

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

In the Matter of)	
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)	
Amendments to Part 4 of the Commission's)	PS Docket No. 15-80
Rules Concerning Disruptions to)	
Communications)	
)	
New Part 4 of the Commission's Rules)	ET Docket No. 04-35
Concerning Disruptions to Communications)	
)	

COMMENTS OF VERIZON

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SUMMARY

The Commission should simplify the Part 4 outage reporting thresholds, apply obligations consistently across different networks in a competitively neutral and technically feasible way, and focus only on significant outage events caused by network problems. The Commission can accomplish these objectives while preserving its interests in monitoring the reliability of different communications networks and using data to improve network reliability through industry best practices. Certain proposals in the *Notice of Proposed Rulemaking*, however, would not achieve these objectives.

Requiring carriers to separately report “partial” 911 outages would cause carriers to over-report and blur the distinction between consumer-affecting outages and minor incidents, thus diluting the effectiveness of NORS data. The Commission should just clarify that under the existing rules, a significant degradation of 911 service is reportable based on when the provider reasonably becomes aware pursuant to normal business practices that a reportable outage has occurred. A reporting threshold based on the percentage of trunks out of service, irrespective of service impact, would divert focus from significant outages that adversely affect PSAPs or consumers and would not enable meaningful comparisons between outages. And 911 call completion percentage is not a viable option given service providers’ lack of visibility into one another’s networks and limited real-time access to that information. The Commission should instead encourage collaborative stakeholder efforts to develop standards for reporting partial outages under the existing rules, based on service providers’ existing monitoring capabilities.

Requiring wireless carriers to report incidents of blocked calls resulting from high wireless call volumes would drift even farther from the Commission’s Part 4 objectives by treating a resilient and functional wireless network as a reliability problem. Call blocking data is often not available during or shortly after an incident, and a standard that applies consistently across all service providers and platforms, including licensed and unlicensed wireless services, will be elusive given how wireless networks and technologies evolve rapidly. And a blocked call metric for wireline providers is unnecessary given the P.01 standard of service and existing outage reporting metrics for blocked calls.

The Commission should simplify the outdated reporting thresholds for wireless outages based on macro cell sites out of service in a given geographic area rather than user minutes, and apply a standard four-hour period for the initial notification filing. This proposal would make a separate geography-based reporting threshold unnecessary. If the 900,000 user minutes threshold is retained, the “average number of users per site” metric, based on macro cell sites, is the preferable of the *NPRM*’s two proposals and should apply across all wireless platforms. The more complex proposal to use Visitor Location Register data is based on legacy wireless technology and would become quickly outdated. The *NPRM* also does not show why a separate geography-based metric is necessary, but in no event should it be based on the percentage of a provider’s advertised coverage area.

The *NPRM*’s proposed increase of the capacity threshold for what constitutes a major transport outage from a DS3 to an OC3 basis would more accurately reflect current technology and reduce service providers’ and Commission staff’s administrative burdens. The shorter time threshold proposed for reporting “simplex” events, however, would outweigh those benefits by

significantly increasing the number of reports and associated costs. In no event should the reporting deadline be less than three days given the need to accommodate service provider maintenance and repair schedules.

Expanding the facilities subject to “Special Office” reporting requirements is unnecessary. Narrowing the definition of covered airport facilities is appropriate, but applying the rules to Telecommunications Service Priority-eligible facilities would require brand new monitoring capabilities for low-capacity facilities that serve many non-governmental enterprises.

Finally, if the Commission affords other government agencies access to NORS data, it should require that the data be treated confidentially, and service providers should have the opportunity to comment on the agency’s safeguards before allowing such access. And use restrictions are needed to ensure the data is used only for public safety purposes.

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The Commission should use this proceeding to simplify the outage reporting thresholds and apply obligations consistently across different networks in a competitively neutral and technically feasible way, while focusing on significant outage events caused by network problems. The Commission can accomplish these objectives while preserving its interests in monitoring the reliability of different communications networks and using data to improve network reliability through industry best practices. Certain proposals in the *Notice of Proposed Rulemaking*,¹ however, would not help the Commission accomplish these objectives. For example, requiring carriers to separately report “partial” 911 outages would cause carriers to over-report and blur the distinction between consumer-affecting outages and minor incidents, thus diluting the effectiveness of NORS data. Requiring wireless carriers to report incidents of blocked calls resulting from high wireless call volumes would drift even farther from these

¹ *Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, Notice of Proposed Rulemaking, Second Report and Order and Order on Reconsideration, 30 FCC Rcd 3206 (2015) (“*NPRM*”).

objectives by treating a resilient and functional network as a reliability problem. And applying the rules to Telecommunications Service Priority-eligible facilities would require brand new monitoring capabilities for low-capacity facilities.

Other proposals in the *NPRM* have promise, but need refining. For example, increasing the capacity threshold for what constitutes a major transport outage would more accurately reflect current technology, but the burdens of a shorter time threshold for reporting “simplex” events would outweigh the resulting benefits. Reporting thresholds for wireless outages should be simpler, but based on cell sites out of service, not user minutes. And if the Commission affords other government agencies access to NORS data, they must treat the data confidentially and use it only for public safety purposes.

I. NEW REPORTING THRESHOLDS FOR PARTIAL 911 OUTAGES WOULD CAUSE OVERREPORTING AND RESULT IN LESS VALUABLE DATA.

Creating new reporting thresholds for “significant degradation” of 911 service is unnecessary and counterproductive. The *NPRM* acknowledges that the Part 4 rules already define an “outage” in those terms, but suggests that some service providers are not applying the rule correctly.² This is not consistent with Verizon’s experience, as its alarms and monitoring systems capture many reportable events in which many but not all 911 communications reach a PSAP. The solution is to ensure that service providers apply the existing rule correctly, not impose new reporting burdens. The Commission need only reiterate its current policy that a significant degradation of 911 service (like a complete outage) is reportable based on when the

² *Id.* ¶¶ 9-12.

provider reasonably becomes aware pursuant to normal business practices that a reportable outage has occurred.³ New reportable outage thresholds are not needed for that purpose.

Imposing new reporting thresholds, in contrast, will incent carriers to over-report outages to avoid potential enforcement penalties, including events that do not adversely affect 911 service. Over-reporting, in turn, will degrade the value of the outage data reported to the Commission by *understating* 911 network reliability and harming the effectiveness of best practices derived from that data. For example, providers may err on the side of caution and report circuit failures in “simplex”-type events, even if the network works as designed to seamlessly re-route traffic to redundant facilities and ensure that consumers and PSAPs suffer no loss of service. This, in turn, would blur the otherwise self-evident distinction between simplex-type events and the consumer- and service-affecting incidents that should be the concern of the Part 4 rules. The Commission’s NORS data would thus become less useful for both situational awareness and the development of best practices. And if service providers are compelled to treat an incident that does not affect customers the same as a full outage that does, the proposed rule would penalize rather than reward service providers for building reliability into their networks.

Despite these problems, the *NPRM* proposes additional granular reporting thresholds for partial outages that would go well beyond a simple clarification of existing law.⁴ Each proposal would impose new information technology (IT) development and implementation costs on service providers. The *NPRM* first proposes new reporting thresholds based on a percentage of trunks out of service—irrespective of service impact. The proposal thus drifts away from the Part 4 rules’ focus on significant outages that adversely affect PSAPs or consumers. Even if the

³ See *id.*; *New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, Order Granting Partial Stay, 19 FCC Rcd 25039, ¶ 8 (2004).

⁴ See *NPRM* ¶ 12.

Commission were to adopt a seemingly high percentage,⁵ meaningful comparisons between different 911 outages would be impractical. Service providers use different trunk configurations and technologies. Most but not all PSAPs maintain secondary trunk groups, relationships with secondary PSAPs, and tertiary backup transport capabilities such as microwave facilities. Reporting outages affecting secondary trunks when primary trunks operate fully makes little sense. Treating a service provider's use of simplex-type mechanisms as an outage when 911 calls automatically route to an alternate path, would also offer little value. And the difficulties of drawing meaningful comparisons between different types of partial 911 outages will become more acute as PSAPs deploy NG911 systems with redundant IP-enabled transport and routing.

The *NPRM* proposal to treat 911 call completion percentage as a reporting threshold poses even more problems. Originating service providers do not have visibility into 911 call termination networks. 911 service providers serving PSAPs do not have visibility into calls that fail at an originating service provider's network. And even if a provider can determine the number of incomplete 911 calls, it likely cannot obtain that information until well after an outage concludes. But applying the current 120-minute notification deadline based on that metric would require immediate access to the information. The proposal would thus give providers incentive to treat any 911-related incident as a reportable outage once a service provider becomes aware of *any* number of incomplete 911 calls, no matter how small or limited it turns out to be.

While the Commission should not adopt any supplemental reporting thresholds for partial 911 service outages, public safety and industry stakeholders can develop consistent practices for determining when a partial loss of communications to PSAPs could meaningfully affect 911 callers. Collaborative bodies like the CSRIC and ATIS are more effective for developing

⁵ *See id.* (suggesting 80 percent).

objective, competitively neutral standards that can be applied across different platforms and network architectures. The Commission should thus work with stakeholders to assess which partial 911 outages are discoverable using today's monitoring systems, and objective and technically feasible criteria that can apply across platforms in a competitively and technology-neutral manner. The Commission should *not*, however, incorporate this information into its outage reporting procedures and timetables.

II. THE COMMISSION SHOULD NOT TREAT HIGH VOLUME CALLING EVENTS AS NETWORK OUTAGES.

The *NPRM* inaccurately characterizes high volume calling events, such as the 2011 earthquake in the mid-Atlantic region and the Boston Marathon terrorist bombing, as network reliability failures.⁶ The temporary network congestion that occurred during those events reflected limitations in the availability of service, not the reliability or resiliency of wireless networks. In cases where networks function as designed and do not fail during trying periods, new reporting requirements would not serve the Part 4 objective of developing carrier practices that enable networks to remain operational during disaster events.⁷ Rather, they would collect information for the sake of it.

It will be difficult to apply a standard consistently across all service providers and platforms. Wireless networks and technologies evolve rapidly. Providers are at different stages of supplementing their legacy circuit-switched networks with LTE; they are densifying and diversifying their network architectures in varying degrees to meet consumer demands; and they are coupling their licensed networks with unlicensed spectrum and, in the future, may employ

⁶ See *NPRM* ¶ 14.

⁷ See *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 16830, ¶¶ 14-17 (2004).

other shared use technologies such as those envisioned for the 3.5 GHz band. With the resulting overlapping site coverage and “offloading” capabilities, consumers may still be able to complete calls even though some sites in the radio access network are otherwise congested. A competitively neutral metric would also need to account for all wireless VoIP providers—not just spectrum licensees providing VoLTE, but competing providers of wireless VoIP service using unlicensed spectrum. And even if there were a role for information gathering and analysis of high call volume events, the current Part 4 reporting deadlines (120 minutes, 72 hours and 30 days) should not apply. Service providers need a reasonable period of several days after an event to gather data because it may not be available in real time.

Finally, wireline networks do not need a new call blocking metric. Public safety and industry groups worked together long ago to establish the “P.01 grade of service” for 911 trunking. That standard determines how much trunk capacity must be in place to ensure that no more than one 911 call out of 100 attempts would be blocked during the “average busy hour.”⁸ And as the *NPRM* acknowledges, wireline providers are already subject to NORS reporting based on blocked calls at tandem facilities; an additional blocking metric would be redundant.⁹

III. THE COMMISSION SHOULD ESTABLISH A SIMPLER REPORTING METRIC FOR WIRELESS NETWORK OUTAGES BUILT UPON SERVICE PROVIDERS’ EXISTING PRACTICES.

A. The Commission Should Replace the 900,000 User Minutes Threshold with a Cell Site Out-of-Service Metric.

The *NPRM* recognizes that wireless technologies have long outpaced the current Part 4 formula for calculating the number of users “potentially affected” by an outage. The

⁸ *NENA E9-1-1 Voice Circuit Requirements, Providing a P.01 Grade of Service*, Technical Information Document, NENA 03-506, Issue 1 (Apr. 13, 2007).

⁹ See *NPRM* ¶ 14 n.22.

Commission should adopt a new cell site-based formula that can uniformly apply across service providers and platforms, is technology and competitive neutral, and leverages service providers' alarm and reporting systems.

The *NPRM* offers the opportunity to consider simpler alternatives to the current 900,000 user minutes threshold for wireless and mobile VoIP outages.¹⁰ But by focusing on potential new methods to calculate the 900,000 user minutes threshold, the *NPRM* would not go far enough. Any user minutes threshold poses ongoing IT challenges and time- and labor-intensive compliance burdens. User minutes thresholds require the reporting of outages within a variable period after discovery, depending on the scope and scale of the outage. Providers must continually monitor even outages affecting just a single cell site, because even such a small outage could theoretically become reportable at some point. This approach might have made sense when industry's focus was on deployment of high-power "macro" cell sites to expand geographic coverage. It is less relevant, however, as wireless networks become more capacity-oriented with overlapping cell site coverage, as a call may be routed via a higher power macro cell site rather than an out of service small cell or microcell (or vice-versa).

The Commission should instead require that an outage be reported within a set period of time after discovering that it affects a minimum number of sites in a geographic area. A threshold of at least 30 macro sites within a given geographic area is warranted to account for site densification and new small cell architectures, and the covered geographic area should be no smaller than a Cellular Market Area ("CMA") or Partial Economic Area ("PEA") that uses existing county boundaries. Service providers already have experience with a similar methodology through participation in the voluntary Disaster Information Reporting System

¹⁰ See 47 C.F.R. § 4.7(e)(2).

(“DIRS”). And a uniform four-hour period to replace the current 120 minute deadline would give service providers some additional time to focus on service restoration and analysis during the early stages of an outage. This alternative could greatly simplify reporting processes for service providers and ensure the timely filing of information useful to the Commission’s situational awareness and analytical responsibilities.

If the Commission instead retains the user minutes threshold, one of the two alternative methods to calculate the 900,000 user minutes threshold proposed in the *NPRM* is preferable to the other. The first would use an “average number of users per site” metric; the second would use Visitor Location Register (“VLR”) data as of the outage start time as a proxy for affected users. A version of the first option based on macro sites would work best. The method must include a straightforward calculation of customers served in the affected area, presuming that each user is served by a single macro site and assignments are distributed evenly throughout the provider’s network.¹¹ The second proposal, which would use VLR data to determine the actual number of users served at each affected site, would impose significant IT burdens and is based on legacy wireless technology not used in LTE or unlicensed wireless networks. The VLR approach would thus perpetuate the complexities of the current rule while becoming quickly outdated. And as with the *NPRM*’s proposed wireless call blocking metric, the Commission should consider how any revised metric would apply in a competitively neutral way to all wireless voice providers—not just facilities-based spectrum licensees, but competing providers of unlicensed wireless VoIP services.

¹¹ See *NPRM* ¶ 33.

B. The Percentage of Sites Out of Service Metric Would Achieve the Commission’s Objectives for Less-Populated Areas.

Verizon’s proposal to report wireless outages based on cell sites out of service would include a geographic component that avoids any need for the separate, geography-based reporting threshold proposed in the *NPRM*.¹² But the *NPRM* does not establish a need for a new metric to address outages in lesser populated areas in any event. NORS already requires that wireless providers report the counties affected by outages and thus should indicate network reliability in less populated areas. And the *NPRM* does not explain if reportable wireless outages typically exclude data from less populated counties. Reportable outages cover a wide variety of geographic areas and population densities. Before proceeding with an additional reporting threshold, the Commission thus should first disclose and discuss with affected stakeholders what its existing NORS data reveal about network reliability in less populated areas.

The Commission should not, however, adopt a reporting threshold based on the percentage of advertised coverage area. That methodology would entail considerable IT costs and applying it consistently across different service provider networks would be challenging. Advertised “coverage” can depend not just on technical factors like the signal strength of the radio access network, the underlying wireless technology and network architecture, and consumer device capabilities, but a service provider’s own marketing policies. Focusing on the advertised coverage area would not only result in disparate regulatory treatment of competing service providers, but would not enable the Commission to make meaningful reliability comparisons between them.

¹² See *supra* Section III.A; *NPRM* ¶¶ 34-35.

IV. THE PROPOSED 48-HOUR PERIOD FOR REPORTING SIMPLEX OUTAGE EVENTS WOULD ELIMINATE THE BENEFITS OF THE NEW OC3 MINUTES THRESHOLD.

The Commission should adopt its proposal to change the reporting threshold from 1350 DS3 minutes to 667 OC3 minutes, which would ensure that the rule and reporting procedures target the high-capacity facilities described in the *NPRM*.¹³ This approach better reflects the evolution of wireline networks today toward higher-capacity facilities and services, and would help cull many minor incidents affecting lower-capacity facilities from the reports – thus reducing both service providers’ and the Commission staff’s administrative burdens.

These benefits would be more than offset, however, by the costly proposal to reduce the reporting period for simplex outages from five days to 48 hours.¹⁴ The Commission’s assertion that providers are not following best practices for repair of simplex events is not reflected in Verizon’s experience. Even so, Verizon estimates that this 60 percent reduction in the reporting period would prompt Verizon to file hundreds of additional reports annually. The five-day period, in contrast, accounts for customers’ service needs and service providers’ maintenance demands, while still capturing significant outages. Even a three day reporting period would better accommodate service provider practices and technician maintenance and work schedules than the 48-hour period proposed in the *NPRM*.

V. THE COMMISSION SHOULD NOT EXPAND THE SPECIAL OFFICES AND FACILITIES SUBJECT TO OUTAGE REPORTING.

Telecommunications Service Priority (TSP) Facilities. The Commission should not include TSP-covered facilities in the “Special Offices” definition, much less those facilities that

¹³ *NPRM* ¶¶ 19-23.

¹⁴ *See id.* ¶ 29.

are merely TSP “eligible.”¹⁵ The existing rules for outages affecting Special Offices already cover the most important government facilities. The facilities eligible for TSP status, in contrast, are wide-ranging and include many non-government enterprises and low-capacity facilities and services such as DS0 circuits. Also, Verizon handles outages and other specific incidents affecting these customers through dedicated account representatives and service technicians, not through the centralized network operations center monitoring necessary for NORS filings. Thus, the process of “tagging” the facilities entitled to TSP status, incorporating them into a provider’s network monitoring and alarm capabilities at a network operations center, and integrating that information into NORS reporting programs would need to begin from scratch, and the IT costs alone for Verizon would likely dwarf the Commission’s industry-wide estimate of \$54,410 for all the rules.¹⁶

Airport Facilities. The *NPRM* would appropriately refocus the reporting obligations for airports on larger commercial airports and critical communications facilities.¹⁷ Extending the obligation to wireless services would be of little value,¹⁸ however, as wireline providers remain the principal (if not exclusive) providers of high capacity services and facilities to the Federal Aviation Administration and commercial airport authorities.

¹⁵ *See id.* ¶ 40.

¹⁶ *See id.* ¶ 8.

¹⁷ *See id.* ¶¶ 42-45.

¹⁸ *See id.* ¶ 47.

VI. ANY STATE COMMISSION AND FEDERAL AGENCY ACCESS TO NORS REPORTS REQUIRES CONFIDENTIALITY PROTECTIONS AND RELATED USE RESTRICTIONS.

The public safety, security, and competitive sensitivities of NORS data are universally understood.¹⁹ The *NPRM* would thus appropriately condition any state regulatory commission access to NORS data on state-level confidentiality protections at least as strong as those under federal law.²⁰ The *NPRM*'s proposal to further limit access to read-only format is another appropriate safeguard, and the Commission should design any read-only system (for state commissions and Federal agencies alike) with the capability to track which agency and authorized individual viewed the information. The system should also notify individual service providers when an agency has requested authorization to view the NORS reports so that affected service providers can comment on the adequacy of state confidentiality protections. The system should also notify the NORS filer when individual reports are accessed on the read-only portal.

Expanded access to NORS reports also requires related use restrictions.²¹ Agencies should use the information for their public safety functions, limited to the geographic area subject to the agency's jurisdiction, and not for any public docket or other public proceeding. That would help ensure that the information is used for intended purposes, and not politicized or misrepresented to serve other agendas. Agencies requesting access should show that their responsibilities relate to a bona fide public safety, national security, emergency preparedness or

¹⁹ See, e.g., *MSNBC Interactive News, LLC*, Memorandum Opinion and Order, 23 FCC Rcd 14518, ¶¶ 15-19 (2008); California Public Util. Comm'n Comments, ET Docket No. 04-35, at 5-7 (Mar. 19, 2010).

²⁰ *NPRM* ¶¶ 51-53.

²¹ *Id.* ¶ 53.

911/first responder function, and individuals authorized to access the data should attest that their planned use of the information is limited to those purposes.

VII. CONCLUSION.

The *NPRM* presents the Commission with an opportunity to simplify its outage reporting rules and update them to better reflect today's wireless and wireline networks, while continuing to provide meaningful information to Commission staff. A new wireless reporting threshold based on sites out of service, and the *NPRM*'s proposed update to the threshold for major facility outages, can help achieve these objectives. In contrast, new requirements for partial 911 outages, wireless call blocking, geography-based wireless reporting thresholds, simplex events and TSP facilities would distract the Commission from the major outage events of concern to consumers and PSAPs, while diluting the usefulness of NORS data for monitoring network reliability and developing effective best practices. Finally, the Commission should condition any third-party agency access to NORS data on confidentiality and use restrictions that limit such use to bona fide public safety purposes.

Respectfully submitted,

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