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VIA ELECTRONIC FILING

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Portals II, Room TW-A325
Washington, DC 20554

Re: *Wireless E911 Location Accuracy Requirements, PS Docket No. 07-114*
Oral and Written *Ex Parte* Filing

Dear Ms. Dortch:

On July 26, Chris Nierman of General Communication, Inc. ("GCI") met with Jeff Cohen, Tim May, David Siehl, Tom Beers, Patrick Donovan, and Allegra Keeney of the Public Safety and Homeland Security Bureau, and on July 27, Chris Nierman and Tina Pidgeon of GCI met separately with Charles Mathias, Legal Advisor to Commissioner Baker; Angela Giancarlo, Chief of Staff and Senior Legal Advisor to Commissioner McDowell; and Louis Peraertz, Legal Advisor to Commissioner Clyburn, to discuss E911 location accuracy standards. GCI submits this *ex parte* to summarize matters discussed in those meetings and as a response to recent submissions highlighting the challenges for rural and regional wireless providers in meeting E911 location accuracy standards devised by and for larger carriers. These challenges are real and must be part of the Commission's consideration in adopting revised rules, whether addressed specifically by the terms of the underlying order or subsequently through the waiver process. T-Mobile, the nation's fourth largest provider, has been able address location accuracy challenges where "sites are sparsely deployed and/or located along traffic corridors" only with a transition to A-GPS technology.[1] Even then, it anticipates meeting the AT&T Proposal in the 8th year and benchmarks along the way only with the implementation of county exclusions, blended results at the first benchmark, and phased-in handset penetration requirements.[2]

[1] *Ex Parte*, T-Mobile USA, Inc., PS Docket No. 07-114 at 1 (filed Jun. 16, 2010).

[2] *Id.*

But these and other adjustments will not necessarily meet the needs of rural and regional providers relying on network-based solutions. Rural and regional providers offer much-demanded wireless options – and sometimes the *only* service option – to consumers in the areas they serve. As GCI details herein with reference to its own service areas throughout Alaska, the obstacles to meeting the proposed standards, both for its GSM- and CDMA-based service, are endemic to geographic characteristics, service-area scope, and population and call density of the areas such carriers tend to serve.

1. ***Measurement on a "county" basis is not well-suited for Alaska's vast boroughs.*** As a threshold matter, using "county" as the underlying political boundary for location accuracy measurement requirements is unsuitable for Alaska. The state does not have traditional counties, but instead is comprised of 16 "boroughs." By comparison, though half the size of Alaska, Texas is divided into 254 counties. A borough is a governmental unit into which some, but not all, of the communities in the state are organized. While similar in function to a county for census purposes, an Alaskan borough is much larger than a typical county and often contains widely dispersed, noncontiguous communities. Many boroughs are dotted with small, non-contiguous communities, often separated by hundreds of miles of unpopulated land without roads, and villages within those boroughs may have less than a few hundred inhabitants and are reachable only by boat, small aircraft, or snow machine.

   With the limited potential exception of the Anchorage borough, the Alaska boroughs encompass large areas with very low populations. In a typical county, location accuracy results in high density, high call volume population centers will offset less optimal results in difficult-to-reach areas. Such areas tend to be where cell site densities provide strong triangulation-capable network architectures that nominally exceed 15 cell site sectors per 10 square miles. These network architectures might correspond to population or work area (city center) densities of approximately 3000 or more pops per square mile. Anchorage, the most populous area in the state, has an approximate population density of 165 people per square mile. Current technologies simply do not provide the accuracy required by the proposed standards across areas with such low anchor population centers, neighbored only by communities having populations that drop precipitously thereafter.[3] The correlation between population, traffic levels, and network engineering means that expectations for location accuracy applicable for national and larger providers cannot be directly applied to rural and regional carriers serving solely or primarily rural and/or low population areas.

[3] *See* http://upload.wikimedia.org/wikipedia/commons/2/27/Alaska_population_map.png

2. ***The GSM and CDMA exclusion proposals impose unachievable standards on extreme, remote Alaska.*** First, T-Mobile's proposal to exclude counties having fewer than three cell sites when using network-based measurements provides no relief in Alaska. Because of their vast size, most Alaska boroughs contain three or more sites; that is, at least three communities within the borough will be each served with a single site. The distance between communities requires that communications be carried via satellite link, such that mobile traffic between communities is not transmitted directly via cell sites. Because of distance and this unique network structure, there is little ability to triangulate among cell sites in Alaska outside of core areas. As such, the T-Mobile county exclusion proposal doesn't provide appropriate relief from the standards for boroughs in Alaska where three or more sites may exist, but there is no ability to triangulate.[4]

3. ***A-GPS benefits cannot be assumed on the same timeframe for rural and regional providers.*** T-Mobile recently reported to the Commission that it expects to hit the year-8 accuracy standard for the AT&T Proposal with the implementation of A-GPS capability throughout its network.[5] Its 3G network already being A-GPS-enabled, it is deploying the capability in its legacy 2G network.[6] But smaller providers that may not be as far along in 3G deployment will be less able to rely on A-GPS as a solution. Unlike T-Mobile, the timeline for implementation of A-GPS and 3G, along with limitations on handset availability, is attenuated.

   While GCI has laid plans to acquire and deploy A-GPS technology throughout its GSM network, the value of the accuracy improvements will only come with the adoption of A-GPS-capable handsets. Penetration in turn will be paced by two things: 3G deployment and availability of handsets. Even while providers serving thinner, lower-volume markets will deploy 3G in response to consumer demand and as economics permit, the paucity of low-cost 3G, A-GPS-capable handset options will slow adoption. GCI currently has only two or three, 3G-handset options available, which are relatively high-priced models, especially for use on a 2G network. The fact that even T-Mobile's ability to meet the standard at 8 years depends on A-GPS deployment demonstrates that rural, regional carriers, focused on serving the areas posing T-Mobile's "greatest challenge," will need more time. Perversely, those areas of rural America that will have the most difficulty achieving A-GPS penetration sufficient to meet location accuracy standards are exactly the areas that will have to rely on increased A-GPS

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[4] This does not mean that safety or service is compromised in these areas. To the contrary, rarely, if ever, would a community numbering in the hundreds of people require more than two cell sites to provide efficient and technologically proficient service with a cost effective network design.

[5] *Ex Parte*, T-Mobile USA, Inc., PS Docket No. 07-114 at 1 (filed Jun. 16, 2010).

[6] *Id.*

results to offset the more difficult to achieve network-based results. Moreover, whether due to forestation or steep mountain terrain, even A-GPS location fixes are not guaranteed, thus requiring continued reliance on network-based solutions. Put simply, A-GPS deployment alone will not allow GCI to meet the proposed standards in the foreseeable future.

4. ***The Commission should determine whether the proposed regulatory approach should apply equally to areas with low population, call volumes, and cell density, all of which affect accuracy results for rural and regional providers.*** The common thread throughout this discussion is the impact that low population, call volumes, and cell density have on the accuracy of location technologies. This means providers with relatively low populations and call production do not have the variety of calls and outcomes such that weighting, as described under OET-71, cannot be deployed as a useful tool to lessen the impact of lower cell density areas, which produce less accurate results. Likewise, these are typically the areas where quick improvements by A-GPS deployment *cannot* reasonably be expected. While the focus of this discussion has been on GSM networks, GCI believes that these same issues also affect location accuracy for its CDMA network when it must rely on Advanced Forward Link Trilateration in the absence of a satellite fix.

   As a result, the Commission should adopt a standard that ensures that location accuracy measurements are appropriately applied in Alaska. GCI proposes that providers serving the state would be required to measure compliance with benchmarks only for those areas within a four-mile radius circle that include at least five cell sites, where the test location within such circle has a usable signal level greater than -104 dBm to all cell sites within the circle.[7] This approach would focus compliance efforts on core areas that are characterized by more dense populations and higher call frequencies.

   Even beyond Alaska, the record is replete with evidence that most if not all of the rural and regional providers will be unable to meet the standards and benchmarks as proposed.[8] Stated simply, while the standards may successfully reach the majority of the population served by the large providers, the majority of providers will not be successful in reaching the standards. Thus, rather than adopting a rule that is simply unachievable for a large number of rural carriers and relying on waivers to deal with the disparity, the Commission should consider whether there is a better regulatory approach that recognizes the difficulty that many rural carriers will have in satisfying the new rules, such as adopting different requirements for

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[7] *Ex Parte*, GCI Communication Corp., PS Docket No. 07-114 at 2 (filed Dec. 10, 2008).

[8] *See, e.g.*, *Ex Parte*, Rural Cellular Association, PS Docket No. 07-114 (filed Jun. 30, 2010); *Ex Parte*, SouthernLINC Wireless, PS Docket No. 07-114 (filed May 17, 2010); *Ex Parte*, Polaris Wireless, Inc., PS Docket No. 07-114 and CC Docket No. 94-102 (filed Jul. 16, 2010).

small, Tier III providers or crafting a standard that applies only where a minimum cell-density has been achieved.

5. ***A reasonable waiver process must be adopted with the E911 location accuracy rules.*** In the absence of specific adjustments to the standards for these providers, however, the Commission should be prepared for a deluge of waiver requests and accordingly, should provide a framework for waiver filing and processing.[9]

   In addition, the Commission should establish tolling provisions while a waiver request is pending. Given the fact that providers seeking waivers will be facing the impending year-one requirements with no way of knowing when or how the Commission will act on a waiver request, providers should have at least a year in the case of a denial to meet the standard for which waiver was sought. This tolling period itself should be eligible for waiver under special circumstances shown.

   On a final note, GCI appreciates and shares the concern that customer expectations for E911 service be properly informed. To date, however, there has been no demonstration that mandated notice requirements will serve this purpose, particularly in the context of waiver considerations. It has been suggested that a commitment to customer notices may be a favored factor in considering waiver applications. Such an approach, however, would result in uneven, and perhaps even unintentionally misleading information. Given that even the more geographically pinpointed proposed standards allow for averaging and exclusions, a national provider need not seek a waiver in all areas where the standard is not met, but a rural, regional provider, with a smaller geographic scope, may find itself needing a waiver in a service area overlapping with the national provider. Effectively imposing a notice requirement though the waiver process puts the providers on unequal footing, even though there should be little difference in performance between the two in the overlapping market. Moreover, in any particular instance, the relative accuracy of any E911 call itself may vary due to various conditions, so declarations about general compliance (or not) in and of itself are not uniformly applicable. All that said, the merits weigh in favor of leaving the determination of customer notices in this area in providers' hands. If some form of notice is

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[9] The Commission has recently made a similar proposal in its proceeding to harmonize wireless rules. *See In the Matter of Amendments of Parts 1, 22, 24, 27, 74, 80, 90, 95, and 101 To Establish Uniform License Renewal, Discontinuance of Operation, and Geographic Partitioning and Spectrum Disaggregation Rules and Policies for Certain Wireless Radio Services and Imposition of a Freeze on the Filing of Competing Renewal Applications for Certain Wireless Radio Services and the Processing of Already-filed Competing Renewal Applications*, Notice of Proposed Rulemaking and Order, WT Docket No. 10-112, FCC 10-86, Appendix A, Proposed Rule 47 C.F.R. 1.953(f), Discontinuance of Service, Extension Request (rel. May 25, 2010).

mandated, however, the text and methodology should be set and apply uniformly among providers.

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Sincerely,

/s/

Christopher Nierman
Director, Federal Regulatory Affairs

cc: Meeting Participants