

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Facilitating the Deployment of Text-to-911
and Other Next Generation 911
Applications

PS Docket No. 11-153

Framework for Next Generation 911
Deployment

PS Docket No. 10-255

PETITION FOR WAIVER OF THE ALASKA WIRELESS NETWORK, LLC

The Alaska Wireless Network, LLC (“AWN”), a Tier III wireless carrier and the underlying facilities-based carrier for GCI Wireless and ACS Wireless, hereby petitions the Commission for waiver of the text-to-911 readiness requirements. The Commission recently adopted rules requiring all wireless carriers to have the capability of providing text-to-911 service to PSAPs by December 31, 2014.¹ AWN has been working diligently for months with Intrado, Inc. (“Intrado”) and TeleCommunications Systems (“TCS”), two leading text-to-911 vendors, to determine how best to implement the requirements of the new rules. Recently, however, both vendors informed AWN of an issue within LTE network standards that prevents their solutions from capturing and passing through the cell-level location information associated with text messages on AWN’s LTE network, which covers the most populous areas of Alaska. Although this issue affects only texts sent to 911 on the LTE network (as opposed to the other mobile network technologies in the AWN network), until either vendor is able to develop a

¹ *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, Framework for Next Generation 911 Deployment, Second Report and Order and Third Further Notice of Proposed Rulemaking, FCC 14-118, ¶ 2 (Aug. 13, 2014); 47 C.F.R. 20.18(n)(10)(i).*

solution for this problem, AWN cannot enter into a long-term contract for text-to-911 services to cover all of its networks, including both LTE and non-LTE networks. Moreover, as of November 12, 2014, no Alaska PSAPs have requested text-to-911 service,² such that the time period to identify (or develop) a workable solution is not expected to affect any PSAPs in Alaska. AWN therefore requests a one-year waiver of Section 20.18(n)(10)(i) of the Commission's Rules, codifying the December 31, 2014 readiness requirement, to allow it to continue exploring this issue and developing a solution in conjunction with the text-to-911 vendors.

I. TECHNICAL LIMITATIONS IN LTE NETWORKS PREVENT AWN FROM MEETING THE TEXT-TO-911 READINESS REQUIREMENTS.

AWN has been working with two text-to-911 vendors, Intrado and TCS, for several months, with the expectation and intent to enter into an agreement and execute a statement of work with one of them before the end of 2014. In November, as discussions between AWN and the vendors progressed, each vendor informed AWN that a technical issue prevents their text-to-911 solutions from passing a handset's cell ID to the Mobile Switching Center ("MSC") for use in locating and routing texts sent to 911 over AWN's LTE network.

The problem arises as a result of configurations unique to LTE networks deployed in conjunction with GSM and UMTS. In this situation, handsets on the LTE network pass text messages to the MSC via the Mobility Management Entity ("MME"), a byproduct of LTE standards' effort to improve service by keeping the handset connected to the LTE network rather than falling back to an available 2G or 3G network for text messaging.

² See Federal Communications Commission, *Text-to-911 Deployments as of November 12, 2014*, http://transition.fcc.gov/pshs/911/Text_911_Deployments.pdf.

Both text-to-911 vendors' solutions provide coarse location identification of a text to 911 by identifying the location of the handset with a query to the MSC, which returns the current cell ID stored in the node, providing the general location of the handset and allowing the network to route the text to the appropriate PSAP. In the case of texts sent over LTE, however, the LTE handset communicates with the MSC indirectly, through the MME, which cannot pass through the cell ID to the MSC. Therefore, the cell ID is not available in the MSC, and the MSC has no means to provide the coarse location information. This not only affects the location information available to a PSAP, but it also prevents reliable routing to the appropriate PSAP at all. Both Intrado and TCS have confirmed this issue to AWN for their respective text-to-911 products.³

This phenomenon is unique to LTE networks deployed alongside GSM/UMTS technology. CDMA LTE operators do not experience these issues because CDMA/LTE handsets simultaneously register on both networks, providing coarse location information to both the MSC and MME. In this environment, unlike in GSM/UMTS LTE networks, SMS messages travel over the CDMA radio access network ("RAN") to the CDMA MSC rather than over the LTE RAN, providing the CDMA MSC with the necessary cell ID to route and provide coarse location information for the text-to-911 message.

AWN understands that the larger, national GSM/UMTS/LTE operators have installed location infrastructure (*e.g.*, a Gateway Mobile Location Center ("GMLC"), Serving Mobile Location Center ("SMLC"), and/or Enhanced Serving Mobile Location Center ("eSMLC")) to provide consumer location services, and that they can leverage this infrastructure to route and provide the coarse location required for text-to-911 over LTE. While AWN has installed a

³ While there is an alternative mechanism for the MME to obtain granular cell ID location, it is currently incompatible with both vendors' solutions.

Standalone SMLC (“SAS”) to support E911 voice calls,⁴ this platform does not provide access to location information on the LTE network, and AWN cannot use the SAS to provide consumer location services or leverage it for the text-to-911 context. Upgrading AWN’s network to include the location infrastructure the larger operators leverage for their text-to-911 solutions would be prohibitively expensive.

II. WAIVER OF THE READINESS REQUIREMENT IS WARRANTED BY THE UNIQUE TECHNICAL LIMITATIONS FACED BY AWN.

Section 1.925(b)(3)(ii) of the Commission’s Rules establishes that a request for waiver may be granted when the “unique or unusual factual circumstances” at issue would render application of the rule “inequitable, unduly burdensome or contrary to the public interest, or [when] the applicant has no reasonable alternative.” It would be inequitable, unduly burdensome, and contrary to the public interest to require AWN to meet the end-of-year readiness requirement. As described above, the technical limitations AWN faces also mean that AWN has no reasonable alternative for meeting the end-of-year readiness requirement.

AWN is a Tier III carrier offering service in a particularly challenging geographic area—Alaska. Despite the numerous challenges associated with offering wireless service in Alaska,⁵ AWN has dedicated itself to rolling out new technologies, including LTE, to enable greater communications capabilities for its subscribers. This investment has put AWN in a position where it is technically unable to meet the year-end readiness requirement under the text-to-911

⁴ AWN routes all 911 voice calls over 2G networks, but even a 3G SAS—which AWN is in the process of installing—would not provide a solution to the technical issues AWN faces in locating and routing texts to 911 over the LTE network.

⁵ See Amended Petition for Waiver of General Communication, Inc., PS Docket No. 07-114, at 2 (Apr. 23, 2014); Petition for Waiver of General Communication, Inc., PS Docket No. 07-114, at 5-8 (Jan. 18, 2012) (both describing the unique challenges of providing wireless service in Alaska, including the vast, sparsely populated areas, difficult terrain, line-of-sight barriers, and public property ownership restrictions).

rules. Enforcing the deadline in light of this investment and the late revelation of the technical impediment would be inequitable, unduly burdensome, and contrary to the public's interest in encouraging deployment of advanced network technologies. AWN has committed significant resources to its LTE deployment to ensure advanced communications for ACS and GCI customers in Alaska, but given the high cost of service and relatively modest served population, it is not reasonable for AWN to commit resources to network architecture of the kinds the nationwide GSM LTE carriers have adopted, including installing the kinds of location infrastructure that those carriers leverage to provide coarse location information for texts to 911.

Nevertheless, AWN is continuing to work with both text-to-911 vendors to determine a technical way forward. Any solution will almost certainly require additional development by the vendor and additional capital investment by AWN. These steps are as yet uncertain, as AWN and the two vendors only became aware of this issue and its effect on GSM/UMTS LTE networks in the last several weeks.

AWN intends to enter into a single long-term agreement with one vendor to provide text-to-911 services for all of AWN's subscribers and networks. While both vendors are able to provide text-to-911 services for AWN's 2G and 3G networks, neither can do so for LTE, offering AWN only options that fail to deliver a network-wide solution. Until one vendor is able to resolve the LTE location issue, AWN cannot enter into a long-term contract with either vendor to provide text-to-911 services for all of its networks.

To AWN's knowledge, its inability to meet the year-end readiness requirements will not affect any PSAPs in Alaska. As of November 12, 2014, no Alaska PSAPs have requested text-to-911 service,⁶ and AWN is unaware of any PSAP in its coverage area that plans to request text-

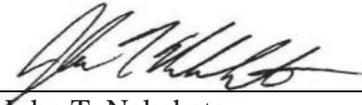
⁶ See *supra* n.2.

to-911 service in 2015. In addition, AWN understands that the Anchorage PSAP is exploring adopting an NG911 system in lieu of the current SMS-to-911 solution.

III. CONCLUSION

Given the technical inability of the text-to-911 solutions offered by both major text-to-911 vendors to provide coarse location information in an LTE network, AWN's limited ability to devote additional resources in a short timeframe to upgrade its own systems to make up that shortfall, and the limited impact of AWN's inability to meet the year-end readiness requirement on emergency communications in Alaska, AWN respectfully requests the Commission grant it a waiver of Section 20.18(n)(10)(i) of the Commission's Rules.

Respectfully submitted,



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