

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554**

In the Matter of Improving 9-1-1
Reliability and Continuity of
Communications Networks,
Including Broadband Technologies

PS Docket No. 13-75
PS Docket No. 11-60

**COMMENTS
OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION
AND THE PEOPLE OF THE STATE OF CALIFORNIA**

FRANK R. LINDH
HELEN M. MICKIEWICZ

Attorneys for the California
Public Utilities Commission and
The People of the State of California

505 Van Ness Avenue
San Francisco, CA 94102
Phone: (415) 703-5822
Fax: (415) 703-4592
Email: hmm@cpuc.ca.gov

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I. INTRODUCTION

The California Public Utilities Commission and the People of the State of California (CPUC or California) submit these comments in response to the Federal Communications Commission (FCC or Commission) *Notice of Proposed Rulemaking in the Matter of Improving 9-1-1 Reliability and Continuity of Communications Networks, Including Broadband Technologies (Notice)*.¹ In the *Notice*, the Commission seeks comment on approaches to ensure the reliability and resiliency of the communications infrastructure necessary to ensure continued availability of the Nation's 9-1-1 system, particularly during times of major disaster.

The FCC has opened this docket in response to the findings and recommendations in the Public Safety and Homeland Security Bureau's (PSHSB) January 10, 2013 report, titled "Impact of the June 2012 Derecho on Communications Networks and Services: Report and Recommendations" (Derecho Report).² The FCC's overarching goal in this portion of the docketed *Reliability and Continuity* proceeding is to ensure the reliability and resiliency of the 9-1-1 system, so that consumers can reach emergency assistance when they need it.³

In these comments, the CPUC supports a broad definition of 9-1-1 service provider. California also urges the Commission to adopt technology-neutral minimum

¹ *Notice of Proposed Rulemaking In the Matter of Improving 9-1-1 Reliability; Reliability and Continuity of Communications Networks, Including Broadband Technologies (NPRM)*, PS Docket No. 13-75; PS Docket No. 11-60; rel. March 20, 2013 (*NPRM*).

² FCC Public Safety & Homeland Security Bureau, Impact Of The June 2012 Derecho On Communications Networks And Services: Report And Recommendations (PSHSB, rel. Jan. 10, 2013) (*Derecho Report*).

³ *NPRM* at ¶ 16.

back-up power requirements for 9-1-1 networks while at the same time providing flexibility of implementation for such requirements. Finally, the CPUC recommends that the FCC require 9-1-1 providers to certify the reliability of their 9-1-1 systems. Should the Commission, additionally, decide to require service providers to periodically report on the extent to which they are implementing best practices or complying with applicable standards the Commission establishes, then California would urge the FCC to give states timely access to that data on a state-specific basis.⁴

II. DISCUSSION

A. Entities Subject to Proposals

The FCC seeks comment on the class of entities to which the proposals put forward for consideration in this *Notice* would apply.⁵ Apropos that inquiry, throughout the *Notice* the Commission uses the term “9-1-1 service provider,” defined in the *Derecho Report* as a communications provider “responsible for routing and delivering 9-1-1 calls to PSAPs.”⁶ Currently 9-1-1 service providers are typically Incumbent Local Exchange Carriers (ILECs), although it is anticipated that the transition to Next Generation (NG) 9-1-1 may broaden the class of entities that performs this function. Accordingly, the FCC seeks comment on defining the term “9-1-1 service provider.”

The Commission anticipates “that the proposals in this *Notice* would apply to all 9-1-1 service providers, and tentatively defines that term to include all entities, including

⁴ California notes that the FCC has authorized state access to numbering data, on a state-specific basis, that the North American Numbering Plan Administrator (NANPA) collects bi-annually from carriers.

⁵ *NPRM* ¶ 23.

⁶ *Ibid.*

ILECs, that provide 9-1-1 call routing, ALI, emergency services Internet protocol networks (ESInets), and similar services directly to a PSAP.”⁷ The FCC asks whether any of the proposals in the *NPRM* should apply to other types of wireline service providers, to wireless service providers, to interconnected VoIP service providers, or to other potential means of reaching a PSAP as NG9-1-1 broadens the range of entities capable of delivering 9-1-1 service.⁸ The FCC asks whether broadening the definition of “9-1-1 service provider” to include all of the classes of service provider listed would be sufficient to capture all the entities that could provide functions necessary to the delivery of 9-1-1 services to a PSAP, both today and in the future.⁹

The CPUC agrees with the FCC’s proposal to define a 9-1-1 service provider as a communications provider “responsible for routing and delivering 9-1-1 calls to PSAPs.” California further concurs that the definition of a 9-1-1 service provider should include all entities, including ILECs, that provide 9-1-1 call routing, ALI, emergency services Internet protocol networks (ESInets), and similar services directly to a PSAP, as the Commission proposes. Any new requirements should apply to all current and future 9-1-1 network providers, consistent with other FCC policies geared to maintaining technological neutrality in this evolving market. The reliability of 9-1-1 networks is paramount regardless of the technology end users utilize to reach 9-1-1 services.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

B. Implementation Approaches

The FCC seeks comment on four possible approaches to implementing the recommendations for Commission action in the *Derecho Report* – Reporting, Certification, Reliability Requirement, and Compliance Reviews and Inspections.¹⁰ The Commission notes that these proposals are intended to complement, rather than to replace, the Commission’s current support for implementation of best practices developed through cooperation with industry and advisory bodies.¹¹ The FCC seeks input on whether each of these approaches can stand alone, or whether the Commission should adopt a more integrated approach.

The CPUC recommends that the FCC adopt a certification scheme, in combination with minimum back-up power requirements (discussed below) and a continuation of best practices where mandates do not exist. Under a certification approach, the FCC would require 9-1-1 service providers to certify periodically that their 9-1-1 network service and facilities comply with voluntary industry adopted best practices, and any reliability requirements the Commission specifies, or other standards the Commission identifies.¹² The certification requirement could be similar to the current FCC regulations at 47 C.F.R. § 64.2009, which require carriers to certify that they are in compliance with customer proprietary network information (CPNI) safeguards.

Sec. 64.2009 (e) A telecommunications carrier must have an officer, as an agent of the carrier, sign and file with the Commission a

¹⁰ *Id.*, ¶ 9.

¹¹ *Id.*

¹² At this juncture, the CPUC is not recommending a specific reporting period.

compliance certificate on an annual basis. The officer must state in the certification that he or she has personal knowledge that the company has established operating procedures that are adequate to ensure compliance with the rules in this subpart. The carrier must provide a statement accompanying the certificate explaining how its operating procedures ensure that it is or is not in compliance with the rules in this subpart. In addition, the carrier must include an explanation of any actions taken against data brokers and a summary of all customer complaints received in the past year concerning the unauthorized release of CPNI. This filing must be made annually with the Enforcement Bureau on or before March 1 in EB Docket No. 06-36, for data pertaining to the previous calendar year.

The CPUC also recommends that if the FCC adopts reporting requirements, the FCC should provide States with timely access to the state-specific data pertaining to 9-1-1 networks.

C. Bureau Recommendations for Improving 9-1-1 Network Reliability

The FCC seeks comment on how it can best work in cooperation with state, tribal, and local governments, which it recognizes as “the primary administrators of the legacy 9-1-1 system.”¹³ The FCC notes that it “has long worked cooperatively with such governmental entities in discharging its responsibilities to ensure that emergency communications “promot[e] safety of life and property.”¹⁴ For each of the proposals, the Commission specifically seeks comments from state commissions and PSAPs on the approaches they use to oversee 9-1-1 connectivity.¹⁵

¹³ *Id.*, ¶ 32.

¹⁴ *Id.*

¹⁵ *Id.*, ¶ 33.

1. Access to Data

The FCC and the states mutually benefit from cooperating, and one particularly beneficial area of cooperation has been the sharing of industry data between the FCC and the states. As noted above, if the Commission adopts reporting or certification requirements for 9-1-1 networks, we urge the FCC to provide States timely access to state-specific reports, so that states can take action as necessary to ensure the provision of reliable 9-1-1 networks within their borders. For purposes of efficiency, the CPUC supports, wherever possible, submission of service provider data to one agency. The success of this approach depends on the ease with which the States can access the data. The CPUC has found, for instance, that up to a year may pass from carrier submission of 477 data to the Commission before it is available to the States, which means that the 477 data does not reflect the most current condition by the time the States get access to it. In contrast, states are able to access electronically state-specific number utilization and number porting data within two months after each bi-annual carrier reporting deadline.¹⁶

For the States to do their jobs effectively, they need timely access to relevant information. California, thus recommends that the FCC use the number reporting data base and state-specific access approach as the better model for state access to information regarding 9-1-1 networks. The desired approach would be to require service providers to report to a single agency, but give each state access to data from its own state via a secured file transfer method.

¹⁶ Carriers submit number use and portability data on January 1 and July 1 of every calendar year.

2. California's Warren Act

In 1972, California enacted the "Warren 9-1-1 Emergency Assistance Act," (Warren Act) which "requires every local public agency to establish and operate a telephone system that automatically connects a person dialing 9-1-1 to an established public safety answering point [PSAP] through normal telephone service facilities."¹⁷ The state agency currently responsible for implementing the Warren Act is the California Technology Agency.

The CPUC is responsible for enforcing requirements that service providers provision and maintain reliable 9-1-1 service. Consistent with that role, the CPUC requires LECs to maintain cost-based tariffs for their 9-1-1 services.¹⁸ The CPUC also requires providers of "residential basic service" subject to the CPUC's jurisdiction to offer "free access to emergency services, 911/E911" as a component of basic service.¹⁹ Further, the mandate that service providers must give customers access to 9-1-1 is codified in California Public Utilities (P.U.) Code § 2883 and 2892, for wireline and wireless providers, respectively.²⁰

¹⁷ California Public Utilities Code §§ 53100-53120.

¹⁸ In Decision 07-09-08, which authorized respondent ILECs to detariff many services, the CPUC determined that 9-1-1 service and related service elements should remain tarified.

¹⁹ See CPUC Decision 12-12-038.

²⁰ California has no state mandate for VoIP providers to offer 9-1-1 services to their customers; those providers offer that service pursuant to an FCC mandate.

D. Sufficient Back-Up Power at Central Offices

1. FCC Should Adopt Technology-Neutral Minimum Back-up Power Requirements

The FCC seeks comment on the appropriate balance between voluntary best practices and FCC mandates as they relate to 9-1-1 communications.²¹ The FCC seeks comment on whether it should institute requirements with respect to back-up power, including testing and maintenance of back-up power equipment and adoption of a minimum standard for central office back-up power.²² Further, the FCC requests information on requirements for different types of facilities²³ and circumstances that might affect a service provider's ability to comply with the recommendations adopted.²⁴

The FCC notes that all of the central offices involved in the 9-1-1 failures during the June 2012 derecho storm had some sort of back-up power in place, which either failed or was inadequate. The FCC seeks comment on the adoption of a minimum standard for central office back-up power.²⁵ In 2012 the CPUC submitted comments in response to the FCC's *Notice of Inquiry* in this same docket. There, in reaction to the outages that occurred in the wake of derecho storm, California strongly urged the Commission to re-adopt its back-up power requirements,²⁶ and we reiterate that recommendation here.

²¹ *NPRM* at ¶ 20.

²² *Id.*, at ¶¶ 45, 49.

²³ *Id.*, at ¶ 46.

²⁴ *Id.*, at ¶ 80.

²⁵ *NPRM* at ¶ 49.

²⁶ See CPUC Comments, *In the Matter of Reliability and Continuity of Communications Networks, Including Broadband Technologies, et al., Notice of Inquiry*, PS Docket No. 11-60, *et al.*, 26 FCC Rcd 5614 (2011) (*Reliability NOI*), filed August 17, 2012.

In 2007, the CPUC opened an Order Instituting Rulemaking (OIR)²⁷ to investigate current practices for telecommunications back-up power systems and emergency notification systems. The CPUC adopted a report, entitled ‘Reliability Standards for Telecommunications Emergency Backup Power Systems and Emergency Notification Systems,’²⁸ which reached two main conclusions, regarding back-up power and compliance with NRIC (Network Reliability Interoperability Council) Best Practices, that are relevant to the questions that the FCC poses here.²⁹ In addition, the CPUC made a key finding that one solution is not appropriate for every situation, given the changing technological environment and the emergence of multiple kinds of service providers.³⁰

The CPUC recommends that the FCC adopt specific minimum back-up power requirements or standards for central offices and other network locations necessary to ensure the provisioning of 9-1-1 service. California further recommends that the Commission not prohibit the states from adopting their own rules, so long as state rules are not inconsistent with Commission mandates.³¹ Where no mandate is established, the CPUC recommends that service providers continue to implement adopted industry best practices.

²⁷ CPUC *Order Instituting Rulemaking (OIR)*, R.07-04-015.

²⁸ CPUC D.08-09-014, issued September 4, 2008, www.cpuc.ca.gov/NR/rdonlyres/.../FinalAnalysisReportMay92008.pdf

²⁹ NRIC was subsequently folded into CSRIC (Communications, Security, Reliability, and Interoperability Council).

³⁰ Appendix A to these comments notes all five conclusions from the CPUC’s OIR

³¹ This is the shared regulatory construct for both cramming rules and rules regarding carrier treatment of CPNI.

Given the diversity of networks, however, the FCC should permit the 9-1-1 network providers flexibility in implementing any requirements so that solutions adopted can take into account variances in state and local geography, population density, environmental laws, and zoning laws. Flexibility would recognize tradeoffs between types of back-up power, and the applications and needs of the various systems.

We note that requiring a single back-up power standard could diminish reliability where more robust back-up power already exists. For example, a 4-hour battery standard for a central office located in an inner city with 24-hour diesel generator back-up is a better standard than requiring 8-hour battery back-up where a diesel generator is allowed to deteriorate and becomes ineffective. However, a higher battery standard should perhaps apply in situations where no on-site generation alternatives exist, such as in remote areas where offsite diesel generators would need to be brought to the site.

The FCC also seeks comment on what type of requirement would be appropriate, if a mandate is established, for service provider facilities. Acknowledging that what constitutes a “central office” can vary to some extent by service provider and location, the FCC solicits comments on whether and how an adequate level of back-up power may vary based on the type of facility.³² The Commission wants to know if the required level of back-up power depends on the relationship of each central office to reliable 9-1-1 service.

The focus of the CPUC’s 2007 rulemaking was broader than just 9-1-1 networks. In the course of its proceeding, the CPUC analyzed back-up power at cell sites, central

³² *NPRM*, ¶ 46.

offices, and central office remote terminals. The CPUC also investigated back-up power at customer premises.³³ The CPUC did not adopt a back-up power standard for customer premises equipment, but did order service providers to undertake a customer education program.³⁴ Further, the CPUC Report concluded that ‘implementation of an 8 hour back-up solution at the customer premises could reduce potential exposure of users losing telephony (voice) service from 6.8% to 3.9% of customers, compared to a 4-hour CPE back-up power solution.’ The connection of the network to the customer’s premises must be part of the evaluation of overall system reliability.

2. Compliance with Best Practices

The Commission seeks information on how closely providers adhere to existing best practices and other published guidelines on back-up power.³⁵

The 2008 CPUC Report found that the rate of compliance with NRIC (now CSRIC) best practices in a self-reporting survey was approximately 90% among California service providers. The primary reason for non-compliance identified in the survey had to do with affordability for the smaller LECs of batteries, generators, and other hardware. At the time, the small LECs noted that they would fall under an exemption to the then-FCC recommendation for back-up power (in central offices, 24 hours and 8 hours for remote terminals) for utilities.³⁶

³³ CPUC R.07-04-015.

³⁴ CPUC Decision (D.) 10-01-026.

³⁵ *NPRM* at ¶ 45.

³⁶ CPUC D.10-01-026, “Reliability Standards for Telecommunications Emergency Backup Power Systems and Emergency Notification Systems, Final Analysis Report” (CPUC Report), May 9, 2008, at p. 79.

3. Balance Between Voluntary and Mandatory Best Practices.

The FCC seeks comment on the appropriate balance between voluntary best practices and Commission mandates as they relate to 9-1-1 communications.³⁷ In the *Derecho Report*, the PSHSB noted that “multiple 9-1-1 service providers implemented best practices to varying degrees, or adopted key best practices in theory, with substantial exceptions in day-to-day operation.”³⁸

In examining back-up requirements for Central Offices (CO) and Remote Terminals (RT) in California, the CPUC report found that compliance with the NRIC Best Practices led to success in providing emergency telecommunications in more than 95% of power outages.³⁹ For the remaining 5% of outages, the report found that the costs to increase either fuel storage or battery capacity with commensurate environmental safeguards and hazard reduction protocols are far greater than the alternative approach of having an efficient fuel delivery schedule and associated contingency plans.

4. Barriers to Adoption, Including Environmental Impact.

The FCC seeks comment on the barriers to compliance that service providers might encounter with any adopted requirements. For example, environmental and zoning restrictions may prevent service providers from deploying or testing back-up generators

³⁷ *NPRM* ¶ 20.

³⁸ *Derecho Report* at pp. 17-18, 32-34.

³⁹ CPUC Report at p. 78.

at certain locations, and redundant circuits may be particularly costly to install in other areas.⁴⁰

Regarding environmental impact, the service provider comments provided to the CPUC in 2008 indicated that increased numbers of batteries and larger fuel storage can trigger requirements to comply with state and federal EPA rules, local fire codes, state air quality regulations, hazardous materials loading rules, and building safety rules. Remote terminals may be located in restricted right-of-ways, there may be prohibitions in lease agreements, or there may be other state or local restrictions that limit the addition of heavy batteries with toxic compounds to the site.⁴¹

E. Improved PSAP Notification Under Section 4.9 of the Commission's Rules

The FCC seeks comment on the extent to which state tariffs and other state and local regulations impose requirements regarding outage reporting and communication in general between service providers and PSAPs.⁴² The FCC seeks information on the extent to which service providers currently inform PSAPs of 9-1-1 outages, and what is included in those communications.

Both the California Technology Agency and the CPUC enforce outage reporting requirements. The CPUC has enacted uniform minimum standards of service, including reporting rules for 'major service interruptions,' for all facilities-based certificated and

⁴⁰ *NPRM* at para. 80.

⁴¹ CPUC Report at p. 79.

⁴² *NPRM*, at ¶ 71.

registered public utility telephone corporations.⁴³ The CPUC adopted for its major service interruption reporting the FCC's Part 4 rules concerning communications disruption and outages, the FCC's Network Outage Reporting System (NORS) reporting requirements. The FCC also requires eligible telecommunications carriers (ETCs) to file annual reports with outage information. We note, however, that the CPUC's rules are not specific to 9-1-1 outages.

The California Technology Agency receives 9-1-1 outage notifications from California 9-1-1 network service providers⁴⁴ under a voluntary, mutually agreed upon process. Pursuant to that process, service providers immediately notify the Technology Agency of outages in the following categories: customer premises equipment (CPE), network facilities, PSAP facilities, commercial power, and unknown.⁴⁵ If the outage is major (e.g., a community is isolated or a PSAP is unable to answer 9-1-1 calls and an alternate is not available), the service provider will call the Agency directly. It also receives consolidated reports monthly.

III. CONCLUSION

The CPUC supports the Commission's proposed definition of "9-1-1 service provider," and encourages the Commission to maintain a technology-neutral definition that can apply to next generation architectures. The CPUC recommends that the FCC

⁴³ See CPUC General Order 133 (c) Rules Governing Telecommunications Services, effective July 9, 2009.

⁴⁴ AT&T, Verizon and Frontier.

⁴⁵ No state rule mandates that the service providers report these outages to the California Technology Agency.

adopt specific minimum back-up power requirements or standards for central offices and other network locations necessary to ensure the provisioning of 9-1-1 service, and that it not prohibit the States from adopting rules that are not inconsistent with Commission mandates. Where there is no mandate, the CPUC recommends that service providers continue to implement industry best practices. California recommends that the FCC require 9-1-1 network providers to certify to the reliability of their 9-1-1 systems and compliance with any FCC requirements and best practices. Finally, if the FCC adopts reporting requirements, we urge the FCC to give states timely access to data concerning their respective states.

/s/ HELEN M. MICKIEWICZ

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Attorneys for the California
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The People of the State of California

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