

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of)
911 Governance and Accountability) PS Docket No. 14-193
Improving 911 Reliability) PS Docket No. 13-75
)

To: The Commission

COMMENTS OF T-MOBILE USA, INC.

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T-Mobile USA, Inc. (“T-Mobile”)¹ hereby responds to the Commission’s *Notice of Proposed Rulemaking* (“NPRM”) in the above-referenced proceedings.² The Commission seeks comment on a variety of proposals intended to improve the reliability of the overall 911 network. T-Mobile is committed to reliable and resilient 911 service and has worked cooperatively to share information with the Commission and to implement changes and best practices to improve resiliency. Given the success of the current voluntary efforts, as evidenced by the lack of regular or increasing, widespread 911 outages due to failures in the wireless portion of the 911 network, the imposition of new 911 obligations on Commercial Mobile Radio Service (“CMRS”) carriers is not warranted.

INTRODUCTION AND SUMMARY

The Commission proposes rules designed to address recent multi-state 911 outages and improve visibility into the 911 network so that potential problems can be identified quickly to

¹ T-Mobile USA, Inc. is a wholly-owned subsidiary of T-Mobile US, Inc., a publicly traded company.

² *911 Governance and Accountability*, Policy Statement and Notice of Proposed Rulemaking, 29 FCC Rcd 14208 (2014) (“NPRM”).

prevent outages or ensure that such outages can be resolved quickly.³ The transition to Next Generation 911 (“NG911”) and its IP-based architecture is “altering the identity, relationships, and roles” of parties involved in ensuring the delivery of 911 calls.⁴ Rather than just originating service providers (“OSPs”) and 911 Service Providers, the 911 ecosystem now includes numerous other entities, such as system service providers (“SSPs”) and entities that provide automatic location information and/or automatic number information. Many of these entities are not subject to the FCC’s 911 rules. Thus, there may be benefits associated with extending certain 911 obligations to formerly unregulated entities in the 911 ecosystem.

Historically, wireless 911 networks have been bifurcated at the selective router,⁵ which routes the call to appropriate PSAP, with wireless carriers responsible for maintaining the service and network up to the selective router while other entities – iLECs, 911 service providers, and PSAPs among them – maintain the service and networks from the selective router to the PSAP. Although we certainly appreciate Commission interest in examining the need for additional requirements, there is no clear indication of widespread 911 outages due to problems with the wireless portions of the network. Therefore, it appears unnecessary to impose additional regulations on CMRS carriers at this time.

The CMRS industry, and T-Mobile in particular, has a long history of investing in the wireless side of the 911 network to continually improve the network and ensure its resiliency. For example, T-Mobile:

- invested hundreds of millions of dollars designing, implementing, maintaining, and upgrading its wireless 911 network;

³ *See id.* at ¶¶ 3-4.

⁴ *Id.* at ¶ 14.

⁵ Public safety answering points (“PSAP”) connect into the 911 network by using 911 Service Providers to carry 911 calls from central switches, known as selective routers, to the PSAP call center.

- assisted in the development of best practices through its voluntary and active involvement in the Alliance for Telecommunications Industry Solutions (“ATIS”) Network Reliability Steering Committee, Emergency Services Interconnection Forum, and the Wireless Technologies and Systems Committee, the Network Reliability and Interoperability Council (“NRIC”), and NRIC’s successor, the Communications Security, Reliability, and Interoperability Council (“CSRIC”); and;
- incorporated key best practices into its network architecture and daily operations.

As discussed below, the ongoing efforts of T-Mobile and the rest of the wireless industry have effectively contributed to a robust 911 network. Furthermore, although extending certain 911 obligations to other entities providing critical components in the 911 network might be beneficial, the Commission should tread carefully to ensure that new regulations do not produce unintended, adverse consequences that may discourage the development and implementation of new innovative technologies.

DISCUSSION

I. NEW 911 OBLIGATIONS ON ORIGINATING WIRELESS SERVICE PROVIDERS ARE UNNECESSARY

The central premise underlying the *NPRM* is that the 911 network is being compromised by a failure to make necessary investments and the decreasing role being played by OSPs in the design and maintenance of the 911 network.⁶ Although this premise might accurately reflect the situation in parts of the 911 ecosystem, it does not hold true for the wireless industry.

A. COMPETITION SPURS INVESTMENT IN THE 911 NETWORK

The CMRS industry has invested heavily in the 911 network and continuously seeks to optimize network performance. If a CMRS carrier fails to invest appropriately in maintaining the resiliency of its portion of the 911 network, the company would be at risk of developing a poor reputation in the marketplace which would result in a loss of market share. Consumers,

⁶ See *NPRM* at ¶¶ 17, 55; see also *April 2014 Multistate 911 Outage: Cause and Impact*, PS Docket No. 14-72, PSHSB Case File Nos. 14-CCR-0001-0007 at 12, 19 (Oct. 2014), available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-330012A1.pdf.

very typically, have several choices of wireless service providers and do not hesitate to vote with their feet when disappointed with their wireless service.

T-Mobile has spent hundreds of millions of dollars designing, implementing, maintaining, and upgrading its wireless 911 network. Indeed, rather than outsource critical 911 functionality, T-Mobile historically has purchased, operated, and maintained the equipment necessary to provide this functionality. For example, it purchased two Gateway Mobile Location Centers (“GMLCs”)⁷ and, to ensure resiliency, located them in geographically distant locations. The GMLCs were then connected into the T-Mobile network using redundant lines. The Company also has invested in extensive alarming capabilities that monitor the performance of the T-Mobile side of the 911 network. These alarm capabilities are expanded as new threats are discovered. If the alarms exceed certain thresholds, the primary GMLC will automatically switch over to the alternate GMLC to ensure service continuity. T-Mobile also is implementing alternative routing to PSAPs in the event of a GMLC failure to further ensure resiliency. These decisions – particularly the decision not to outsource this functionality – were not based on any regulatory mandate, but rather corporate policy to ensure the resiliency of its portion of the 911 network and consumer confidence in T-Mobile service.

B. NETWORK OUTAGE REPORTING ENSURES 911 RESILIENCY ON THE CMRS-SIDE OF THE 911 NETWORK

The Commission generally has addressed 911 reliability issues “by working with service providers to develop voluntary best practices and by measuring the effectiveness of those best practices through outage reporting.”⁸ For more than two decades, the Commission has turned to

⁷ The GMLC contains functionality required to support location capabilities and is used in the generation of location information for 911 calls in networks utilizing GSM and later technologies.

⁸ *Improving 911 Reliability*, Report and Order, 28 FCC Rcd 17476, 17479 (2013) (“*2013 Reliability Order*”).

CSRIC and its predecessors to make recommendations on communications network reliability and security best practices.⁹ Under this approach, a CMRS carrier is required to file outage reports when problems with its 911 network occur. The Commission's Public Safety and Homeland Security Bureau then evaluates the information and, if widespread or systematic problems are identified, works with the industry to prevent similar problems in the future.¹⁰ Often these efforts result in new best practices.

As discussed in Section I.C. below, these efforts have been successful. Despite the ever expanding nature of wireless networks, the transition to IP networks, the implementation of NG911, and increasing subscribership, available information demonstrates that the number of network outages has remained constant in recent years. Evidence that wireless 911 systems are subject to an increasing number of outages is currently lacking from the record.

The *NPRM* only identifies a single, significant wireless 911 outage.¹¹ There is no discussion of a pattern of increasing wireless 911 outages. Hence, rather than impose new obligations on CMRS carriers based on an isolated instance, the Commission should follow its traditional approach.¹² A CMRS carrier involved in an incident should be given an opportunity to evaluate the reasons for the outage and develop solutions. The Commission also could work

⁹ *Id.*

¹⁰ Unlike many parties providing critical components of the 911 systems, CMRS carriers are subject to enforcement action if they fail to comply with the wireless 911 rules. This provides CMRS carriers adequate incentive to proactively address resiliency.

¹¹ *NPRM* at ¶ 25.

¹² In contrast to the CMRS industry, many entities providing critical components of the 911 architecture are not subject to FCC outage reporting requirements and may not timely transmit information in their possession that would be helpful in preventing or resolving a 911 outage. The increasing number of such entities involved in the provision of 911 services appears to be the Commission's main concern regarding visibility and accountability. *See NPRM* at ¶¶ 15-18. Accordingly, as discussed in Sections II and III, the focus should be on rules designed to address visibility and accountability for those entities not already subject to Commission reporting and 911 requirements.

with CSRIC to evaluate the measures taken to prevent similar future outages and analyze whether new best practices should be adopted.

C. EVIDENCE THAT 911 RESILIENCY IS DECREASING ON THE CMRS-SIDE OF THE SELECTIVE ROUTER HAS NOT BEEN PRESENTED

Approximately one year ago, the Commission evaluated the need for rules to improve the reliability and resiliency of 911 networks.¹³ The Commission imposed various obligations on 911 Service Providers – defined as entities providing services directly to PSAPs – based on substantial evidence that 911 outages were occurring *because such providers were not following voluntary best practices*.¹⁴ There was no evidence then, nor has any been presented lately, that CMRS carriers are failing to follow best practices or that the number of 911 outages due to wireless failures is increasing.

In the *2013 Reliability Order*, the Commission correctly concluded that new requirements – including certification requirements – were unnecessary for “wireless providers, VoIP providers, backhaul providers, Internet service providers (ISPs), or commercial data centers based on the functions they currently provide in 911 networks.”¹⁵ This conclusion remains valid, certainly with respect to wireless carriers whose role in the 911 ecosystem has remained unchanged since 2013.

Moreover, the number of 911 outages caused by problems with wireless networks does not appear to have increased since 2011. Based on data presented in February 2015 by John Healy, Associate Chief, Cybersecurity and Communications Reliability Division, Public Safety and Homeland Security Bureau, there is little evidence that the number of CMRS 911 outages

¹³ *2013 Reliability Order*, 28 FCC Rcd at 17477. The first certifications under these rules have not yet been filed and there is no evidence that the requirements have improved resiliency. The Commission should refrain from extending this model to other parties until it has been able to fully evaluate the effectiveness of the certification process.

¹⁴ *See id.* at 17483.

¹⁵ *Id.* at 17490.

has grown.¹⁶ In fact, the maximum number of outages for a particular month seems to have decreased each year since 2011.¹⁷ In 2011, there were 12 E911 outages impacting more than one million wireless users. In 2014, there were 11 such outages. As Mr. Healy noted during his presentation, the number of outages seems to be in control and there have been fewer outages over the past four months than in the past.¹⁸

To this end, there is no data demonstrating an upward trend in outages regarding the wireless component of 911 networks that would justify the imposition of new regulatory obligations on CMRS carriers at this time. Furthermore, there is no basis for subjecting CMRS carriers to the same obligations as 911 Service Providers (or reclassifying them as 911 Service Providers).

D. THE IMPOSITION OF NEW 911 RESILIENCY RULES ON THE CMRS INDUSTRY WOULD IMPOSE COSTS WITH LITTLE OR NO BENEFIT

The Commission should comply with long-standing mandates set forth in various Executive Orders requiring an assessment of the costs of potential regulations *before* rules are proposed, and certainly before any regulations are adopted. Pursuant to Executive Order 12866, agencies must “assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating” before adopting new regulations.¹⁹ In particular, agencies must “propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs.”²⁰

¹⁶ John Healy, Cybersecurity and Communications Reliability Div., Public Safety & Homeland Security Bureau, *FCC Analysis of Network Outage Reports*, at Slide 11 (Feb. 23, 2015), available at https://access.atis.org/apps/group_public/download.php/20836/NRSC-2015-00008R000.pptx.

¹⁷ *Id.*

¹⁸ *Id.*

¹⁹ Exec. Order No. 12866, 29 Weekly Comp. Pres. Doc. 1925, 1925 § 1(a) (Sept. 30, 1993).

²⁰ *Id.* at 1926 § 1(b)(6).

President Obama reaffirmed these requirements through adoption of Executive Order 13563 which states that agencies must evaluate potential regulations “based on the best available science” and “identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends.”²¹ This Executive Order was specifically extended to Independent Agencies in July 2011.²²

The imposition of new 911 rules on wireless carriers, particularly those relating to certifications or prior Commission approval before implementing network changes, could not be justified under a proper cost benefit analysis. Moreover, consistent with Executive Order 13563, before imposing new 911 obligations on CMRS providers, the Commission must conclude that the traditional (and less burdensome) approach – reliance on outage reporting and best practices – is insufficient to achieve its goals.

The Commission proposes to effectively re-classify CMRS carriers as “911 Service Providers” which would trigger new, extensive certification requirements.²³ The Commission recently determined that wireless carriers should not be so classified and there is no basis for changing that determination here.²⁴ Moreover, as discussed above, there is no record that CMRS carriers have been disregarding best practices or that 911 outages are increasing due to conduct by CMRS carriers. Absent any such record, it is unclear what purpose the certification would serve.²⁵ The *NPRM* also neglects to identify the benefits that would flow from extending the

²¹ Exec. Order No. 13563, 76 Fed. Reg. 3821, 3821 § 1 (Jan. 21, 2011); *see also* Memorandum on Executive Order 13563, “Improving Regulation and Regulatory Review” (Feb. 2, 2011), <https://www.whitehouse.gov/sites/default/files/omb/memoranda/2011/m11-10.pdf>.

²² Exec. Order No. 13579, 76 Fed. Reg. 41587, 41587 § 1 (July 14, 2011) (stating that regulatory decisions “should be made only after consideration of their costs and benefits”).

²³ *See NPRM*, App. A, Proposed Section 12.4(a)(4)(i)(A); *see also NPRM* at ¶ 42.

²⁴ *See 2013 Reliability Order*, 28 FCC Rcd at 17489-90.

²⁵ The Commission also proposes that CMRS carriers certify that they will share information and situational awareness. *NPRM* at ¶ 46. There is no evidence that an additional information

certification requirement to wireless carriers. Given that no benefits have been identified and the Commission has previously recognized that the certification requirement imposes costs, the proposed certification requirement cannot satisfy the required cost-benefit analysis.²⁶

The *NPRM* also does not present a cost-benefit analysis regarding the proposed requirements that CMRS carriers (i) provide 60 day advance notice before implementing changes that may impact 911 service and (ii) certify annually that they have the technical and operational capability to offer “new services” that may impact 911 service.²⁷ The benefits of these proposals are not quantified, while the costs associated with such requirements are substantial.²⁸

A prior notice requirement by its very nature would delay the implementation of changes that could significantly impact consumers. Changes that could be implemented immediately in response to competitive developments could be delayed by at least 60 days under the proposed rule. The requirement to provide prior notification for 911 network changes should be limited to entities involved on the PSAP side of the selective router or that meet the current definition of a 911 Service Provider.

Moreover, any certification or prior notice requirement imposes costs on the parties subject to the requirements. Although the Commission has failed to quantify these costs in the

sharing obligation is warranted. If such an obligation is truly being considered, the Commission must provide more information regarding the scope and specifics of the proposed requirement, as well as how the confidential nature of the information can be protected. For example, an information sharing requirement may involve competitors that traditionally would not receive such information.

²⁶ See *2013 Reliability Order*, 28 FCC Rcd at 17502-03.

²⁷ See *NPRM* at ¶¶ 39-47, 51, 59.

²⁸ See *2013 Reliability Order*, 28 FCC Rcd at 17502-03.

NPRM, there is no dispute that they exist. Thus, in the absence of any benefits, it becomes difficult to justify proposals under the required cost-benefit analysis.²⁹

II. NEW 911 OBLIGATIONS MAY BE APPROPRIATE FOR 911 SERVICE PROVIDERS

PSAPs generally have few choices when selecting 911 Service Providers. As the Commission has recognized, “most PSAPs and 911 authorities have a limited choice of 911 service providers and cannot realistically switch to a competitor if they are unhappy with their service.”³⁰ Because these providers may lack the competitive pressure to drive innovation and ensure reliability,³¹ select regulations may be warranted to ensure the reliability of the services provided by 911 Service Providers.

In this regard, T-Mobile supports the idea of centralizing the PSAP outage notification requirement with traditional 911 Service Providers given their direct relationship with PSAP personnel.³² Under this approach, CMRS carriers would notify the relevant 911 Service Providers – those impacted by an outage – when they discover that a 911 outage is occurring. The 911 Service Providers would then relay this information to PSAPs. Such a requirement may help minimize confusion – rather than receiving information from various entities regarding the same outage, the PSAP would receive information from a single contact.

Moreover, 911 Service Providers should already have the relevant information regarding the appropriate PSAP personnel to contact in the event of an outage. Many OSPs do not have

²⁹ For largely the same reasons, the Commission should not require CMRS carriers to obtain prior FCC approval before they “discontinue, reduce, or impair existing 911 service.” *NPRM* at ¶ 54.

³⁰ *2013 Reliability Order*, 28 FCC Rcd at 17486.

³¹ *See id.*

³² *NPRM* at ¶¶ 66, 69.

this information.³³ It makes little sense to require OSPs to compile this information, or for PSAPs to reach out to all OSPs subject to outage notification requirements, if the notification requirement can be centralized.

III. THE IMPOSITION OF NEW 911 OBLIGATIONS ON ENTITIES PROVIDING CRITICAL 911 SYSTEM COMPONENTS INDEPENDENT OF A CARRIER'S ARCHITECTURE MAY IMPROVE 911 RELIABILITY

As the Commission recognizes, “[a]n increasing number of critical 911 capabilities are being provided by one or more non-carrier SSPs and other technical vendors” which makes it more difficult to determine accountability and measure reliability.³⁴ Extending the 911 regulations (or imposing new regulations) to non-carrier SSPs and vendors may improve accountability and resiliency. T-Mobile urges the Commission not to rush to judgment, however, by imposing new rules on these entities without a thorough analysis. As the Commission has previously stated: “overbroad rules could inadvertently impose obligations on entities that provide peripheral support for NG911 but may not play a central role in ensuring 911 reliability.”³⁵

T-Mobile is interested in further exploration of the possible extension of 911 obligations to non-carrier SSPs to improve visibility into the 911 network. For example, the Commission should explore whether non-carrier SSPs should be subject to outage reporting requirements.

³³ The *NPRM* mistakenly implies that CMRS carriers have an existing obligation under Part 4 of the Commission’s rules to contact PSAPs and prepare lists of properly designated individuals that should be contacted during an outage. Section 4.9(e) requires only that providers contact officials “designated by PSAPs;” it does not require wireless service providers to contact PSAPs to determine who the appropriate contact person should be for purposes of the rule. Moreover, nothing in the Commission’s Order adopting this requirement indicated that wireless service providers had such an obligation. The Commission’s analysis of data collection costs in the adopting Order never addressed the collection of information regarding PSAP contact personnel. Indeed, such an information collection was never submitted for OMB approval pursuant to the Paperwork Reduction Act of 1995, Pub. L. No. 104-13, 109 Stat. 163.

³⁴ See *NPRM* at ¶ 48.

³⁵ *2013 Reliability Order*, 28 FCC Rcd at 17489.

The Commission also should explore whether such entities should be required to implement proactive alarm capabilities triggered by certain factors indicating that an outage may occur if not rectified. The non-carrier SSPs should be required to share this information to help prevent outages. Further analysis is required, however, to determine who should receive this information, the format of such information, and when it should be provided.

CONCLUSION

For the reasons provided, we urge the Commission to reconsider its proposal to impose new 911 requirements on the CMRS industry. The proposed requirements would be costly and concrete benefits have not been clearly specified. At a minimum, any new 911 regulations must be justified by a detailed cost-benefit analysis where the benefits of the proposed regulations significantly outweigh their costs.

Respectfully submitted,

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