwide.

Among the most critical factors for the Commission to evaluate with respect to these proposed benchmarks is whether, for carriers other than Verizon Wireless and AT&T, they will be technically and economically feasible. As the courts have taught, inquiries into technical and economic feasibility are “made necessary by the bar against arbitrary and capricious decision-making,”¹⁵ and “[i]mpossible requirements imposed by

¹⁵ *Nuvio v. FCC*, 473 F.3d 302, 303 (D.C. Cir. 2006).

an agency are perform unreasonable.”¹⁶ Moreover, while the Commission may rely on reasonable predictive judgments, those judgments must be based on record evidence.¹⁷ The courts have also made clear that “the FCC’s ‘conclusory statements cannot substitute for reasoning that is wanting in [the] decision.’”¹⁸

There is no basis for concluding that GSM carriers, other than AT&T, can meet AT&T’s benchmarks. Other carriers are not starting from the same point as AT&T in their 3G deployment, and face different challenges in meeting the proposed intermediate benchmarks. As AT&T has told the Commission,

“Achieving meaningful network-wide accuracy performance improvements in any existing network-based E911 location system is a significant challenge, due largely to the following three factors:

- Variations in cell site density,
- Impact of local topography on RF propagation, and
- Existing network designs.”¹⁹

No two carriers will be alike across these critical factors. Thus, it should not be surprising that a set of benchmarks may be technically and economically feasible for AT&T, but not for other carriers that operate with different cell site densities, in different areas with different local topographies, with different network designs, and/or with different mixes of customers and handsets. Notably, three of the four benchmarks in the AT&T plan can be hit only if the carrier has a substantial penetration of A-GPS handsets

¹⁶ *Alliance for Cannabis Therapeutics v. DEA*, 930 F.2d 936, 940 (D.C. Cir. 1991).

¹⁷ *BellSouth Telecoms., Inc. v. FCC*, 469 F.3d 1052, 1060 (D.C. Cir. 2006)(“We cannot overlook the absence of record evidence . . . simply because the Commission cast its analysis as a prediction of future trends”; “the deference owed agencies’ predictive judgments gives them no license to ignore the past when the past relates directly to the question at issue.”).

¹⁸ *AT&T Corp. v. FCC*, 236 F.3d 729, 737 (D.C. Cir. 2001), quoting *Arco Oil & Gas Co. v. FERC*, 932 F.2d 1501, 1504 (D.C. Cir. 1991).

¹⁹ Letter of Joan Marsh, AT&T, to Marlene H. Dortch, Secretary, FCC, PS Docket No. 07-114 & CC Docket No. 94-102, at 1 (filed September 5, 2008)(“AT&T September 5, 2008 Ex Parte”).

in its subscriber base. Indeed, if AT&T's benchmarks were simply applied to all other GSM/UMTS carriers, it would require these other carriers to achieve a 95% handset penetration on a much faster schedule from 3G deployment than the one to which AT&T itself was willing to commit, even though AT&T is the largest GSM/UMTS carrier in the country by a significant margin and has had unique advantages in starting its 3G rollout. It would be arbitrary and capricious for the Commission to ignore these differences between AT&T and other carriers when evaluating the technical and economic feasibility of AT&T's proposed benchmarks as applied to other carriers.²⁰

A. The Proposed Second, Third and Fourth Benchmarks Should Be Extended by at Least Two Years To Give Other Carriers a Comparable Period to AT&T's To Achieve Necessary A-GPS Handset Penetration.

Although not explicit in the proposal, the second, third and fourth benchmarks – which occur at Years 3, 5 and 8 of the AT&T proposal – all require substantial penetration of A-GPS handsets in order to achieve compliance. This is best seen from the fact that these benchmarks permit a carrier to measure compliance by “blending” its A-GPS and network-based measurements when assessing compliance in a county. It is likely that no carrier – not even AT&T – will be able to meet any benchmark beyond the first based solely on network-based measurements.²¹ For reasons unique to AT&T, however, it has had a multiyear head start on every other GSM carrier in deploying its 3G

²⁰ See *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983) (“an agency rule would be arbitrary and capricious if the agency has . . . entirely failed to consider an important aspect of the problem, offered an explanation . . . that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise”); *CBS Corp v. FCC*, 535 F.3d 167, 174 (3d Cir. 2008); *Advocates for Highway & Auto Safety v. Fed. Motor Carrier Safety Admin.*, 429 F.3d 1136, 1145-1147 (D.C. Cir. 2005).

²¹ Indeed, while this will vary from carrier to carrier, T-Mobile estimates that to reach AT&T's proposed benchmarks, it would have to achieve A-GPS-capable handset penetration nationwide of 75% in Year 3 and 95% in Year 5, continuing in Year 8. Excluding counties with fewer than three cell sites would lower T-Mobile's required A-GPS handset penetration in Year 3 to 55% - a very substantial penetration level; Year 5 would still require 95% handset penetration.

network.²² Thus, the AT&T proposal, when applied to other carriers, assumes that these other carriers that are only now deploying 3G networks, or which have yet to deploy 3G networks will be able to meet the same benchmarks. There is no basis for such an assumption. Instead, the proposed Year 3, 5 and 8 benchmarks should recognize the actual amount of time that AT&T will have had from deployment of 3G services to achieve needed levels of handset penetration, and accord other carriers a similar amount of time.

These second, third, and fourth benchmarks occur after a carrier has already implemented the first benchmark, which requires a carrier to meet the 67%/100 meter requirement in 60% of counties covering 70% of POPs. T-Mobile projects that, in its case, approximately 83% of POPs will meet the 67%/100 meter requirement after the first benchmark. So while these later benchmarks are important, they do not affect service for the overwhelming majority of subscribers.

For GSM carriers, deployment of A-GPS-capable handsets is tied directly to deployment of 3G services. In contrast to T-Mobile, AT&T was able to launch its 3G services on spectrum that it already had in its inventory which was fully cleared and which had been in commercial use for many years, so that handset vendors had ample time to develop A-GPS products. This allowed AT&T Wireless to begin offering 3G services as early as 2004 in some markets.²³ The current AT&T was able to achieve an even deeper spectrum position and other economies of scale because it was formed in 2005 from the merger of two of the three then largest national carriers – Cingular and

²² See Press Release, AT&T Wireless Delivers 3G UMTS Service in the United States (June 20, 2004) available at: http://www.pdatoday.com/comments/P1833_0_1_0/ (“AT&T June 20, 2004 Press Release”); Margaret Reardon, “Cingular launches 3G network,” CNET News (December 6, 2005), available at http://news.cnet.com/Cingular-launches-3G-network/2100-1039_3-5984005.

²³ See AT&T June 20, 2004 Press Release.

AT&T Wireless – in 2005. This allowed it to accelerate the roll out of its 3G services in a significant number of markets and on a near national scale in 2005 and 2006.²⁴ T-Mobile, on the other hand, had a much longer journey to be able to deploy 3G services, and the associated A-GPS-capable handsets. T-Mobile first had to acquire the spectrum it would use for 3G services in the AWS-1 auctions in 2006. It then had to work with federal users to clear that spectrum, a challenging, time-consuming process that meant that AWS spectrum did not become usable until this year, and then only on a market-by-market basis.²⁵ After launching its first 3G market in May 2008, T-Mobile has continued to work aggressively to clear additional markets so that, by the end of 2008, it plans to have launched its 3G service in 27 major markets.²⁶ While this is a significant accomplishment, it comes almost three years after AT&T launched its 3G services in a comparable number of markets and pales next to AT&T’s current deployment of 3G on an almost ubiquitous basis throughout its network. Moreover, T-Mobile has significantly more clearing to do to free up additional spectrum in the AWS band to meet future capacity needs – even in the markets it has launched this year. And among RCA members, the overwhelming majority, perhaps all, have not launched any 3G services to date.

²⁴ See Tom Keathley, VP Radio Access & Standards, AT&T, “AT&T: Deploying UMTS/HSPA,” at 2, 5, available at:

http://3gamericas.com/English/Technology_Center/Presentations/UMTS/06_Deploying_UMTS-HSPA.pdf

²⁵ Notably, the Commission has continued to exclude the AWS-1 spectrum from its initial screen for spectrum concentration, although it has considered the AWS-1 spectrum locally on a market-by-market basis. See *Applications of Cellco Partnership d/b/a Verizon Wireless and Rural Cellular Corporation For Consent To Transfer Control of Licenses, Authorizations, and Spectrum Manager Leases and Petitions for Declaratory Ruling that the Transaction Is Consistent with Section 310(b)(4) of the Communications Act*, Memorandum Report and Order and Declaratory Ruling, FCC 08-181, 23 FCC Rcd. 12463 ¶ 4, (rel. August 1, 2008).

²⁶ See Press Release, “T-Mobile USA Announces Commercial 3G Network Availability in 21 Markets By Mid-October” (rel. September 18, 2008).

This lead in deploying 3G services meant that, when AT&T launched A-GPS-capable 3G handsets ahead of the rest of the GSM carriers, it had the ability immediately to begin to shift substantial numbers of subscribers to these handsets. This head start directly affects the ability of carriers to hit all three benchmarks after the first. The impact is probably most clearly illustrated at the AT&T proposed third (Year 5) benchmark. Because that benchmark requires that a carrier meet the 67%/100 meter requirement in *all* eligible counties, there will likely be a significant number of counties in which a carrier will be able to meet the benchmark only if it can use only A-GPS measurements and standards, rather than blending A-GPS and network-based measurements – even if, as recommended in Section II.C, below, the Commission also permits a carrier to exclude counties with fewer than three cell sites.²⁷ In order to rely on A-GPS measurements only, the carrier must achieve 95% handset penetration. Thus, in order to meet the Year 5 benchmark, AT&T’s proposal may effectively require GSM carriers to achieve 95% handset penetration by 2013.²⁸ This is something that it will have taken AT&T more than seven years to achieve from its near-nationwide 3G deployment, and the Commission would now be expecting every other GSM carrier to do the same in far less time.

²⁷ A simple example illustrates why this is true. Assume that a carrier has achieved 90% nationwide penetration of A-GPS capable handsets, and that the A-GPS technology is achieving accuracy of 40 meters for 67% of calls. Under the proposed “blending” methodology, the carrier would be permitted to weight its A-GPS accuracy and its network-based accuracy results, according to the percentage of nationwide A-GPS handset penetration, or 90/10 in this example. In this county, the carrier would have to achieve network-based accuracy readings of under 640 meters ((100 meters-(percentage of A-GPS handsets (90%)*average A-GPS accuracy (40 meters)))/% non-A-GPS handsets nationwide (10%)). But that will not be possible if, for example, a handset will never or rarely be in range of at least 3 cell sites, or if the cell sites are simply lined up along a highway.

²⁸ The only alternative in the AT&T plan is to offer free A-GPS handsets in every county in which the carrier seeks to use only A-GPS measurements and standards. This is not a practical solution if there are a large number of affected counties.

Nor is it the case that AT&T's early start in deployment of 3G services and A-GPS-capable 3G handsets makes it easier and provides economies of scale to support more rapid deployment by other carriers. AT&T and T-Mobile, for example, utilize different spectrum bands for their 3G services, so equipment that is usable on AT&T's network is not automatically usable on T-Mobile's network. The same is true for some RCA member carriers. Indeed, because T-Mobile is launching its 3G services in the AWS spectrum, manufacturers must develop 3G A-GPS handsets specifically for T-Mobile's use.

The bottom line is AT&T's benchmarks are uniquely suited to AT&T's network and handset deployments. As discussed earlier, this is not surprising since the AT&T plan was the result of a private negotiation involving that one carrier. However, it does mean that the benchmarks proposed in this plan are not going to be automatically technically and economically feasible for other carriers. As demonstrated by the following chart, to give other carriers a comparable period to achieve the handset penetration necessary as a practical matter to meet the benchmarks, AT&T's proposed benchmarks for Years 3, 5 and 8 should be shifted out to Years 5, 7 and 10, starting from the later of the effective date of the rules or, for non-Tier I carriers, from the time a carrier starts offering 3G services.

Table 3- Comparing Time from A-GPS Deployment to Proposed Benchmarks

<i>Benchmark Number</i>	<i>AT&T Years of 3G Deployment (2005-2006 Start for National Deployment) at AT&T Proposed Benchmark Date</i>	<i>T-Mobile Years of 3G Deployment (2008 start) at T-Mobile /RCA Proposed Benchmark Date</i>
<i>Benchmark 2</i>	5 years (2011)	5 years (2013)
<i>Benchmark 3</i>	7 years (2013)	7 years (2015)
<i>Benchmark 4</i>	10 years (2016)	10 years (2018)

The experience of CDMA and iDEN handset-based providers does not provide a basis for the Commission holding current network-based providers to a shorter implementation schedule. In the first instance, very few of those carriers met the five-year deadline mandated by the Commission. Notably, both Verizon Wireless and Sprint did not succeed in reaching the 95% handset penetration threshold within five years – as AT&T’s proposed benchmarks would effectively require for GSM carriers.²⁹ In fact, Sprint did not reach the 95% handset penetration deadline until January 2008, over seven years after the FCC set the deadline.³⁰ And this was the case even though all U.S. CDMA and iDEN carriers were implementing A-GPS, the U.S. constituted the vast bulk of international demand for CDMA and iDEN handsets, and the CDMA chip manufacturer, Qualcomm, owned the A-GPS technology provider, SnapTrack, such that manufacturers were implementing A-GPS for those carriers across all handsets.

²⁹ See *Request for Waiver of Location- Capable Handset Penetration Deadline by Sprint-Nextel Corp.*, Order, 22 FCC Rcd. 400 (2007); *Request for Waiver of Location – Capable Handset Penetration Deadline by Nextel Partners, Inc.*, Order, 22 FCC Rcd. 416 (2007); *Request for Waiver of Location – Capable Handset Penetration Deadline by Verizon Wireless*, 22 FCC Rcd 316 (2007).

³⁰ See Sprint Nextel Corporation E911 Quarterly Report at 2, CC Docket No. 94-102, WT Docket No. 05-286, WT Docket No. 05-302 (filed August 1, 2008).

In addition, in contrast to when CDMA and iDEN carriers were deploying A-GPS handsets, the wireless industry is not growing nearly as quickly.³¹ This makes it much harder for the network-based carriers to “grow” their way to a 95% handset penetration. Significant change-outs of the existing base will be required, even for customers that want only a barebones, 2G-level service. Furthermore, the trend to opening wireless networks to a broader range of devices may mean that wireless carriers have less control over the devices that are used on their network.³²

In sum, there is no evidence that other carriers can meet the AT&T benchmarks, that necessarily include substantial deployment of A-GPS-capable handsets, even when all other modifications also proposed by T-Mobile and RCA are also made. The only way to make these benchmarks even possibly technically and economically feasible is to extend the benchmarks by at least two years, so that all other carriers have the same amount of time as AT&T would have had after 3G deployment to achieve the necessary penetration levels for A-GPS-capable handsets. For Tier III carriers, this would also be consistent with the spirit of the ENHANCE 911 Act.³³

B. The Commission Should Reduce to 85% the Required Level of Handset Penetration To Use A-GPS Only Measurements and Standards at the Third Benchmark.

For the third benchmark only (Year 5 under the AT&T proposal and Year 7 as modified by T-Mobile and RCA), the Commission should permit a carrier to use only handset-based measurements and standards to assess compliance so long as the carrier has reached a nationwide handset penetration of at least 85%. This creates a less abrupt

³¹ In addition, churn rates for some carriers are at near record lows, resulting in lower turnover of handsets.

³² In addition, GSM customers’ ability to use “gray market” handsets purchased in other countries could complicate carriers’ compliance efforts and assessments.

³³ See P.L. 108-494, § 107.

migration path to 95% handset penetration – which could otherwise *de facto* be required at the third benchmark – and recognizes the difficulty of completing the change out of the last few percent of subscribers.

It is important to note that without this adjustment, a carrier's mix of low-end versus high-end customers could significantly affect its ability to meet the benchmarks. Low-end customers are less likely to move rapidly to the new 3G services and A-GPS handsets. A carrier with more low-end customers, like T-Mobile, might not meet the benchmarks, while its higher end-focused competitor, like AT&T, would, even if both were making the same handsets available in the marketplace. This modification of temporarily reducing the percentage of handsets required for using handset-only measurements and standards mitigates what could otherwise be an arbitrary result that depends not on network and handset capability, but on a carrier's customer mix.

Accordingly, the Commission should modify the AT&T proposal to temporarily permit a carrier, for the purposes of the third benchmark but not the ultimate benchmark, to use handset-only measurements once it has achieved at least an 85% penetration of A-GPS handsets. This provides carriers other than AT&T with a more reasonable and achievable handset penetration trajectory, rewards carrier efforts to reach the ultimate penetration goal, and makes the third benchmark more likely to be technically feasible for carriers other than AT&T.³⁴

³⁴ 95% would remain the handset penetration standard for the fourth benchmark, pushing all GSM carriers to reach 95% A-GPS handset penetration by that time.

C. Carriers Should Be Permitted Temporarily To Exclude Counties With Fewer Than Three Cell Sites Until a Carrier Can Rely on Handset-Only Accuracy Measurements.

While the AT&T proposal may be feasible for AT&T given its own cell site density, local topography and network design, compliance by other carriers with the first three benchmarks (Years 1, 3 and 5 in the AT&T proposal) is made much more difficult by the inclusion of counties with only one or two cell sites in the universe of counties for which compliance is required. As a matter of pure mathematics, it is not possible to triangulate a location using only two measurements – a minimum of three is required.³⁵ Thus, except in very unusual cases, it will be impossible for a carrier that is relying at least in part on U-TDOA to meet the accuracy benchmarks in a county with only one or two cell sites.

There is no logical basis for requiring carriers to include counties with only one or two cell sites, for which a carrier will never be able to improve its terrestrial network-based accuracy. A carrier should be required to eke out the best possible performance from its network-based technology using its current cell sites – but not to do the impossible in counties where triangulation cannot occur. Even in counties with three or more cell sites, there will be some areas where it will not be possible to meet the accuracy standards because of cell site density (*e.g.*, the uplink hearability of the three sites may not overlap), topography (*e.g.*, mountains, valleys, forests that preclude RF propagation), or network design (*e.g.*, string-of-pearls deployments or border areas). Including counties in which triangulation is impossible simply adds a random and arbitrary factor to

³⁵ For the same reasons as set forth in T-Mobile's Part A Reply Comments, angle-of-arrival (AOA) is not a feasible solution for addressing these one or two cell site counties. Reply Comments of T-Mobile Inc., PS Docket No. 07-114, WC Docket No. 05-196 at 8-9 (filed July 11, 2007); Declaration of John F. Pottle and Ryan N. Jensen, PS Docket No. 07-114, WC Docket No. 05-196 at ¶¶ 7,9 (filed September 7, 2007).

the compliance benchmark; a carrier could fail to meet a benchmark solely because it has a proportionately large number of counties with only one or two cell sites – or if Phase 2 service is requested in a large number of such counties over the next five years.

This is not a small issue. As an example, by the time of the first benchmark, T-Mobile would serve approximately 225 Phase 2 counties that have only one or two cell sites – or nearly 15% of Phase 2 counties. If these counties are included in measuring compliance, to reach the first benchmark of 60% of counties meeting the 67%/100 meter requirement, T-Mobile would have to meet that 67%/100 meter performance in nearly 70% of its other Phase 2 counties.³⁶ And if Phase 2 service is deployed in an additional 100 counties with only one or two cell sites prior to the benchmark, T-Mobile would have to meet the 67%/100 meter requirement in more than 75% of its other Phase 2 counties.³⁷ These variations demonstrate the arbitrariness of requiring carriers to include counties with fewer than 3 cell sites in the compliance benchmarks so long as they must rely at least in part on terrestrial triangulation-based results for compliance.

Including counties with only one or two cell sites prior to reaching the handset-penetration threshold could come at a significant cost to public safety. The proposed benchmarks, if carried through, could lead to the elimination of wireless service options in these counties with only one or two cell sites, rather than improved E911 location accuracy.

Even with this change, the Commission should leave the door open for Tier III carriers to seek waivers for the first as well as for later benchmarks – just as it has done

³⁶ This assumes that all of the counties with only 1 or 2 cell sites fail, which may not be the case. Nonetheless, even if only 75% of Phase II counties failed because they had only 1 or 2 cell sites, T-Mobile would have to meet the 67%/100 meter performance in more than 67% of its other Phase 2 counties.

³⁷ This is plausible. T-Mobile serves 132 counties that contain only one or two cell sites, but where T-Mobile has not deployed Phase 2 service.

pursuant to the ENHANCE 911 Act for handset penetration requirements. It is impossible to address in a single sweep the entire range of different circumstances that will face carriers in rural areas – who may have few or no dense areas to factor into their benchmark determinations and who may serve only a small number of counties.³⁸

Accordingly, until the carrier can meet the handset penetration requirement for handset-only-based compliance, the carrier should be permitted to exclude any counties with fewer than three cell sites when determining its compliance with these intermediate benchmarks.

D. The First Benchmark Should Be Extended by 6 Months for Carriers Other Than Tier III Carriers, and by At Least One Year for Tier III Carriers.

Simply because of logistical issues, the first benchmark should be extended by six months for Tier I and Tier II carriers, and by at least one year for Tier III carriers. To meet the first benchmark, carriers will likely have to install additional network equipment, conduct empirical testing at the county level, optimize their networks in areas where performance may fall short, and then conduct additional empirical testing in those areas. This is a tall order to be achieved within one year of the adoption of a new rule.

Extending this deadline by 6 months for the non-Tier III carriers would provide much needed additional time to complete these many tasks. In order to meet this deadline, carriers will still have to work extremely vigorously and diligently. The extension will simply ensure that carriers are measured on their actual performance capabilities. It also will be necessary in case suppliers become backlogged due to all carriers implementing changes simultaneously nationwide.

³⁸ For example, for a rural carrier, all or nearly all of the counties that it serves may be among the 40% of counties in which AT&T will not comply at the first benchmark. In that circumstance, it would be wholly unreasonable to expect these carriers to meet the 67%/100 meter standards where AT&T cannot.

Providing at least an additional six months beyond that for Tier III carriers recognizes that they will have even greater logistical challenges due to their small size, and that it may be difficult for them to get the attention of vendors fully while larger carriers are also being served. This additional time would also be consistent with the Regulatory Flexibility Act, which requires the Commission to “minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes.”³⁹

E. Carriers Should Be Permitted To Use Blending To Meet the First Benchmark, as well as Later Benchmarks.

The AT&T proposal precludes the use of blending handset-based and network-based performance for the first benchmark, while permitting it for other benchmarks. This makes no sense. While it may be the rare case in which blending would help a carrier meet the first benchmark, there is no apparent reason for precluding that result. If a carrier has deployed A-GPS handsets at that point, the additional accuracy thus achieved should be reflected in the measurement of compliance. The Commission should permit carriers to use blending in meeting all benchmarks.

F. The Commission Should Make Clear that the Proposed Network-Based County-Level Accuracy Benchmarks Are for Outdoor Measurements Only.

The Verizon Wireless proposal makes clear that indoor accuracy measurements, while an important issue, are separate from the proposed county-level benchmarks. The Commission should make clear that the same is true for the AT&T proposal, where that appears to be implicit, rather than explicit.⁴⁰ Were indoor measurements to be included in the AT&T proposal, it would not be technically feasible, because none of the current

³⁹ 5 U.S.C. § 601.

⁴⁰ See AT&T Proposal at 3 (describing tasks to be performed by the ETAG).

technologies has a high enough and consistent level of performance indoors. Moreover, as network-based carriers migrate to A-GPS, they will face the same indoor performance constraints as Verizon Wireless and other CDMA carriers.

G. The AT&T Approach to Confidence and Uncertainty Data Should Be Adopted, as Should the ETAG.

The AT&T proposal requires confidence and uncertainty data to be provided on a per call basis upon PSAP request, after the end of Year 2, with ongoing accuracy monitored based on the trending of uncertainty data, without additional empirical testing. This is a positive and workable approach that should yield benefits for public safety. It should be noted, however, that some 911 service providers may still be blocking the ultimate delivery of this data to the PSAP, and this is clearly beyond the control of the wireless carriers, especially since 911 services are provided through business transactions between the 911 provider and the PSAP.

In addition, T-Mobile and RCA support the creation of an E911 Technical Advisory Group to address open issues on a going forward basis. As the AT&T proposal highlights, there is a wide range of issues that could benefit from such collaborative work.

III. Conclusion

The AT&T proposal is a positive step forward in developing a workable county-level E911 accuracy framework. But to make this framework technically and economically feasible for carriers other than AT&T, the following adjustments and clarification are needed:

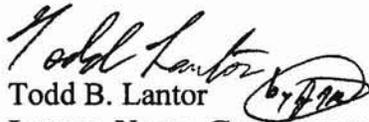
- Extend the second, third and fourth benchmarks proposed by AT&T to Years 5, 7 and 10, giving all other carriers a comparable time from their initial offering of 3G services as AT&T has had to deploy A-GPS handsets to

customers – an essential component of meeting the benchmarks. For network-based carriers that have not deployed 3G services, these benchmarks should run from the first offering of such services, rather than from the effective date of the rules.

- For the third benchmark, reduce to 85% the network-wide handset penetration level necessary to be able to measure compliance in a county according to handset-based results and accuracy standards.
- Temporarily permit carriers to exclude from their compliance any counties with fewer than three cell sites until the carrier achieves the minimum handset penetration necessary to be able to measure compliance in a county according to handset-based results only.
- Defer the first benchmark by 6 months (to 18 months after the effective date) for Tier I and Tier II carriers and by at least one year (to at least 24 months after the effective date) for Tier III carriers to give all carriers more time to implement necessary changes in their networks, to conduct necessary empirical tests at the county level, and to make any further refinements.
- Permit a carrier to blend handset-based and network-based results at the first benchmark, just as with later benchmarks.
- Clarify that these new county-level standards would be for outdoor accuracy measurements only.

Taking these steps would help resolve these longstanding accuracy issues, without further litigation.

Respectfully submitted,



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