

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

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

COMMENTS OF CENTURYLINK

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I. INTRODUCTION AND SUMMARY.

CenturyLink files these comments in response to the Policy Statement and Notice of Proposed Rulemaking (“NPRM”) issued in the above-referenced dockets on November 21, 2014.² The NPRM is prompted by the Federal Communications Commission’s (“FCC” or “Commission”) observance of several recent sizeable 911 outages, not attributable to natural disasters or acts of God, but occurring as a result of unexpected network or software malfunctions in the midst of a technology transition.³ CenturyLink has firsthand experience with one of these outages – the April multistate 911 outage that affected the entire state of Washington and portions of six other states. The Commission issued a Report on this outage

¹ These comments are filed by, and on behalf of CenturyLink, Inc. and its subsidiaries.

² *In the Matters of 911 Governance and Accountability and Improving 911 Reliability*, Policy Statement and Notice of Proposed Rulemaking, PS Docket Nos. 14-193, 13-75 (rel. Nov. 21, 2014) (“NPRM”).

³ The NPRM cites the April 2014 multistate 911 outage affecting 11 million people in seven states for up to six (6) hours. NPRM, ¶ 21. In addition the NPRM describes “multiple disruptions” in Hawaii following a NG911 installation lasting between five (5) minutes and 1 hour and 32 minutes, with ALI/ANI disruptions lasting as long as seven (7) hours; a statewide outage in Vermont lasting 40 minutes; and an outage of a major wireless originating service provider (“OSP”) lasting 2 hours and affecting over 40 million people. NPRM, ¶¶ 23 – 25.

finding that it was caused by a third party vendor's preventable software coding error.⁴ This failure of the 911 network was unacceptable. CenturyLink has invested millions of dollars and countless man-hours of resources to provide 911 service that is technologically advanced and as feature-rich as PSAPs demand, in addition to being reliable and resilient. However, as the Commission notes, "[w]hile innovative technologies have the potential to improve many aspects of 911 service and enhance the ability of first responders to do their jobs more effectively, these recent outages have revealed that technology changes may also introduce new vulnerabilities."⁵ CenturyLink fully understands the Commission's drive to remedy these vulnerabilities to avoid future preventable failures in the interest of public safety.

The NPRM seeks input on additional measures to further secure the reliability and resiliency of the nations' 911 system in light of these so-called "sunny day" outages and to "keep pace with changing technology."⁶ Just like with the legacy TDM network, the 911 network is also in a state of transition to IP-based technology. This transition is an evolution, not a flash cut, and it will take time to complete. The benefits of this transition to NG911 are well-established, and CenturyLink appreciates the Commission's leadership to ensure that this transition is a smooth one.⁷ As recognized in the NPRM, "NG911 has the potential to vastly

⁴ April 2014 Multistate 911 Outage: Cause and Impact, Report and Recommendations, PS Docket No. 14-72 (rel. Oct. 2014), at 1. The Commission did not issue any reports regarding any of the other three "sunny day" outages, so comparatively little detailed information is publicly available about their respective root causes, duration, and impact.

⁵ NPRM, ¶ 3

⁶ NPRM, ¶ 36.

⁷ See, e.g., Legal and Regulatory Framework for Next Generation 911 Services, Report to Congress and Recommendations, February 22, 2013, at 3, available at https://apps.fcc.gov/edocs_public/attachmatch/DOC-319165A1.pdf visited March 6, 2015: NG911 will facilitate interoperability and system resilience, improve connections between 911 call centers, and support not only traditional voice 911 calls but also the transmission of text, photos, videos, and data. These new capabilities will enhance the accessibility of 911 to the

improve 911 service by offering more flexible call routing and providing PSAPs with a greater range of information, including text, video, and other data.”⁸ In light of the public safety benefits a smooth transition would yield, the Commission should promote this transition and innovation in the 911 space by filling gaps where they exist to meaningfully improve public safety. CenturyLink supports various proposals in the NPRM to ensure the reliability of 911 service during this transition, but some proposals in the NPRM are infeasible and not sufficiently tailored to yield tangible public safety benefits. Specifically, CenturyLink supports expanding the scope of “Covered 911 Service Providers,” which we believe would improve accountability, and requiring additional certifications in the areas of alarming, load balancing, and geographic distribution so long as they are subject to a reasonable implementation schedule. However, CenturyLink questions how the NPRM’s proposals regarding situational awareness and federal regulation of major changes and discontinuance of 911 service would work in practice and meaningfully improve 911 reliability.⁹ Finally, the NPRM’s seeming application of a strict liability standard for 911 service provision is unprecedented and unsupported.

public (e.g., by enabling video and text-to-911 for persons with speech and hearing disabilities), and will provide PSAPs with enhanced information that will enable emergency responders to assess and respond to emergencies more quickly and effectively.

⁸ NPRM, ¶ 10.

⁹ See, e.g., *In the Matter of Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, Second Report and Order and Third Notice of Proposed Rulemaking, PS Docket Nos. 11-153 and 10-255, ¶ 117 (“In assessing the benefits of the requirement, we stress that a universal capability to send 911 text messages can provide substantial, quantifiable public safety benefits to the disabilities community and to the public at large.... we seek comment on the public safety benefits and improvements that our proposed enhanced location information and roaming requirements will provide, compared to the costs of meeting such requirements.”). The Commission made additional efforts in this release to study the costs and benefits of text-to-911 and how regulatory measures would provide tangible public safety benefits worth the cost: “In an effort to quantify the benefits associated with text-to-911, we conducted a cost benefit analysis of the potential effect of text-to-911 specifically in the area of cardiac emergencies – a category that represents less than 10 percent of 911 calls but for which detailed statistical information is available. As detailed in the *Further Notice*, even when

II. CENTURYLINK SUPPORTS EXPANDING THE DEFINITION OF “COVERED 911 SERVICE PROVIDERS” TO IMPROVE ACCOUNTABILITY.

The NPRM proposes to expand the definition of “Covered 911 Service Providers” subject to the certification requirements of Section 12.4 to include entities that provide 911, E911, NG911 capabilities or their equivalent, such as call routing, automatic location information (“ALI”), automatic number identification (“ANI”), location information servers (“LIS”), and text-to-911, regardless of whether the services are provided in direct contractual relationship with a PSAP.¹⁰ The FCC just recently crafted the definition of “Covered 911 Service Providers” in the 2013 *Derecho Order*:

Sec. 12.4(a)(4) *Covered 911 Service Provider*.

(i) Any entity that:

- (A) Provides 911, E911, or NG911 capabilities such as call routing, automatic location information (ALI), automatic number identification (ANI), or the functional equivalent of those capabilities, directly to a public safety answering point (PSAP), statewide default answering point, or appropriate local emergency authority as defined in sections 64.3000(b) and 20.3; and/or
- (B) Operates one or more central offices that directly serve a PSAP. For purposes of this section, a central office directly serves a PSAP if it hosts a selective router or ALI/ANI database, provides equivalent NG911 capabilities, or is the last service-provider facility through which a 911 trunk or administrative line passes before connecting to a PSAP.¹¹

we limit our analysis of benefits to this subset of total emergencies, we find that the potential benefits floor for text-to-911 for just this one category of 911 calls is \$63.7 million annually.” .” *Id.*, ¶ 20. The Commission then compares these benefits to implementation costs: (“The record indicates that the cost for CMRS providers to implement a text-to-911 solution is significantly less than the benefits floor discussed above....”) *Id.*, ¶ 23. *See also, In the Matter of Improving 9-1-1 Reliability et al.*, Notice of Proposed Rulemaking, PS Docket No. 13-75, ¶ 41 (FCC engaging in cost-benefit analysis).

¹⁰ NPRM, ¶ 39.

¹¹ 47 C.F.R. § 12.4(a)(4).

The rules adopted in the *Derecho Order* require Covered 911 Service Providers to certify to the FCC in the areas of circuit diversity, central office backup power, and diverse network monitoring.¹² The NPRM expresses concern that this definition can be read to attach those certification obligations only to those entities providing services “directly to a PSAP” via a direct contractual relationship with a PSAP.¹³

To address this, the NPRM proposes to expand the scope of entities covered by Section 12.4 to include all entities that provide 911, E911, or NG911 capabilities, such as call routing, ALI, ANI, LIS, text-to-911, or the functional equivalent of those capabilities, regardless of whether they provide such capabilities under a direct contractual relationship with a PSAP.¹⁴ The stated purpose is to treat all providers in the call completion chain equally as far as certifications under Section 12.4.¹⁵

CenturyLink supports a limited expansion of the definition of Covered 911 Service Providers to include 911, E911 and NG911 capabilities such as call routing, ALI and ANI or their functional equivalent.¹⁶ The current construction of the term stands to have the effect of discouraging service providers from being the entity contracting directly with a PSAP because of the asymmetrical certification regulations that would then apply to the contract holder. FCC jurisdiction and related regulatory obligations for 911 service providers should not turn on where the direct contractual relationship with the PSAP lies; the nature of the service should determine

¹² See generally, *In the Matter of Improving 911 Reliability and Reliability and Continuity of Communications Networks, Including Broadband Technologies*, PS Docket Nos. 13-75, 11-60, Report and Order, 28 FCC Rcd 17476 (rel. Dec. 13, 2013) (“*Derecho Order*”).

¹³ NPRM, ¶ 39.

¹⁴ NPRM, ¶ 42.

¹⁵ NPRM, ¶ 42.

¹⁶ CenturyLink does not address text-to-911 applications.

those obligations. CenturyLink supports aligning the nature of the service being provided with regulatory obligations.

Additionally, this approach properly aligns regulatory obligations and accountability. It is reasonable and appropriate for entities to be responsible and accountable for the design and performance of their own networks, and to make those certifications directly to the FCC. By expanding this term to increase the direct accountability of individual providers, it would then be unnecessary and improper for the FCC to hold a Covered 911 Service Provider vicariously liable for the acts or omissions of another Covered 911 Service Provider. Such responsibility and accountability should facilitate greater 911 reliability throughout the 911 call completion chain than the current asymmetrical rule does. As the Commission noted, “the end-to-end reliability of a 911 network depends upon the sum of its parts and how they function together.”¹⁷ Directly applying certification obligations to the appropriate participants in the call completion chain recognizes the critical role each participant plays in providing reliable 911 service and should help achieve the FCC’s goal of increased accountability while also improving 911 reliability overall.

III. CENTURYLINK SUPPORTS LIMITED EXPANSION OF CURRENT CERTIFICATION REQUIREMENTS PROVIDED THERE IS AN ADEQUATE IMPLEMENTATION TIMEFRAME.

A. October 2017 Is The Earliest Any New Certifications Should Be Effective.

To the extent the Commission adopts any new certification requirements, those new requirements should become effective no earlier than one year after the first full certification deadline under the current rules, or October 15, 2017. The NPRM comes less than one year after

¹⁷ NPRM, ¶ 48.

the release of the Commission's *Derecho Order*,¹⁸ which imposed significant new certification requirements on Covered 911 Service Providers to address vulnerabilities exposed in some networks during the 2012 Derecho storm. Carriers are already hard at work on those certification requirements, and they represent a substantial effort and expense as reflected in the *Derecho Order* proceeding,¹⁹ the FCC's own estimate to OMB regarding the burden to responding providers,²⁰ and based on CenturyLink's own experience. Moreover, when adopting the *Derecho Order*, the FCC represented that the Part 12 certification rules would be revisited in five years,²¹ so any new certification requirements need to be implemented over time to help account for this change in course. Thus, CenturyLink proposes that any new certification requirements be phased in beginning October 2017 with a 50% completion requirement, and with a 100% completion requirement in October 2018. This represents a reasonable implementation schedule as it is consistent with the timeframes established in the recent *Derecho Order*.

¹⁸ See note 11, supra.

¹⁹ For example, in the comments leading to the *Derecho Order*, Frontier stated it would require nine full-time employees to complete auditing on an annual basis (Comments of Frontier Communications Corporation, PS Docket No. 13-75 filed May 13, 2013, at p. 9).

²⁰ According to estimates the FCC provided to the Office of Management and Budget to gain approval for the certification requirements, the current 911 reliability rules apply to an estimated 1000 Covered 911 Service Providers and each will incur an average annual burden of over 170 hours. NPRM (Dissenting Statement of Commissioner Michael O'Rielly at p. 1). CenturyLink has already exceeded this burden estimate several times over, and the first certification is still many months away.

²¹ *Derecho Order*, ¶ 159 (citations omitted): The Commission will review the rules adopted in this *Report and Order* in five years to determine whether they are still technologically appropriate and both adequate and necessary to ensure reliability and resiliency of 911 networks. Review of the rules will also include consideration of whether they should be revised or expanded to cover new best practices or additional entities that provide NG911 capabilities, or in light of our understanding about how NG911 networks may differ from legacy 911 service.

B. CenturyLink Supports A Flexible Alarming Certification Criteria That Applies To The Covered 911 Service Provider’s Own Network.

The NPRM proposes, in half of a sentence, to expand the current network monitoring component of the existing certification rule to cover “the proper prioritization of critical network alarms.”²² The NPRM, in a footnote, then elaborates:

911 service providers should have processes in place to send critical alarms to appropriate personnel whenever a substantial proportion of 911 calls are not being processed or completed for more than a few minutes, regardless of cause. This may be accomplished through “peg counts” that compare the number of calls that enter a provider’s network to the number of calls that leave the network, or by comparing the number of calls originated to the number of ALI queries returned by the destination PSAPs. Service providers should also consider programming critical alarms to result in the automatic rerouting of 911 calls after reaching a set threshold of time or calls blocked.²³

The text of the proposed rule requires “establish[ment of] appropriate alarms for network failures that would be reasonably likely to result in a disruption of 911 service within a 911 Service Area, and procedures designed to ensure that such alarms quickly bring such network failures to the attention of appropriate personnel.”²⁴

Covered 911 Service Providers should have flexibility to determine the method of alarming they use, so long as the method is reasonably likely to bring disruptions of 911 service to the attention of appropriate personnel. Mandating a particular alarming method or standard is not feasible given the substantial amount of embedded equipment in the 911 ecosystem and the substantial cost that would be required to make a change of this magnitude. Although the footnote references that critical alarms should occur “whenever a substantial proportion of 911 calls are not being processed or completed for *more than a few minutes*,” CenturyLink is concerned about this timing expectation in low volume scenarios when alarms are triggered by

²² NPRM, ¶ 45.

²³ NPRM, n.108.

²⁴ NPRM, Appendix A, Proposed Section 12.4(c)(3)(D).

failed calls. If there are only very few 911 calls to a PSAP over the course of a few hours, an alarm may not sound “in a few minutes” if it is triggered by failed calls.

Moreover, any alarming certification must apply only to the Covered 911 Service Providers own network and speak to alarms designed to detect network failures on that provider’s own network. The text of the proposed rule is vague enough to be potentially construed as requiring multiple carriers in the call completion chain to have visibility to alarming when 911 calls fail to complete, regardless of on whose network the failure occurs. CenturyLink does not have visibility into the alarms of its network partners in the 911 ecosphere and can only reasonably certify as to the alarms it has in place to monitor 911 calls on its own network. Given the extremely brief discussion of this issue in the NPRM, CenturyLink does not construe this requirement to be mandating a greater level of interoperability or visibility, especially considering the network security issues such a requirement could pose.

CenturyLink is concerned about the Commission’s suggestion to program critical alarms to result in automatic re-routes of 911 calls. CenturyLink respectfully submits that a case-by-case approach on re-routes, rather than a regulatory mandate, is preferable and better suited to preserve 911 functionality. While automatic re-routes that are transparent to PSAPs may be appropriate for disruptions in the core 911 network, in CenturyLink’s experience, automatic re-routes that stand to affect the destination of 911 calls are best coordinated in real-time with the affected PSAPs. For example, if a PSAP is down and calls need to be re-routed to a backup PSAP, but the backup PSAP does not have adequate staffing to accommodate the anticipated increase in call volume from the re-route, coordination is needed to ensure the backup PSAP has time to call in additional staff. In addition, if a PSAP is down and the backup PSAP is also down, an automatic re-route to the backup PSAP would not restore 911 service. For these

reasons, CenturyLink cautions against mandating automatic re-routes that would change the destination of 911 calls.

C. With Respect To IP-Based Architecture, CenturyLink Supports Certification As To Load-Balancing and Geographic Distribution.

CenturyLink supports certification in the areas of load balancing and geographic distribution because they stand to promote 911 reliability and diminish what may be potentially widespread effects of an outage. CenturyLink respectfully submits that these certifications should be made by the IP network provider itself, and that the timeframe for implementation be no sooner than October 2017. While the NPRM proposes to have *automatic* re-route capability in the event of software or database failures as part of the certification, CenturyLink is concerned that an affirmative certification in this area may not meaningfully promote 911 reliability.

CenturyLink submits that a manual re-route capability – as opposed to automatic – would be sufficient to meet the Commission’s goal. As noted above, there are situations in CenturyLink’s experience where automatic re-routes may not be desirable or feasible when the destination PSAP would change. In those cases, re-routes coordinated in real-time with the affected PSAPs would better preserve 911 reliability.

D. Independent Vendor Certifications Should Be Permitted for Software And Database Certifications, But Those Terms Should Be Clarified.

Again with neither a cost-benefit analysis to justify the proposed rule nor an estimate of the burden this requirement would pose to Covered 911 Service Providers, the NPRM proposes another new certification requirement applicable to software and databases used by Covered 911 Service Providers in their provision of 911 service. The NPRM proposes to have Covered 911 Service Providers certify that any “software or database” used by it is “designed, configured, and tested to ensure reliable operation.”²⁵ This language is extremely sweeping, and could cover a

²⁵ NPRM, Appendix A, Proposed Section 12.4(c)(4)(B).

whole host of software and databases. The NPRM provides little explanation, again devoting only a half of a sentence to its discussion on the new certification requirement it seeks to impose.²⁶ CenturyLink would recommend that the term “software and databases” be more specifically defined so the obligation imposed by the rule is clear and can put parties on reasonable notice as to what is required.

Additionally, CenturyLink frequently relies on its underlying vendors to provide software and databases in the provision of 911 service, so would be reliant on those entities to provide sub-certifications should the Commission mandate requirements in this area. While CenturyLink conducts some of its own testing at implementation and engages in lab-lab discussions with its vendors, its testing is less extensive than that conducted by its vendor. To maintain confidentiality and protect trade secrets, there are limits to the information vendors will share with their customers about the development and inner-workings of their products. Thus, CenturyLink is dependent on its vendors and cannot replicate their testing. To the extent certification as to software and databases becomes a requirement, independent vendor certification should be permitted. Any such requirement should not become effective until at least October 2017.

E. CenturyLink Supports Certifying To Reasonable Measures To Preserve Service During Planned Maintenance.

Beginning October 2017, CenturyLink supports certifying to having reasonable measures to maintain continuity of 911 service during its planned maintenance and/or its software or database updates. Reasonable measures should include implementing planned re-routes and engaging in other coordination efforts with PSAPs to mitigate potential issues from the planned

²⁶ “Based on the Bureau’s findings with respect to the April 2014 multistate 911 outage and other large-scale disruptions in 911 service described above, we anticipate that one area of particular important will be the reliability and testing of software and databases used to process 911 calls, including planned maintenance and software upgrades.” NPRM, ¶ 45.

maintenance or upgrade and preserve continuity of service. Such measures should be required for planned maintenance only, as opposed to emergency maintenance which, by its nature, lacks the advanced scheduling as planned maintenance. As noted above, the certification should be clarified to apply to reasonable measures the Covered 911 Service Provider takes in response to its own planned maintenance or software/database updates.

IV. CENTURYLINK IS CONCERNED ABOUT SEVERAL OF THE NPRM'S PROPOSALS ON SITUATIONAL AWARENESS.

While CenturyLink can support the NPRM's proposal on situational awareness as it relates to testing PSAP notifications and updating PSAP contact databases, CenturyLink is extremely concerned about the other extensive regulations the NPRM is proposing under this umbrella given the complexity of the 911 ecosystem.

A. CenturyLink Supports Testing And Updating PSAP Contact Information.

The NPRM proposes a new certification to ensure Covered 911 Service Providers have reasonable measures in place to share appropriate information with PSAPs in the event of a disruption of service.²⁷ CenturyLink believes it is reasonable for Covered 911 Service Providers to periodically confirm PSAP contact information and to test notification plans periodically. As evidenced by the April 911 outage, CenturyLink also understands the need for statewide distributions in the event it becomes necessary to quickly contact large numbers of PSAPs, and believes measures like this will improve situational awareness among PSAPs. To that end and to ensure that Covered 911 Service Providers have correct information for the PSAPs they serve, PSAPs should be obligated to communicate any changes in their contact information to Covered 911 Service Providers and to timely respond to requests from Covered 911 Service Providers for contact information. As with the other new certification measures discussed above, these

²⁷ NPRM, ¶ 46.

obligations should become effective no earlier than October 2017 and be phased in as CenturyLink described in Section III.A.

B. Other Elements Of “Situational Awareness” Are Problematic Given The Increasing Complexity Of 911 Network Architecture And The Diversity Of Entities Supporting 911 Capabilities.

CenturyLink questions how it can maintain real-time situational awareness, as proposed by the NPRM,²⁸ regarding the operational status of 911 service throughout the 911 network when there are other Covered 911 Service Providers in the call completion chain. Provision of 911 service has evolved over the past several years and there are a variety of providers and network configurations in the 911 ecosystem. 911 service was not designed or contemplated to provide either “open access” to all entities in the call completion chain or visibility into each other’s networks. There are concerns associated with “open access” which are heightened because entities in the call completion chain are often competitors in the 911 space. These concerns include maintaining network security, protecting confidential and proprietary information, ensuring network partners do not unfairly advantage themselves by using this information in a competitively harmful way, or misinterpreting information viewed or accessed from a network partner which would exacerbate outage resolution rather than expedite it. Even if it were technically feasible to overcome these hurdles – which is an open question even the Commission acknowledges²⁹ – this issue needs time to be examined and explored among the Covered 911 Service Providers involved. Covered 911 Service Providers should have the flexibility to do this via commercial agreements which can take into account the variety of issues involved, including

²⁸ NPRM, ¶¶ 64-75.

²⁹ “While it may not be technically or economically feasible for a single entity to monitor, control or repair every segment of a 911 network from caller to PSAP...” NPRM, ¶ 65.

the technical and other considerations, and allocate responsibilities and risk in a reasonable manner.

C. CenturyLink Questions How The Role Of 911 NOC Provider Would Work In Practice.

The NPRM proposes to create the new role of 911 NOC Provider that would be a clearinghouse for critical information during major 911 outages. The NPRM proposes to assign that role to the 911 transport provider, which the NPRM recognizes is typically the ILEC. In an NG911 architecture the NPRM acknowledges that “the 911 transport function may be performed by an ESINet provider” and “envisio[n]s that the ESINet provider would assume the 911 NOC Provider role” in these cases.³⁰

Even from the limited perspective of PSAP volume, this would be a staggering undertaking for a company of CenturyLink’s size. Setting aside for the moment the scope of 911 NOC Coordinator’s proposed duties and whether they are reasonable, for an entity as large as CenturyLink, taking on any new role for the multitude of PSAPs it serves would be extremely extensive and burdensome. CenturyLink estimates it serves approximately 1600 different PSAPs nationwide, with a variety of network partners and network configurations. CenturyLink is concerned that the NPRM provides no cost-benefit analysis to justify the rule and no estimate of the burden this requirement would pose to affected entities.

CenturyLink’s concerns are exacerbated by the proposed breadth of the 911 NOC Provider’s duties. To be clear, the proposed role of the 911 NOC Provider is enormous – in each jurisdiction, the 911 NOC Provider would be charged with monitoring the availability of 911 services and coordinating situational awareness and information sharing during disruptions in 911 service. Disruptions in 911 service would include events resulting in a complete loss of 911

³⁰ NPRM, ¶ 67.

service, as well as events that substantially impair service quality or public access to 911 without a complete loss of service, including disruption of ALI, ANI, LIS, or any other services that locate callers geographically.³¹ In the event of such a disruption in 911 service, the 911 NOC Provider is to request information from any other affected Covered 911 Service Provider(s) regarding their situational awareness of the cause and scope of the outage from the origination to the completion of 911 communications, including voice calls, ALI, ANI, LIS, and text-to-911. The 911 NOC Provider is required to communicate to any other affected Covered 911 Service Providers, PSAPs, state emergency management offices, and to the Commission’s Operations Center, all information reasonably available to mitigate the effects of the disruption and to restore service. All other Covered 911 Service Providers are to communicate to the 911 NOC Provider all reasonably available information regarding the cause and scope of a disruption in 911 service that occurs on or affects portions of the 911 call.³²

Despite the undeniable breadth of this role, the NPRM blithely attempts to construe it as “limited” and not requiring omniscience regarding network components outside 911 NOC Provider’s control:

We also emphasize that the proposed responsibilities of 911 NOC providers during an outage would be limited in scope. For instance, 911 NOC providers would not be expected to have omniscient situational awareness of the status of 911 network components outside their control³³ except to the extent they are empowered to obtain such information from other parties or through their own network monitoring processes. Instead, 911 NOC providers would serve as a hub for the collection, aggregation, and communication of available information

³¹ NPRM, Appendix A, Proposed Section 12.7.

³² NPRM, Appendix A, Proposed Section 12.7.

³³ 911 NOC providers would be responsible for network components within the control of their agents, contractors and sub-contractors, or others acting on their behalf. *See* NPRM, ¶ 18 (noting how the Commission has long held that licensees and other regulatees are responsible for the acts and omissions of their employees and independent contractors).

among covered 911 service providers and other affected stakeholders to mitigate the impact of outages and support rapid restoration of service.³⁴

However, examining the proposed rule and the NPRM text leads to a different conclusion. The NPRM explicitly proposes to hold 911 NOC Providers responsible for network components within the control of their “agents, contractors and sub-contractors, or others acting on their behalf.”³⁵ Thus, a considerable degree of omniscience would be imputed to the 911 NOC Provider, regardless of what actual knowledge the 911 NOC Provider may or may not possess. And, for entities outside that circle of control, the proposed rule would “empower” 911 NOC Providers to obtain information on situational awareness from other providers, while, in turn, requiring providers to share such information with the 911 NOC Provider. With these capabilities, the NPRM’s stated exception to omniscience is arguably wiped out and the 911 NOC Provider stands to be, in essence, imputed with total omniscience, regardless of what actual knowledge it possesses or is able to obtain from others in the call completion chain. Moreover, the 911 NOC Provider is to monitor 911 service availability, but the NPRM is unclear about what tools or actual capability the 911 NOC Provider would have to perform that function. CenturyLink questions how the 911 NOC Provider can adequately fill the role the NPRM proposes without the appropriate tools – which may not be technically feasible. Moreover, without those tools, this role cannot reasonably yield meaningful public safety benefits.

In addition to network monitoring, the NPRM proffers additional functions for the 911 NOC Provider that are problematic: “[w]hile it may not be technically or economically feasible for a single entity to monitor, control, or repair every segment of a 911 network from caller to PSAP, it would be helpful for one covered 911 service provider in each jurisdiction to perform a

³⁴ NPRM, ¶ 68.

³⁵ NPRM, ¶ 68, n. 132.

triage function to mitigate the duration and impact of outages.”³⁶ CenturyLink is very concerned about what is intended by this “triage function.” It is not feasible for one carrier to monitor, control, or repair another carrier’s network, as suggested by the NPRM. Even in a triage function. Each provider must maintain control of its own network for a variety of well-established legal and technical reasons, and cannot be expected to cede control even in the case of a 911 outage.

In sum, as proposed, a 911 NOC Provider risks substantial financial penalty for failing to be omniscient because it will be charged with monitoring another Covered 911 Service Provider’s 911 network (whether or not it can actually do so), recognizing a disruption in 911 service caused by another provider’s network (whether or not it can actually do so), and communicating that disruption (of which it may not be aware) to other Covered 911 Service Providers and PSAPs to mitigate it. While CenturyLink appreciates the NPRM’s attempt to improve situational awareness, CenturyLink questions whether that can be best achieved through the proposed regulatory mandate given the complexities of diagnosing and resolving outages in real-time and the particularized expertise each provider has unique to its own network. To help overcome these hurdles, at a minimum CenturyLink recommends that the role be substantially narrowed to being an information repository, recognizing that the 911 NOC Provider can only pass along information of which it has actual knowledge. An actual knowledge standard is essential to keep the 911 NOC Provider’s role commercially reasonable and workable. Rather than triggering the 911 NOC Provider’s role for every 911 outage, this function should be reserved for large scale outages or major events (e.g., statewide impact, natural/manmade disasters). This will help make the role more manageable and focused on significant events

³⁶ NPRM, ¶ 65.

which could benefit from added coordination. Further, the 911 NOC Provider should have some degree of immunity in its performance of this function, similar to that provided in state statutes that insulate 911 providers from liability unless they fail to meet a threshold standard of care.³⁷ Other rules and obligations, such as NORS reporting and PSAP notification, would remain in place to ensure that the appropriate authorities are timely informed of outages.

V. CENTURLINK DISAGREES WITH THE NPRM’S CHARACTERIZATION OF SECTION 64.3001 AS A 911 RELIABILITY MANDATE.

While CenturyLink understands the NPRM’s proposed addition of more certification requirements to improve 911 reliability in light of recent “sunny day” outages, CenturyLink is puzzled by the NPRM’s unprecedented characterization of certain existing 911 reliability rules in support of those measures. Specifically, CenturyLink is concerned about the NPRM’s characterization of Section 64.3001 as a 911 reliability mandate. The NPRM cites Section 64.3001 in support of “establish[ing] proactive accountability for transmission of 911 calls to the appropriate PSAP,”³⁸ noting that Section 64.3001 requires certain OSPs to “transmit all 911 calls to a PSAP” while Section 4.9(h) requires notifications to PSAPs of disruptions in 911 service. The NPRM goes on to state that “[t]ogether, these rules reflect the principle that all service providers in the chain of 911 service – from origination to completion – must be accountable for reliable service and responsive in the event of an outage.”³⁹ This is a recent and improper characterization of Section 64.3001. The NPRM cites Section 64.3001 four separate times;

³⁷ See, e.g., N.C. GEN.STAT. § 62A-53 (“Except in cases of wanton or willful misconduct, a voice communications service provider and its employees, directors, officers, and agents are not liable for any damages in a civil action resulting from death or injury to any person or from damage to property incurred by any person in connection with developing, adopting, implementing, maintaining, or operating the 911 system or in complying with emergency-related information requests from State or local government officials. This section does not apply to actions arising out of the operation or ownership of a motor vehicle.”).

³⁸ NPRM, ¶ 41.

³⁹ NPRM, ¶ 19.

notably, the *Derecho Order* doesn't mention Section 64.3001 at all. If Section 64.3001 were speaking to 911 reliability, it would have been a basis for the *Derecho Order's* establishment of the 911 reliability measures in Part 12. Its absence there, yet frequent appearance in this NPRM, is telling.

Examining Section 64.3001's history makes clear that it is a routing obligation adopted in the context of establishing 911 as the nationwide emergency calling number.⁴⁰ Section 64.3001 was promulgated nearly 15 years ago as part of the FCC's effort to implement the 911 Act, which sought to establish 911 as the universal emergency telephone number nationwide and to encourage and facilitate the prompt deployment of network infrastructure to support it. A key issue at the time for the FCC was how carriers should treat calls to 911 in communities in which abbreviated dialing had not yet been implemented or where PSAPs or other established answering points were not yet in place. The FCC addressed this by developing "a flexible transition approach" to 911 implementation. But in doing so the FCC noted that before turning to that transition scheme it had to determine, based on the language of the 911 Act, which "appropriate authorities" should qualify for 911 call delivery. The FCC did so by clarifying that "appropriate authorities" would include, in addition to PSAPs, the "statewide default answering point" and an "appropriate local emergency authority." The FCC then memorialized that decision in its rules (in Section 64.3001 for wireline carriers). In no place and at no time did the FCC suggest that its approach imposed an affirmative obligation to *transmit* 911 calls. Rather,

⁴⁰ *In the Matter of Implementation of 911 Act, The Use of N11 Codes and Other Abbreviated Dialing Arrangements*, WT Docket No. 00-110, CC Docket No. 92-105, Fifth Report and Order, et al.16 FCC Rcd 22264, (rel. Dec. 11, 2001), ¶ 16 ("[I]n transitioning to the use of 911, carriers must implement a permissive dialing period, during which emergency calls will be routed to the appropriate emergency response point using either 911 or the seven- or ten-digit number to allow time for the education of consumers as to the transition to the use of 911.") ("911 Implementation Order").

the FCC focused entirely on the *place* to which such calls should be routed, depending on the circumstances. Thus, the order that promulgated Section 64.3001 makes clear that the rule imposes only a *routing* obligation.⁴¹

Section 64.3001 was never intended to be a 911 reliability mandate. In the 15 years since Section 64.3001 was adopted, it has never been construed as a reliability mandate or to apply in the event of a network outage.⁴² Indeed, if Section 64.3001 were construed to be a reliability mandate, it would impose a strict liability standard on completion of all 911 calls. This construction would subject 911 service providers to liability for failing to complete 911 calls to a PSAP for any reason – even acts of God or terrorist acts – and there is no indication in the language or history of this rule that this was ever intended. Moreover, if Section 64.3001 were a reliability mandate, there would be no need for the NPRM’s new proposed Rule Section 12.4(b),

⁴¹ See, e.g., 911 Implementation Order, ¶¶ 19, 20 (“Where a seven- or ten-digit number is in use by a PSAP, carriers must prepare and modify switches to ‘translate’ the three-digit 911 dialed emergency calls at the appropriate network points to the seven- or ten-digit emergency number in use by those PSAPs, and, subsequently, route the calls to them. As noted above, commenters generally concur that the technical measures to achieve translation for basic 911 can be readily implemented within a period of approximately six months. ... [C]arriers also may need time to coordinate with local entities or authorities to ensure the appropriate routing and delivery of 911 calls and make database updates”).

⁴² The FCC has never revisited the purpose or rationale for Section 64.3001, although it has cited it once in a recent enforcement action. Specifically, in *Hinton Telephone*, a carrier *routed* 911 calls to an inappropriate place – to an automated AT&T operator service that instructed the caller to “hang up and dial 911” – rather than to one of the places prescribed by Section 64.3001 and 64.3002(d) (requiring a carrier to exercise “reasonable judgment” on where to route 911 calls when no PSAP, designated statewide answering point, or appropriate local emergency authority has been designated by the community). As a result, the FCC found “that Hinton apparently violated Section 64.3001 and 64.3002(d) of the Rules by failing to exercise reasonable judgment in the identification of an appropriate local emergency authority to which to route 911 calls from its Caddo County customers.” In the Matter of The Hinton Telephone Company of Hinton, Oklahoma, Inc., d/b/a Hinton Telephone Company, Notice of Apparent Liability for Forfeiture, 29 FCC Rcd 9228, (rel. Aug. 4, 2014), at pp. 5-6.

which seeks to impose a general reliability obligation on Covered 911 Service Providers.⁴³ In light of the above, CenturyLink cannot accept the NPRM's attempt to characterize Section 64.3001 as a 911 reliability standard.

VI. FEDERAL REGULATION OF MAJOR CHANGES TO, AND ISCONTINUANCE OF, 911 SERVICE STANDS TO FRUSTRATE EFFICIENT PROVISION OF SERVICE.

In addition to the various new certification requirements the NPRM proposes, the NPRM also introduces sweeping new federal regulation to the 911 space. Specifically, the NPRM seeks to impart a comprehensive new federal regulatory scheme on major changes to and discontinuance of 911 services.⁴⁴ These regulations would not be limited to NG911, which has an interstate service component, but would seemingly apply to all 911 services, regardless of whether the services are interstate or intrastate. Significantly, the NPRM fails to provide a direct link as to how these new requirements would reasonably prevent major 911 outages or improve 911 reliability. CenturyLink is concerned that these proposals would frustrate efficient provision of service without yielding tangible public safety benefits.

State and local authorities are well-equipped to manage the 911 services provided in their areas. As the Commission previously observed, “[r]esponsibility for establishing and designating PSAPs or appropriate default answering points, purchasing customer premises equipment (CPE), retaining and training PSAP personnel, purchasing 911 network services, and

⁴³ NPRM, Appendix A, Proposed Section 12.4(b): “All Covered 911 Service Providers shall take reasonable measures to provide reliable 911 service.”

⁴⁴ NPRM, ¶¶ 48-56. The NPRM also proposes new requirements for market entry, but since CenturyLink is already a Covered 911 Service Provider, those requirements for new entrants would not apply to it.

implementing a cost recovery mechanism to fund all of the foregoing, among other things, falls squarely on the shoulders of states and localities.”⁴⁵

A. Major Changes Coordinated With PSAPs And Not Affecting 911 Function Should Not Require Prior Notice To The FCC.

The NPRM proposes to require at least 60 days notification⁴⁶ prior to a Covered 911 Service Provider making major changes to network architecture or the scope of 911 services which are not covered by existing network change notification requirements under Section 251.⁴⁷ The NPRM proposes generally that changes with impact on 911 service in more than a single state should be considered major, but seeks comment on that conclusion.⁴⁸ The NPRM’s rationale is to increase transparency, promote cooperation and information sharing while also recognizing the public’s “vested interest” in understanding changes that may affect its access to 911.⁴⁹ Exceptions to public notice would be “changes initiated at the request of the PSAP” or changes necessary to mitigate the effects of a service disruption.

CenturyLink respectfully submits that this rule would be quite cumbersome in practice, serving little practical benefit to improve 911 reliability but potentially delaying implementation of needed or recommended network improvements. The NPRM would, in essence, needlessly put major network changes on hold while the 60-day notice period tolls. Under the proposed language, any change that is coordinated with and acceptable to the PSAP, but not strictly “initiated by” the PSAP, would be subject to this lengthy process. So long as the network

⁴⁵ *In the Matters of IP-Enabled Services; E911 Requirements for IP-Enabled Service Providers, First Report and Order and Notice of Proposed Rulemaking*, 20 FCC Rcd. 10245 at 10249, ¶ 7 (rel. Jun. 3, 2005) (VoIP 911 Order).

⁴⁶ NPRM, ¶ 51.

⁴⁷ NPRM, ¶¶ 49-51.

⁴⁸ NPRM, ¶ 52.

⁴⁹ NPRM, ¶ 50.

change is coordinated with the PSAP, and the change is transparent from an end-user perspective, CenturyLink questions why a lengthy prior public notice period is necessary. Because of the potential this rule has to hinder timely network changes and make Covered 911 Service Providers less attendant to the needs of their PSAP customers, CenturyLink recommends modifying this proposal to, at a minimum, substantially shorten this period, or even eliminate it entirely for changes coordinated with PSAPs that are transparent to end users.

B. The Proposed Discontinuance Requirements Are Problematic.

The NPRM also proposes an approval process before any Covered 911 Service Provider can discontinue, reduce or impair existing services. Examples of actions triggering an approval requirement are exiting from a line of 911 services previously provided to PSAPs in more than one state, terminating or reducing technical support or maintenance for 911 network components or customer premises equipment in more than one state, or reducing or impairing service quality levels for 911 service to PSAPs in more than one state. Changes initiated by a PSAP and changes subject to Section 214 authorization do not require approval.⁵⁰ Discontinuance applications will either be granted, granted with conditions, or denied within 60 days.⁵¹

CenturyLink is concerned about this proposal because it may interfere with existing contractual obligations while hindering Covered 911 Service Providers' ability to run their businesses and provide efficient service. The proposal potentially conflicts with and undermines contractual arrangements CenturyLink has in place with other network providers and PSAP customers. Those contractual arrangements contain provisions to ensure orderly transitions of service; there is nothing in the record to suggest that market forces are somehow failing and that extensive regulation is necessary to facilitate transitions or continuity of service and to protect

⁵⁰ See Appendix A, Proposed Sections 12.5(b)(3) and (b)(4).

⁵¹ See Appendix A, Proposed Section 12.5(b)(2).

public safety. To the contrary, market forces have shaped 911 into a competitive service with a variety of providers vying for PSAP business. Given that there are alternative providers in the marketplace, there is less risk for the FCC to manage through an extensive discontinuance process. As noted previously, there does not seem to be any need or tangible public safety benefits for the proposed scheme. Moreover, some of the NPRM's proposed discontinuance criteria are quite vague and overbroad – any service quality reductions or reductions in technical support in more than one state could trigger an approval filing. If a provider seeks to consolidate multiple 911 technical support centers nationwide to improve efficiency, that could be construed as a “reduction” triggering a discontinuance filing requiring Commission approval, approval which may be conditioned or not granted at all. If a provider is providing sub-par service and wishes to exit the market and the PSAP has no objection, that decision would not be “initiated by the PSAP” and would trigger an approval filing and lengthy waiting time before service could be transitioned. And there is the real prospect that a Covered 911 Service Provider may never enter the market because of the risk they may not be allowed to exit a market or line of service.

CenturyLink believes adopting extensive discontinuance regulations at this time would be premature and that it would be appropriate to revisit these measures when the Commission does its next review of 911 certification rules to again examine whether there are meaningful public safety benefits to be achieved through regulation. To the extent the Commission disagrees and decides to move forward with discontinuance regulation now, CenturyLink recommends any discontinuance, reduction or impairment that is coordinated with a PSAP be exempt from federal approval requirements. This approach would be consistent with the NPRM's stated goals “not to supplant state action” and not “to interfere with the right of state and local 911

authorities to contract for the services they desire or to determine the best path for deployment of NG911 technologies within their jurisdictions.”⁵²

VII. CONCLUSION.

CenturyLink appreciates the Commission’s leadership in preserving and improving public safety through the transition to NG911. CenturyLink looks forward to working with the Commission to ensure that the transition to NG911 is a smooth one and that any additional rules being considered are feasible and have meaningful public safety benefits.

Respectfully submitted,

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⁵² NPRM, ¶ 38.