Before the Federal Communications Commission

In re
9-1-1 Governance and Accountability
and
Improving 9-1-1 Reliability

On Notice of Proposed Rulemaking

Comments of the National Emergency Number Association

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Before the Federal Communications Commission

PS Docket No 14-193 & 13-75

In re

9-1-1 Governance and Accountability
And
Improving 9-1-1 Reliability

ON NOTICE OF PROPOSED RULEMAKING

COMMENTS OF THE
NATIONAL EMERGENCY NUMBER ASSOCIATION

NENA: The 9-1-1 Association respectfully submits the following comments in response to the Policy Statement and Notice of Proposed Rulemaking adopted by the Commission on November 21st, 2014, in the above-captioned proceeding.

COMMENTS

Consumers expect – rightly – that when they call 9-1-1 in an emergency, their call will go through, that their callback number will be available, and that their location will be identified. Likewise, 9-1-1 professionals expect that calls will be delivered to their 9-1-1 centers quickly, reliably, and with the data they need to effectively dispatch field responders. Those expectations cannot be met, however, unless every link in the complex chain of service from caller to carrier to service provider to public-safety agency is strong and reliable. The new rules proposed by the Commission can do much to ensure those expectations are met consistently throughout our great nation.
I. NENA wholeheartedly supports the Commission’s Policy Statement.

In the legacy Enhanced or “E9-1-1” environment, which remains the norm for most of the country’s consumers and Public Safety Answering Points (PSAPs), the dominant architecture places enormous responsibility for call completion and data transport on a single entity: the “9-1-1 System Service Provider,” or “SSP.” Given the topology of the Public Switched Telephone Network (PSTN) on which most 9-1-1 service is still delivered, most SSPs have, traditionally, been Incumbent Local Exchange Carriers (ILECs). The rapidly-advancing transition to Internet Protocol (IP)-based access, originating, and transport services, however, has given rise to an array of transitional 9-1-1 system architectures that exist alongside traditional TDM architectures and core NG9-1-1 systems. No longer can it be safely assumed that a single party will have primary responsibility for the origination, routing, termination, and data delivery associated with a 9-1-1 call. As the Commission’s Policy Statement rightly recognizes, this diffusion of responsibility has led to a lack of clarity about whether, when, and to what extent an individual participant in the 9-1-1 call chain should be deemed to occupy “a unique position of public trust.”¹

NENA has consistently urged the Commission to ensure that the evolving and diversifying nature of 9-1-1 service does not lead to a degradation of service reliability or a lack of public oversight.² In particular, we have cautioned that a lack of state-level oversight of novel 9-1-1

¹ In re 9-1-1 Governance and Accountability; Improving 9-1-1 Reliability, PS Docket Nos. 14-193 & 13-75; Policy Statement and Notice of Proposed Rulemaking at 16 ¶ 35 (Nov. 21, 2014).

system service architectures could lead to serious gaps in regulatory oversight. Ongoing legislative trends in the states have only reinforced this conviction. Consequently, NENA strongly supports the two principles announced by the Commission in its Policy Statement. Perhaps most importantly, however, we reiterate our belief that the Commission is fully capable of effectively coordinating with relevant state and local authorities to implement national 9-1-1 policies in a manner that both ensures robust public oversight of this crucial public-interest service and respects the unique roles of state and local authorities in the deployment and operation of E9-1-1 and NG9-1-1 services.

II. A consensus proposal for the structure of alternative final rules may be achievable.

While NENA fully supports the Commission’s policy statement with respect to 9-1-1 governance and reliability reform, we are aware of concerns among both the public and private sectors about the feasibility of some specific proposals. Consequently, we urge the Commission to consider an alternative, consensus proposal, should one be achieved by relevant stakeholders, and commit our Association to actively participating in the discussion of such proposals in advance of a final decision by the Commission. We note the strong track-record of NENA and other stakeholders in negotiating consensus agreements

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3 Id. at 11 (noting deference of states to anticipated FCC rule-making).

4 Id at 9-10.
on new rules for Text-to-9-1-1 service\textsuperscript{5} and Wireless Location Accuracy\textsuperscript{6}, and encourage the Commission to further leverage the benefits of such a process, if a similarly successful outcome can be reached in this proceeding.

III. The proposed revisions to Rule 12.4 can provide a sound basis for improving 9-1-1 reliability.

At a minimum, revising the Commission’s Part 12 rules along the lines proposed in the Notice would accomplish three primary ends: First, it would ensure that all providers with responsibility for 9-1-1 services and facilities would be on notice of their unique public-interest obligations. Second, it would provide a mechanism for state and local 9-1-1 authorities to evaluate service provider performance against an objective standard. Third, such a revision would ensure that some public entity has oversight and enforcement authority over each component of 9-1-1 service, even where current jurisdictional boundaries and provider responsibilities are shifting, overlapping, or vague. NENA strongly supports each of these ends.

A. The proposed expansion of the definition of “Covered 9-1-1 Service Provider” is consistent with the structure of the transitional and NG9-1-1 service markets.

In the development of standards for NG9-1-1, a critical aim of the public-sector stakeholders who comprise the

\textsuperscript{5} In re Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, PS Docket No. 11-153 and In re Framework for Next Generation 911 Deployment, PS Docket No. 10-255; Ex Parte presentation of AT&T, Sprint, T-Mobile, Verizon, APCO, and NENA (Dec. 6, 2012).

\textsuperscript{6} In re Wireless E911 Location Accuracy Requirements, PS Docket No. 07-114, CTIA: The Wireless Association (on behalf of CTIA, NENA, APCO, AT&T, Sprint, T-Mobile, and Verizon) Notice of Ex Parte Presentation (Nov. 18, 2014).
vast majority of NENA’s membership was to ensure that individual functional entities and network services could be purchased from diverse providers on an interoperable and competitive basis.\textsuperscript{7} As we have previously noted on several occasions, the diffusion of responsibility that this new model for 9-1-1 system services has already begun to introduce will necessitate a broader view of which entities are required to operate under public-interest reliability standards.\textsuperscript{8} Otherwise, some providers of facilities or services that are critical to 9-1-1 call completion or data delivery could escape public oversight entirely by exploiting the gap between state regulations that do not apply to inter-state services and federal regulations that do not currently extend to non-carrier providers of inter-state (or potentially-inter-state) 9-1-1 services or facilities. Given the life-or-death stakes where 9-1-1 service is involved, such a result is unacceptable. NENA therefore supports the Commission’s proposed expansion of the definition of “covered 9-1-1 service provider” to include providers who do not supply services or facilities under a direct contractual relationship with a PSAP or 9-1-1 authority. The proposed rule better aligns with the diversity of modern 9-1-1 facility and service providers, and would reduce the competitive disadvantages that previously-covered providers could face against some new entrants.

\textbf{B. A general reasonableness standard is appropriate for a revised Rule 12.4.}

Beyond the proposed expansion of Rule 12.4’s coverage, NENA also agrees with the Commission’s proposal to


\textsuperscript{8} \textit{E.g., In re Improving 911 Reliability and Reliability and Continuity of Communications Networks, Including Broadband Technologies,} NENA: The 9-1-1 Association, \textit{Comments} at 7 (May 13, 2013).
adopt a general reasonableness standard for reliability measures undertaken by covered 9-1-1 service providers, provided that the adopted standard is objective. That is, covered 9-1-1 service providers should be held to a standard of reasonableness measured from an outside perspective. It should not, then, be sufficient that the provider itself believed its efforts to be reasonable, but that a reasonable and rational external observer would have believed them reasonable under similar circumstances. Although such a standard is susceptible to criticism on the ground that it is somewhat vague, as explained below, NENA believes that other steps the Commission and relevant stakeholders could take would increase providers' certainty with respect to whether their efforts would meet such a standard.

For example, NENA is convinced that reliability and resiliency standards for traditional, transitional, and NG9-1-1 systems could be quickly developed through a collaborative, stakeholder-driven process. In the past the Commission's own Communications Security, Reliability, and Interoperability Council has provided valuable input on service provider best practices that have formed the basis for new reliability regulations. And while some have complained that such a result may actually disincentivize the collaborative process by which those best practices were developed, such concerns would seem to be greatly attenuated where a general reasonableness standard, rather than a specific requirement, is applied. Under this model, service providers would retain the flexibility to implement combinations of consensus best practices and/or alternative measures to ensure 9-1-1 service reliability, while the Commission would retain authority to punish providers who fall below the minimum standard of objective reasonableness.
1. **Third-party analysis and certification of 9-1-1 service provider preparedness should be accepted by the Commission as sufficient evidence of reasonableness.**

NENA does not believe that a third-party analysis and certification regime is necessary to a determination of objective reasonableness, particularly in light of the fact that no such regime is yet available. However, we are persuaded that such a certification should be deemed sufficient by the Commission for purposes of an ex-post determination of reasonableness, provided that such a regime is premised on broad-based consensus standards for 9-1-1 system and service reliability. As noted above, such standards do not yet exist. However, given the track record of both industry and public safety groups over the past two decades, we remain convinced that such a regime could be established within a relatively short time. If the Commission is amenable to a standards-based process for this aspect of the proposed rules, NENA encourages the Commission to exercise its authority to participate in the development of applicable standards established under the National Technology Transfer and Advancement Act of 1995.\(^9\) Such participation could significantly reduce the time required to develop the necessary standards, while ensuring that the resulting documents accurately reflect the Commission’s views on the scope of requirements and level of detail that should be required to satisfy the general reasonableness standard.

C. **9-1-1 systems are no longer necessarily composed of purely intra-state facilities.**

At the outset, NENA notes a particularly important, and often overlooked, aspect of modern 9-1-1 service provisioning. Historically, because ILECs were the only entity capable of provisioning all aspects of 9-1-1 service, they

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\(^{9}\) Pub. L. 104-113 (as implemented by OMB Circular No. A-119 (Feb. 10, 1998)).
were almost universally designated, sometimes by law or regulation, as the providers of 9-1-1 service to local PSAPs and 9-1-1 authorities. More recently, the somewhat esoteric nature of 9-1-1 service elements, differing as they do from those common to the rest of the PSTN, has led many ILECs to out-source most aspects of 9-1-1 service to specialized subcontractors. While this arrangement can provide reliability benefits to consumers and 9-1-1 centers alike by placing responsibility for unique 9-1-1 service elements with organizations having a unique focus on 9-1-1, it can also lead to a significant governance gap. Many state regulations, for example, continue to assume—often incorrectly—that 9-1-1 service is a purely intra-state affair.

The flexibility of subcontracted 9-1-1 services, particularly in the current transitional environment between legacy and all-IP-based networks, can make determining the correct jurisdictional classification of a 9-1-1-related service or facility an ephemeral undertaking: Calls and data streams that, at one moment, are handled through facilities located within a state can, at the drop of an electronic hat, be re-routed through facilities thousands of miles away. Consequently, while NENA has long recognized a unique role for states in the deployment and oversight of local 9-1-1 systems, we have also consistently urged the Commission to ensure that service providers cannot escape public oversight merely by removing their facilities from the state served.

10In some cases, this has even included terminating transport service from centralized or “cloud-based” selective routers to the end-office switch servicing a 9-1-1 center.


12See In re Improving 911 Reliability and Reliability and Continuity of Communications Networks Including Broadband
The advent of NG9-1-1 services is expected to dramatically increase the rate of adoption of cloud-based services and lower-cost non-geographically-constrained IP transport facilities by 9-1-1 authorities, ILECs, and non-ILEC SSPs alike. Thus NENA is convinced that the Commission must act to provide the regulatory “backstop” we proposed in response to the Commission’s Public Notice concerning the “Legal and Statutory Framework for Next Generation 9-1-1 Services” in 2012. Such a backstop would provide much-needed certainty to all parties as to the rules that will apply to this critical, safety-of-life service in the years ahead. Moreover, a federal backstop could help to alleviate reliability distortions caused by the relatively limited market power of 9-1-1 authorities faced with a small (and still-consolidating) sell-side market for many core 9-1-1 services.

IV. Robust information sharing is the cornerstone of effective 9-1-1 management and oversight.

As the Notice recognizes, timely and accurate information about the nature, scope, and anticipated duration of a 9-1-1 system disruption is the most critical component of an effective mitigation, response, and recovery effort for every player in the 9-1-1 call chain. For PSAPs, in particular, knowing whether to switch over to local backup systems, relocate to an alternate facility, or provide emergency public notifications about alternative contact numbers can make the difference between saving lives and preserving property or failing the public they serve. Regardless of whether a system disruption originates at a PSAP, 9-1-1 professionals feel themselves responsible for the safety and security of citizens who tried

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to call 9-1-1. When the right information is not readily at hand, it can be a frustrating and scary experience for consumers in danger and responders in the dark. NENA therefore applauds the significant emphasis that the Commission has placed on information sharing processes intended to prevent, detect, mitigate, respond to, and recover from events that impair or prevent 9-1-1 call completion and data delivery. We firmly believe that tools now exist, or can be developed quickly, to effectuate the needed levels of coordination and communication with a minimal impact on the operations of vendors, network operators, and PSAPs, and we urge the Commission to play an active role in broadening their deployment and use.

1. **Real-time analytic detection of outages and abnormal network states should become the norm for providers and PSAPs alike.**

Among the proposals contained in the Notice, NENA believes that the Commission’s discussion of real-time analytical detection mechanisms to be the most important for the long term. Over the past three years, the 9-1-1 sector has witnessed an explosion of capabilities in the data analytics field. Far from the monthly tabular “Management Information System” reports that have been available for some time, new data collection and analysis systems now provide extraordinarily advanced visualizations and comparisons of data against historical trends and rhythms. As increasing volumes of baseline data are collected, these capabilities will enable all parties to the 9-1-1 call chain to improve their awareness of 9-1-1 system performance. Moreover, if data sharing and comparison becomes routine, these capabilities could be leveraged to provide nearly effortless system surveillance and alerting. For example, if a service provider or PSAP detected a larger-than-normal mismatch between the number of calls terminated to a 9-1-1 center and the number of ALI queries originated by that PSAP over a corresponding interval, the PSAP, transport network operator, and ALI database manager could each receive automated alerts.
Similarly, a vendor with less visibility into call processes could nonetheless monitor its own transaction volumes against historical norms and automatically alert its counterparties if those counts suddenly exceed expected extrema. These are powerful and rapidly-evolving tools for the management and oversight of complex 9-1-1 systems, and NENA strongly encourages the Commission to construct its final rules in a manner that incentivizes their widespread use.

2. Certification requirements for third-party covered entities should include coordination and alternative-contact plans.

Unlike traditional aggregated-service SSPs, modern 9-1-1 SSPs often subcontract disaggregated elements of 9-1-1 service provisioning to several different providers. Consequently, it can no longer be assumed that each party to the delivery of a 9-1-1 call and its associated data queries will have a direct, contractual relationship with each 9-1-1 center the party serves. The failure of this assumption has serious, real-world consequences: Where 9-1-1 centers are neither parties to nor third-party beneficiaries of contractual arrangements between their direct vendors and those vendors’ subcontractors, limitation of liability clauses and other indemnity and burden-shifting provisions of standard industry contracts may severely limit the ability of a center to demand or receive data on the reliability measures taken (or not) by critical service providers, even when a clearly unreasonable approach to reliability assurance has been adopted. Indeed, in some cases PSAPs may have no way of knowing how many or which parties actually play a role in the delivery of 9-1-1 calls and data to its premises. As a result, NENA considers it important that covered 9-1-1 service providers (whether parties to a PSAP contract or not) be required to include effective coordination plans, with respect to their up- and down-stream privies, in their reliability certifications. This will ensure that parties plan,
in advance, to work together to notify 9-1-1 centers of outages and to mitigate the duration, extent, and effects of an outage should one occur.

3. **PSAP contact plan requirements should be sufficiently flexible to cover non-telephone methods like SMS or paging.**

As covered 9-1-1 service providers develop PSAP contact plans for use during an outage, NENA agrees with the Commission that they should include alternative notification means beyond wireline-dependent telephone calling. While that method will remain an important element of any reasonable contact plan, the availability of alternative messaging pathways that are potentially less-dependent on the wireline infrastructure should not be overlooked. Indeed, the greater vulnerability of wireline infrastructure to certain physical and logical threats will sometimes mean that a 9-1-1 outage would otherwise result in an outage in notification capabilities, too. By leveraging SMS or paging capabilities, however, covered 9-1-1 service providers could add a valuable layer of redundancy to their notification processes and perhaps improve notification speed as well. NENA therefore encourages the Commission to ensure that covered 9-1-1 service providers have the flexibility needed to accommodate these alternative notification means when appropriate and supported by the PSAPs that their services ultimately support.

V. **Notification requirements are appropriate for events that could impact non-counterparties’ ability to deliver 9-1-1 service.**

As noted above, the disaggregated architecture of NG9-1-1 systems – and even that of some transitional E9-1-1 systems – militates in favor of broadly-applicable reliability rules. At first blush, a rule of the required breadth might seem onerous to some. Considered at a distance, however, notifications of network changes, outages, im-
pairments, and discontinuances all serve similar functions: First, notifications make interested third parties aware of activities that could potentially impact their ability to reliably deliver 9-1-1 calls to the jurisdictionally-appropriate PSAP. Second, notifications provide third parties with an opportunity to make any necessary corresponding changes in their own networks and services to ensure that 9-1-1 calls can continue or resume reliable delivery. Viewed in this light, NENA believes that the Commission's proposals with respect to these events could be encapsulated in a single rule that leverages common elements to reduce the number of such notifications with which PSAPs must contend, while ensuring that all interested parties have notice of proposed changes well in advance of their final execution.

One common element that could be included in a comprehensive notification rule is a “shot clock” that would apply a default approval for changes requested by a PSAP or 9-1-1 authority unless an interested party objects within a short time. Another such element could be a single, short form for providing required notices, along with a requirement that notifying service providers post detailed supporting documents, sufficient to enable third parties to effectively react to proposed changes within the allotted time, to their websites concurrently with the filing of the notification. Finally, another important element of a comprehensive rule is a clearly-defined scaling factor that enables service providers to identify which events are routine, which are “major,” and which may be temporarily exempt from notification requirements on an emergency basis.14 Together, NENA believes that these

14One option would be to adopt a transaction-volume requirement. For example, the Commission could require that changes which could affect more than 3,000 9-1-1 calls or database “dips” must be noticed at least 30 days in advance, while changes affecting more than 6,000 9-1-1 calls or dips must be noticed at least 90 days in advance.
elements represent the basis for a notification rule that provides local 9-1-1 centers with the data they need to effectively manage through events, like network or system upgrades, while continuing to provide uninterrupted service to the public.

In order to ensure that all of the elements above come together in a way that works for all participants in the 9-1-1 call chain, NENA believes it important that service providers in receipt of notifications from subordinate vendors be required to flow-through those notices to their superior vendors and onward toward the PSAPs and/or 9-1-1 authorities that may ultimately be affected by the events described in the notice. While NENA recognizes that such a requirement could lead to duplicative notifications to PSAPs and 9-1-1 authorities in some instances, we are convinced that it would help to ensure that contracting 9-1-1 service providers remain cognizant of their supervening obligations to the public.

Similarly, NENA believes that the Commission should publish required notifications on its website for public inspection. In the modern IP-enabled transitional and NG9-1-1 service environments, it will become increasingly difficult, if not impossible, to identify every access network or originating service provider that could possibly rely on a given party’s facilities for the completion of 9-1-1 calls. Consequently, it is imperative that the Commission establish an aggregated public notification system so that ANPs and OSPs who may not receive direct notification of protocol or interconnection point changes can have a reasonable opportunity of discovering them before they are finally implemented. Alongside the Commission, however, NENA is committed to facilitating the dissemination of such notices. Given our unique position in the standards development community for 9-1-1, NENA is well-suited to expanding the reach of public notifications by posting them on our website, and we would be interested in developing an automated capability to ensure timely distributions of notifications and to allow
interested parties to “subscribe” to an RSS-like feed for such notifications.

A. **Discontinuance and impairment notifications are of critical importance in light of state actions that may not consider the breadth of 9-1-1 service.**

Recently, a disturbing trend in state-level 9-1-1 legislation has caused grave concern within NENA’s membership: As some states have moved to aggressively de-regulate local telecommunications services, not all discontinuance requirements have adequately contemplated the interests of 9-1-1 centers in facilities and services that are unique to 9-1-1 service. For example, a 2014 Michigan statute arguably allows local telecommunications service providers to discontinue service if they can demonstrate the availability of 9-1-1 voice service through another means such as VoIP or wireless and provides consumers a narrowly-limited ability to seek an abeyance if such service is not practically available.\(^{15}\) That statute, however, makes no mention of special 9-1-1 facilities relied upon by **PSAPs**.\(^{16}\) The existence of functional equivalents for selective routing service, Automatic Number Identification, Automatic Location Identification, and 9-1-1 trunking facilities may not be required before a service provider can discontinue service, even where such facilities may not be available from alternative sources on substantially similar terms and conditions. Such an omission, if proven to apply as it seems, would be plainly astonishing, yet sadly representative of the neglect to which 9-1-1 service has been subjected within the legislative and regulatory regimes of some states. NENA therefore strongly supports the Commission’s proposed requirements for discontinuance notices for core 9-1-1 facilities and services. As we noted in the 2012 *Legal*


\(^{16}\) *Id.*
Framework proceeding, we do believe that states should be permitted to establish alternative mechanisms to support the IP transition within their borders. As the Michigan example makes clear, however, our call for Federal backstop regulations in that proceeding was well-justified, and we encourage the Commission to adopt such requirements post-haste.

CONCLUSION

In the absence of a consensus proposal for alternative rules, the Commission should propose final rules consistent with its analysis in the Notice of Proposed Rulemaking, with changes consistent with these comments.

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