

State of California

Public Utilities Commission
San Francisco

MEMORANDUM

Date : March 5, 2015

To: The Commission
(Meeting of March 12, 2015)

From: Kimberly J. Lippi, Candace Choe
Public Utilities Counsel, Legal Division

Roxanne L. Scott
Program and Project Supervisor, Communications Division

Subject: Filing of Comments in the FCC NPRM on 911 Governance and
Accountability and 911 Reliability Matters

RECOMMENDATION: The Commission should file comments in response to the *Notice of Proposed Rulemaking (NPRM)*¹ issued by the Federal Communications Commission (FCC) in which the FCC proposes the adoption of a uniform national approach to Internet Protocol (IP) 911 services to ensure that the quality and reliability of 911 service is not damaged by the introduction of such new communications technologies and players. Staff recommends comment on a limited number of the FCC proposals in this *NPRM* as much of the proposals are matters under the jurisdiction of the California Office of Emergency Service (CalOES), not the CPUC. Comments are due March 9, 2015.

BACKGROUND: The FCC notes that its “past efforts to promote reliable and resilient 911 service have focused on minimizing risks to legacy 911 infrastructure, particularly during natural disasters and other large-scale emergencies.” In 2014 the FCC adopted the *911 Reliability Order*² establishing rules requiring 911 service providers to take reasonable measures to provide reliable service with respect to circuit diversity, backup power, and network monitoring

¹ *Policy Statement and Notice of Proposed Rulemaking*, In the Matter of 911 Governance Accountability, Improving 911 Reliability; PS Docket No. 14-193, PS Docket No. 13-75, (FCC 14-186); rel. Nov. 21, 2014 (*NPRM*).

² Reliability and Continuity of Communications Networks, Including Broadband Technologies, PS Docket Nos. 13-75, 11-60, *Report and Order*, 28 FCC Rcd 17476, 17487, ¶ 30 (2013) (*911 Reliability Order*).

capabilities. These rules apply to “covered 911 service providers,”³ defined generally as those that provide core 911 capabilities “directly to a PSAP” (public safety answering point). Thus, providers subject to the reliability certification rules will typically be those that operate the portion of the 911 network between the selective router and the central office serving each PSAP, not those that originate 911 calls or provide NG911⁴ capabilities that are not the “functional equivalent” of legacy 911 service. Other Commission rules, however, require certain originating service providers (OSPs) to “transmit all 911 calls to a PSAP” and notify PSAPs of disruptions in 911 service. Together, 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.⁵

In the *911 Reliability Order*, the Commission stated that it was not persuaded that NG911 technologies have evolved to the point that reliability certification rules should apply to entities beyond those that offer core services functionally equivalent to current 911 and E911 capabilities, and said that it may revisit this distinction in the future as technology evolves. The *911 Reliability Order* contemplated a review of the certification rules in five years, including “consideration of whether [the rules] 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.”⁶

³ Currently under FCC regulations (Rule 12.4) a “covered 911 service provider” is defined as:

(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 §§64.3000(b) and 20.3 of this chapter; 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.

(ii) The term “covered 911 service provider” shall not include any entity that:

(A) Constitutes a PSAP or governmental authority to the extent that it provides 911 capabilities; or

(B) Offers the capability to originate 911 calls where another service provider delivers those calls and associated number or location information to the appropriate PSAP.

⁴ NG911 stands for Next Generation 911, which is 911 service provided via IP or similar protocol that will permit the sending of voice, video and text to 911 PSAPs.

⁵ See, *NPRM*, ¶ 19.

⁶ *Id.*, ¶ 40.

However, the FCC has now concluded that in light of recent multistate 911 outages and the lessons they provided about 911 network architectures already in use in many parts of the nation, these questions must be addressed immediately. The FCC is thus proposing to expand its rules in this NPRM to address the new players and technologies.⁷ The FCC has concluded that new communications technologies pose technical and operational challenges to the 911 system, necessitating the adoption of a uniform national approach to ensure that the quality and reliability of 911 service is not damaged by the introduction of such communications technologies.⁸

The FCC notes that the architecture of 911 networks, both legacy and NG911, can include multiple entities, which each provide one or more links in a chain of connectivity that begins with a caller seeking emergency assistance and ends at a 911 call center known as a public safety answering point (PSAP). The 911 ecosystem includes entities necessary for completion of voice calls and other communications to 911, as well as those that provide automatic location information (ALI), automatic number information (ANI), location information services (LIS), text-to-911 capabilities, and the transmission of multimedia information in an NG911 environment. These entities include several distinct types of communications providers, including originating service providers (OSPs), incumbent local exchange carriers (ILECs), system service providers (SSPs), subcontractors and vendors that provide additional technical capabilities, and PSAPs and emergency authorities themselves to the extent that they provide 911 network components.⁹

In this *NPRM*, the FCC:

- 1) affirms the core principles that have guided and will continue to guide the Commission's approach to ensuring reliable and resilient 911 service and its continuing partnership with state and local authorities;
- 2) proposes specific rules designed to address failures leading to recent multi-state 911 outages, based on the October 2014 report of the Public Safety and Homeland Security Bureau; and
- 3) proposes additional mechanisms designed to ensure that the 911 governance structure keeps pace with evolving technologies and new reliability challenges so that all 911 service providers remain fully accountable to the public they serve.¹⁰

The FCC states that it proposes “to take the same approach here as in its recent *911 Reliability Order*: the proposals in this *NPRM* are not intended to alter state jurisdiction over 911 or to limit state and local authorities' ability to take consistent action.”¹¹

⁷ *Id.*, ¶ 41.

⁸ *Id.* ¶ 3.

⁹ *NPRM*, ¶ 5.

¹⁰ *Id.*, ¶ 4.

¹¹ *Id.*, ¶ 28 [emphasis added].

PROPOSED RULES

1. FCC Proposal: Rule 12.4 requires all covered 911 service providers to take reasonable measures to provide reliable 911 service with respect to circuit diversity, central-office backup power, and diverse network monitoring.

The FCC now proposes to expand the scope of entities covered by Rule 12.4 (i.e., the definition of “covered 911 service provider”) to include all entities that provide 911, E911, or NG911 capabilities, such as call routing, automatic location information (ALI), automatic number identification (ANI), location information servers (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 or emergency authority. This definition would include all entities that provide 911-specific network infrastructure, but only to the extent that they provide specified 911 capabilities.¹²

Staff Recommendation: Staff recommends support for this proposal. All parties provisioning any part of the 911 network should be responsible for ensuring the reliability of the function so provided. Expansion of Rule 12.4 to these entities will strengthen the reliability of 911 service.

2. FCC Proposal: To ensure that Rule 12.4 keeps pace with evolving network architectures and reliability risks, the FCC proposes to amend section 12.4(b) to provide that “all covered 911 service providers shall take reasonable measures to provide reliable 911 service.” This obligation would include – but not be limited to – the existing areas of circuit diversity, central-office backup power, and diverse network monitoring. While the current rule 12.4 only addresses reliability with respect to these three specific areas, the FCC believes it would demonstrate better governance for this rule to require covered entities to take reasonable measures generally to ensure the reliability of 911 service, with specific behavior identified within this rule as necessary to add more detail.¹³

Staff Recommendation: The CPUC should support this recommendation.

3. FCC Proposal: The FCC seeks comment on additional network reliability practices that should be incorporated into Rule 12.4 and its associated certification requirements. Based on the findings with respect to the April 2014 multistate 911 outage and other large-scale disruptions in 911 service, the FCC anticipates that one area of particular importance will be the reliability and testing of software and databases used to process 911 calls, including planned maintenance and software upgrades. The FCC also believes that the certification should indicate whether a service provider’s IP-based 911 architecture is geographically distributed, load-balanced, and capable of automatic reroutes to backup equipment in the event of a hardware, network, software or database failure. In the alternative, it must demonstrate that it has taken appropriate measures

¹² *Id.*, ¶ 42.

¹³ *Id.*, ¶ 44. The FCC states in footnote 104, “If the Commission determines to make rule 12.4 a general reasonableness standard, we would intend that this rule supplement any other rules that already contain a requirement to use reasonable measures.”

to mitigate the risk of a hardware, network, software, database, or other failure. Finally, the FCC believes the network monitoring component of the existing rule should cover not just the physical diversity of monitoring facilities, but also the proper prioritization of critical network alarms.¹⁴

Staff Recommendation: Staff recommends that the CPUC support the FCC proposal to require the certification to indicate whether a service provider's IP-based 911 architecture is geographically distributed, load-balanced, and capable of automatic reroutes to backup equipment in the event of a hardware, network, software or database failure.

4. FCC Proposal: The FCC believes that Rule 12.4 should reflect and require certification with respect to the duty to take reasonable measures to share information and situational awareness, as appropriate under the circumstances, during disruptions in 911 service. The FCC seeks comment on the scope of information and communications that should be reasonably expected from various entities in the 911 ecosystem, including those with direct contractual relationships with PSAPs and those that provide service on a vendor or subcontractor basis. At a minimum, it asserts that the certification should indicate whether a covered 911 service provider has a process in place to notify PSAPs of an outage within the timeframes specified in Part 4 of the FCC's rules.¹⁵ For example, to ensure that outage notifications are provided swiftly and accurately in the event of an emergency, the covered 911 service providers should confirm PSAP contact information and test notification plans periodically.¹⁶

Staff Recommendation: Staff recommends that the CPUC support the FCC proposal that the annual certification required of covered 911 service providers at a minimum should include certification that the provider has a process in place to notify PSAPS of an outage within the timeframes specified in Part 4 of the FCC rules.

5. FCC Proposal: The FCC notes that an increasing number of covered 911 service providers are not ILECs and thus are not required to file notifications when changes to their networks may affect 911 connectivity. The FCC therefore proposes to require 911 service providers to notify the FCC and the public of major changes in any covered 911 service provider's network architecture or scope of 911 services that are not otherwise covered by existing network change notification requirements. It seeks comment on this proposal. Which 911 service providers should be subject to notification requirements? Should OSPs, ILECs, SSPs, and their subcontractors each be responsible for reporting major changes in their respective facilities and networks? Or should ILECs and/or SSPs providing 911 services directly to PSAPs be responsible for notification of major changes by their subcontractors and other affiliated entities?¹⁷

¹⁴ *Id.*, ¶ 45.

¹⁵ 47 CFR §4.9(h) requires covered 911 service providers to notify PSAPs within 30 minutes of discovering an outage and follow up with more detailed information within two hours.

¹⁶ *Id.*, ¶ 46.

¹⁷ *Id.*, ¶¶ 50-51.

Staff Recommendation: Staff recommends supporting the proposal that OSPs, ILECs and/or SSPs providing 911 network services directly to PSAPs should be responsible for notification of major changes, including major changes by their subcontractors and other affiliated entities. The entity providing service directly to the PSAP is responsible for ensuring the 911 network is functioning properly. This entity also should be aware of any major changes to the 911 network in question.

FCC Proposal: The FCC proposes to establish rules to ensure reliability and accountability of new IP-based 911 Capabilities and Services. Stating that “covered 911 service providers increasingly are building and operating regional and nationwide IP-based 911 networks that both extend across state boundaries and serve PSAPs in multiple states, using less well established technologies,” the FCC notes that “these multi-state networks transcend the regulatory authority of any individual state.” The FCC also notes “many states have elected not to exercise jurisdiction over IP-based communications, a determination that may operate to restrict their ability to ensure the reliability of 911 service that depends on IP-based technology.” Therefore, the FCC believes that a federal-level process is needed to ensure that there are no regulatory gaps in oversight of providers of new 911 services. The FCC states that” this process is not intended to supplant state action; to the contrary, it would complement existing state oversight and could be used to empower state-level action.”¹⁸

The FCC proposes to require covered 911 service providers that seek to offer new services that affect 911 call completion to certify to the Commission that they have the technical and operational capability to provide reliable 911 service. In addition, to the extent that the new services rely on IP-based networks, associated infrastructure such as servers and data centers, and/or associated software applications, it proposes that covered 911 service providers certify that they have conducted a reliability and security risk analysis of the network components, infrastructure, and/or software that they will use to support 911 call completion. This proposal would not require Commission approval of new entrants or delay the introduction of innovative new 911 technologies. It would, however, require entities that seek to provide new critical links in 911 call completion to publicly acknowledge their responsibilities and certify their preparedness to implement relevant best practices and comply with existing Commission rules applicable to the 911 capabilities they provide.¹⁹

Staff Recommendation: Staff recommends the CPUC support the FCC proposal to establish rules to ensure reliability and accountability of new IP-based 911 capabilities and services, and the requirement that new entrants certify that they are aware of, and will comply with, FCC federal requirements. The rules should not, however, usurp state authority to determine whether to permit a service provider to operate in the state.

**Assigned Staff: Simin Litkouhi, Communications Division,
Candace Choe and Kim Lippi, Legal Division**

¹⁸ *Id.*, ¶ 58.

¹⁹ *Id.*, ¶ 59.