

State of California

Public Utilities Commission
San Francisco

MEMORANDUM

Date : May 2, 2013

To : The Commission
(Meeting of May 9, 2013)

From : Kimberly Lippi
Public Utilities Counsel IV

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Subject: Filing of Comments in Response to FCC's Notice of Proposed Rulemaking In the Matter of Improving 9-1-1 Reliability and Continuity of Communications Networks, Including Broadband Technologies

RECOMMENDATION: The Commission should file comments in response to the Federal Communications Commission's (FCC) Notice of Proposed Rulemaking (*NPRM*) in the Matter of Improving 9-1-1 Reliability.¹ The Commission should make the following recommendations: (1) Support the FCC's proposed definition of "9-1-1 service provider" which is technology neutral; (2) Urge the FCC to adopt technology neutral minimum back-up power requirements for 9-1-1 networks, but provide flexibility of implementation; (3) Recommend that the FCC require 9-1-1 providers to certify to the reliability of their 9-1-1 systems; and (4) if the FCC adopts reporting requirements, recommend that the FCC give states timely access to data concerning their state. Comments are due May 13, 2013.

BACKGROUND:

1. The FCC's NPRM

The rules proposed by the FCC in this *NPRM* are in response to the findings and recommendations presented in the FCC's Public Safety and Homeland Security Bureau's January 10, 2013, report entitled "Impact of the June 2012 Derecho on Communications

¹ In the Matter of Improving 9-1-1 Reliability; Reliability and Continuity of Communications Networks, Including Broadband Technologies; PS Docket No. 13-75; PS Docket No. 11-60 (FCC 13-33); rel. March 20, 2013 (*NPRM*).

Networks and Services: Report and Recommendations” (*Derecho Report*).² The FCC notes that “[i]n the report, following an extensive inquiry and review of comments, the Bureau found that the June 2012 derecho storm affecting the Midwest and Mid-Atlantic United States severely disrupted 9-1-1-related communications and that these disruptions were due in large part to avoidable planning and systems failures within 9-1-1 service providers’ networks.”³ As stated in the report:

The 2012 derecho severely disrupted 9-1-1-related communications. Seventy-seven 9-1-1 call centers (also known as “Public Safety Answering Points” or “PSAPs”) serving more than 3.6 million people in six states lost some degree of connectivity, including vital information on the location of 9-1-1 calls, mostly due to service provider network problems. From isolated breakdowns in Ohio, New Jersey, Maryland, and Indiana, to systemic failures in northern Virginia and West Virginia, 9-1-1 systems and services were partially or completely down for up to several days. Seventeen PSAPs in three states lost service completely, affecting the ability of more than 2 million people to reach 9-1-1 at all.⁴

The Bureau concluded that these failures could, and would, have been avoided if providers had followed industry best practices and other sound engineering principles.⁵ The Report found that many outages could have been prevented through implementation of existing best practices, and that emergency communications were disrupted because of avoidable planning and system failures.

In the *Derecho Report*, the Public Safety and Homeland Security Bureau recommended that the FCC consider action in the following areas: (1) 9-1-1 circuit auditing; (2) 9-1-1 service provider central office backup power; (3) physical diversity of monitor and control links; and (4) improved outage notification to PSAPs. The *NPRM* seeks comment on approaches to implement these recommendations.⁶

2. Prior CPUC Actions

In 2006, the California legislature passed AB 2393⁷, which added §§ 776, 2872.5, and 2892.1 to the Public Utilities Code, and directed the CPUC, in consultation with the Office of Emergency

² FCC PUB. SAFETY & HOMELAND SEC. BUREAU, IMPACT OF THE JUNE 2012 DERECHO ON COMMUNICATIONS NETWORKS AND SERVICES: REPORT AND RECOMMENDATIONS (PSHSB, rel. Jan. 10, 2013), *available at* <http://www.fcc.gov/document/derecho-report-and-recommendations> (*Derecho Report*).

³ *NPRM*, para. 1.

⁴ *Derecho Report*, Executive Summary.

⁵ *NPRM*, para. 1.

⁶ *Id.*, at para.3.

⁷ Stats. 2010, Ch. 404., Sec. 3, effective January 1, 2007.

Services and Department of General Services, to investigate, among other things, the need for backup power to enable telecommunications networks to function for the purposes of emergency calling. The CPUC conducted an OIR (R.07-04-015) resulting in a report to the Legislature entitled “Reliability Standards for Emergency Backup Power Systems and Emergency Notification Systems”(CPUC Report) which was adopted in Decision (D). 08-09-014. The CPUC Report noted these industry design standards based on best practices are useful for emergency planning:

- 24 hours of fuel storage at the central office facilities with contingency plans for rapid resupply of fuel as needed; and
- Four hours (minimum) of backup power at remote terminals with an objective of eight hours at critical sites.⁸

The CPUC Report noted that there may be mitigating circumstances that prevent achieving these design objectives, such as environmental regulations, local fire codes, and building safety codes.⁹

In the CPUC Decision, the Commission made these Findings of Fact:

2. Implementation rates for the Best Practices are 98% for large LECs, 73% for small LECs, 91% for wireless and 93% for cable.
3. For the Best Practices related only to backup generator deployment, the implementation rates are 98% for large LECs, 70% for small LECs, 90%for wireless and 90% for cable.¹⁰

The Commission noted that:

The [CPUC Report] finds that most service providers [in California] have at least four hours of backup power with larger providers having greater than eight hours of backup power at over 90% of their remote locations. The [CPUC Report] reaches the following general conclusions:

- A minimum reserve of at least four hours of battery backup power is standard for remote terminals.
- Most remote terminals of wireline providers are designed to have eight hours of backup power.

⁸ CPUC Decision (D.) 08-09-014 at p. 37

⁹ *Id.*

¹⁰ *Id.*, at p. 45.

- Most wireless remote terminals have emergency power backup, with 80% having four or more hours of backup power.¹¹

The Commission concluded:

The intent of § 2892.1 was to determine the need for backup power systems not located on the customer's premises and performance criteria for such systems. Service providers have recognized the need for backup power and installed such systems. The [CPUC Report] found that most service providers have backup power for 24 hours at central office facilities and four to eight hours at remote terminals.

...

Since the FCC has developed national requirements, we find it best for California to actively participate in the further development and implementation of them. When such requirements are established, California will be in a much better position to determine whether additional standards are needed, including whether smaller providers should be exempt. Additionally, only the incremental costs of the California standards as compared to the federal requirements would need to be addressed because the costs of implementing federal requirements will be a cost of doing business for service providers. We expect CD to monitor the development and implementation of the federal requirements and keep the Commission and the Legislature apprised of significant developments.¹²

The Commission did not adopt back-up power requirements for the networks. Instead, the Commission deferred to the then-recently adopted FCC Order establishing minimum back-up power requirements, including a requirement that LECs and CMRS providers have 24 hours of emergency backup power for central offices and eight hours for cell sites, remote switches and digital loop carrier system remote terminals.¹³ The Order provided exemptions for smaller providers. Although the Commission noted that the FCC requirements were not yet in effect and subject to appeal, the Commission found them to be not "unreasonable". The Commission decided that it should not establish separate back up requirements for central offices, cell sites, remote switches and digital loop carrier system remote terminals, but rather would "closely monitor and, where necessary, actively participate in the development of the federal requirements."¹⁴

¹¹ *Id.*, at pp. 34-35.

¹² *Id.*, at pp. 38-39. In a subsequent decision in this proceeding, the Commission did adopt rules requiring carriers to educate customers about the need for back-up power on the customers' premises. *See* D.10-01-026.

¹³ *In the Matter of Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, 22 F.C.C. Rcd 18,013, 18,035 (2007).

¹⁴ D.08-09-014, at p. 4.

On July 31, 2009, the U.S. Court of Appeals for the D.C. Circuit vacated the FCC's Order establishing national back up power requirements in light of the FCC's notification to the Court that it was going to revise the Order.¹⁵ The instant FCC *NPRM* puts the issue back on the table but this time with an emphasis on the 9-1-1 Networks.

DISCUSSION AND RECOMMENDATIONS: Staff recommends that the CPUC file comments in the following areas in the FCC *NPRM* proceeding:

1) **Definition of 9-1-1 Service Provider:** The FCC seeks comment on defining the term "9-1-1 service provider." The FCC anticipates that the proposals in the *NPRM* would apply to all 9-1-1 service providers, and tentatively defines that term to 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. The FCC asks whether that definition is sufficient to capture all the entities that both now and in the future could provide functions necessary to the provision of such services to a PSAP. If not, the FCC asks how should this term be defined, and whether, for example, any of the proposals should apply to other types of wireline service providers, wireless service providers, interconnected VoIP service providers, or other potential means of reaching a PSAP as NG9-1-1 broadens the range of entities capable of delivering 9-1-1 service.¹⁶

Recommendation: Staff recommends that the Commission support the FCC's broad definition of 9-1-1 service provider and recommend that any rules should be applied in a technology neutral manner to the extent feasible. The proposed definition should provide for both current and next generation 9-1-1 architectures.

2) **Back-up Power Mandates:** In the *NPRM* the FCC states: "Although we intend the approaches in this Notice to complement and strengthen – not to replace – the [FCC's] current approach to network reliability, we seek comment on the appropriate balance between voluntary best practices and [FCC] mandates as they relate to 9-1-1 communications."¹⁷ The FCC seeks comment on whether it should institute requirements with respect to backup power, including testing and maintenance of backup power equipment and adoption of adopt a minimum standard for central office backup power.¹⁸

¹⁵ *CTIA - Wireless Ass'n v. FCC*, 2009 U.S. App. LEXIS 17031 (D.C. Cir. July 31, 2009).

¹⁶ *NPRM* at para.23.

¹⁷ *Id.*, at para. 20.

¹⁸ *Id.*, at paras. 45 and 49.

Recommendation: The Commission should recommend that the FCC adopt minimum backup power requirements or standards for central offices and other network locations necessary to ensure the provisioning of 9-1-1 service. The types of facilities that the CPUC's 2008 investigation analyzed were backup power at cell sites, central offices, and central office remote terminals. However the Commission should recommend that the FCC permit the 9-1-1 network providers flexibility in the implementation of the requirements so the solutions adopted can take into account variances in geography, population density, environmental laws, zoning laws, etc. The Commission should also urge the FCC to continue to permit states to adopt backup power rules not inconsistent with the federal rules.

3) Implementation Approaches: The FCC seeks comment on four possible approaches to implement the recommendations for FCC action in the Derecho Report.

- *Reporting.* Under this approach, the FCC would require service providers to periodically report on the extent to which they are voluntarily implementing critical best practices, or complying with applicable standards established by the FCC.¹⁹
- *Certification.* Under this approach, the FCC would require providers to certify periodically that their 9-1-1 network service and facilities comply with voluntary industry best practices, reliability requirements specified by the FCC or other standards.²⁰
- *Reliability Requirements.* Under a third approach the FCC would specify minimum standards for 9-1-1 communications reliability, based on recognized industry best practices.²¹
- *Compliance Reviews and Inspections.* Under this approach, the FCC would conduct periodic compliance reviews or site inspections of service provider facilities to verify that 9-1-1 service providers are adhering to certain standards.²²

¹⁹ *Id.*, at para. 26.

²⁰ *Id.*, at para. 28.

²¹ *Id.*, at para. 30.

²² *Id.*, at para. 31.

Recommendation: The Commission should recommend that the FCC adopt minimum back up power mandates as discussed above, a certification scheme, and a continuation of best practices where mandates do not exist. The CPUC should also recommend that if the FCC adopts reporting requirements, the FCC should provide states timely access to the reports pertaining to 9-1-1 networks in their state.

In addition, in response to requests for information in the *NPRM*, Staff will also provide the FCC with information about the CPUC's and the California Technology Agency's roles in the oversight of 9-1-1 services and networks, as well as these agencies' outage reporting requirements.

Assigned Staff:

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