

State of California

Public Utilities Commission  
San Francisco

MEMORANDUM

**Date :** August 12, 2016

**To :** The Commission  
(Meeting of August 18, 2016)

**From :** Hien Vo Winter  
Public Utilities Counsel IV, Legal Division

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**Subject:** Federal Communications Commission's Request for Comments on Further Updates to its Network Outage Reporting Rules, Including Collecting and Sharing Broadband Outage Data with Other Federal and State Agencies; Pending CPUC Petition for Access to the Network Outage Reporting System (NORS)

**RECOMMENDATION:** The CPUC should file comments in response to the FCC's May 26, 2016 *Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration* ("FNPRM").<sup>1</sup> This FNPRM follows a March 30, 2015 FCC *Order and Notice of Proposed Rulemaking* ("NPRM") and proposes to further update the FCC's part 4 outage reporting rules ("Part 4 rules")<sup>2</sup> by expanding them to apply to broadband internet access service (BIAS) providers. Specifically, the FCC seeks comment on (1) a proposal to address broadband network disruptions based on network performance degradation, (2) proposed changes to the rules governing interconnected Voice over Internet Protocol (VoIP) outage reporting, (3) reporting of call failures in the radio access network and local access network, and on geography-based reporting of wireless outages

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<sup>1</sup> See *In re Amendments to Part 4 of the Commission's Rules Concerning Disruptions to Communications*, PS Docket No. 15-80; *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, ET Docket No. 04-35; *The Proposed Extension of Part 4 of the Commission's Rules Regarding Outage Reporting to Interconnected Voice Over Internet Protocol Service Providers and Broadband Internet Service Providers*, PS Docket No. 11-82, Report and Order, Further Notice of Proposed Rulemaking, and Order on Reconsideration, released May 26, 2016, found at [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-16-63A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-63A1.pdf)

<sup>2</sup> The Part 4 rules govern the FCC's collection and usage of outage data that wireline, wireless, and interconnected VoIP providers currently must submit in reports (NORS reports). See <https://www.fcc.gov/public-safety/network-outage-reporting-system-nors>.

in rural areas; and (4) refining the covered critical communications at airports subject to part 4 reporting.<sup>3</sup> CPUC Staff (CD and Legal) seeks authority to comment on the first two issues (broadband and interconnected VoIP outage reporting), which were not raised in the previous *NPRM*.<sup>4</sup>

With this *FNPRM*, the FCC seeks to increase its “situational awareness” about outages that affect public safety and convenience and to promote technology-neutral reporting requirements. As these are goals the CPUC shares,<sup>5</sup> staff recommends the CPUC support the FCC’s proposal to extend Part 4 outage reporting to broadband providers, “given BIAS’ ubiquitous penetration throughout the American landscape and the multiple important emergency and non-emergency uses for which Americans consume BIAS.”<sup>6</sup> The CPUC should also support the FCC’s proposed changes to the interconnected VoIP reporting rules that would require interconnected VoIP providers to report outages in a similar manner as other communications providers. And, to inform the FCC, the CPUC should provide information on certain technical questions related to broadband networks which has been gathered as part of the CPUC’s broadband mapping program. This includes information related to measurements of packet loss, latency (delay) and number of server “hops”.

Consistent with the CPUC’s previous comments in this FCC proceeding, as well as with its recent position related to Investigation (I.) 15-11-007 (Competition OII), the CPUC should continue to strongly oppose any suggestions that the FCC preempt states’ ability to independently collect data, regardless of whether the data relates to broadband, wireless, or other communications services.<sup>7</sup> The CPUC has consistently maintained that direct access to the FCC’s NORS database should only be conditioned on a state’s certification that it has adequate confidentiality protections to protect NORS data, which California does.<sup>8</sup> Staff’s proposed responses to specific requests for comments are

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<sup>3</sup> See *FNPRM*, at 3-4.

<sup>4</sup> The CPUC submitted comments and reply comments on the *NPRM*. Staff seeks authority here to comment on the new issues related to broadband and interconnected Voice over Internet Protocol (VoIP) services raised in the *FNPRM*.

<sup>5</sup> See e.g., R.11-12-001, *Order Instituting Rulemaking to Evaluate Telecommunications Corporations Service Quality Performance and Consider Modification to Service Quality Rules*, December 1, 2011; see also D.06-08-030 (URF II), *Slip. Op.*, at 36-38; see also generally D.09-07-019 (adopting GO 133-C), *Slip. Op.*; see also Cal. Pub. Util. Code § 871.7 (universal service).

<sup>6</sup> *FNPRM*, ¶ 111.

<sup>7</sup> See e.g., CPUC Cross-Motion and Cross-Motion for Summary Judgment, filed July 28, 2016, Case No. 3:16-cv-02461-VC (N.D. Cal) (arguing cooperative federalism, where CPUC exercises independent state authority within a larger federal framework, found in other areas of telecommunications regulation, including universal service programs, pole attachment rates, and market monitoring and the promotion of competition).

<sup>8</sup> See *In re Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, CPUC Petition, filed November 13, 2009, found at <http://fjallfoss.fcc.gov/ecfs/document/view?id=7020348021>

detailed below, with the bulk of the comments focused on mobile broadband network observations.

The Federal Register published the *FNPRM* on July 12, 2016, which started the 45/60 comment periods. Comments are due August 26, 2016. Reply comments are due September 10, 2016.

**BACKGROUND:** The FCC seeks “to ensure reliability of broadband networks used to deploy critical communications services, used both for emergency and non-emergency purposes.”<sup>2</sup> Therefore, the *FNPRM* proposes to (1) extend the Part 4 rules to broadband Internet access services (BIAS) and (2) revise the manner in which the Part 4 rules apply to existing and future dedicated services to ensure a broadband emphasis.<sup>10</sup> Collecting data about broadband outages would provide the FCC with “the necessary situational awareness about these broadband networks.”<sup>11</sup>

In the *FNPRM*, the FCC also recognizes “the important roles of other federal and State agencies in promoting the reliability of broadband communications,”<sup>12</sup> but notes “the proposal of sharing NORS information with state and other federal entities requires further investigation, including where state law would need to be preempted to facilitate information sharing.”<sup>13</sup> Currently, the FCC only shares NORS data directly with the Department of Homeland Security (DHS).<sup>14</sup> With the proposal to collect broadband outage data, for the first time, comes a series of questions about how the FCC could (or should) share this data with other federal and state agencies, while also ensuring the data is properly protected once shared.<sup>15</sup>

Similar information-sharing and confidentiality issues arose when the FCC requested comments on the CPUC’s November 12, 2009 *Petition...for Rulemaking On States’ Access to the Network Outage Reporting System (“NORS”) Database and a Ruling Granting California Access To NORS* (“CPUC Petition”).<sup>16</sup> The CPUC sought password-protected direct access to California data in the NORS for two reasons: “to monitor and verify service outages and disruptions of communications networks to effectively perform our traditional role of protecting public health and safety” and “to

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<sup>2</sup> *FNPRM*, ¶ 93.

<sup>10</sup> *Ibid.*

<sup>11</sup> *Ibid.*

<sup>12</sup> *Id.*, ¶ 146.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*

<sup>15</sup> See *FNPRM*, ¶¶ 145-148.

<sup>16</sup> See fn. 8, *supra*. The FCC received comments/replies directly in response to the CPUC Petition on March 4, 2010 and March 19, 2010. The FCC also received comments/replies related to the CPUC Petition in response to its March 30, 2015 NPRM on July 16, 2015 and July 31, 2015, respectively.

simplify the reporting process” in California.<sup>17</sup> Since 2009, all facilities-based certificated and registered telecommunications providers in California must concurrently report to the CPUC all information electronically submitted to the FCC through the NORS.<sup>18</sup>

In the FCC’s March 30, 2015 *NPRM*, the FCC proposed to grant states access to the NORS, but sought comment on whether access should be conditioned upon certain requirements and restrictions.<sup>19</sup> The CPUC and other states opposed industry suggestions that the FCC impose any of the additional requirements and restrictions suggested in the *NPRM*. The CPUC stated, as it had done in the CPUC Petition, that the only condition should be a state certifying that it has laws in place that would adequately protect NORS data from public disclosure. The CPUC explained that California, similar to the FCC, deems NORS data it receives directly from providers as confidential and protected by Cal. Pub. Util. Code § 583 and CPUC General Order (G.O.) 66-C. Additional requirements and restrictions, the CPUC argued, were unnecessary and could interfere with the CPUC’s ability to carry out its public safety oversight duties.<sup>20</sup>

In this May 26, 2016 *Report and Order*, the FCC concludes that “direct access to NORS by our state and federal partners is in the public interest,” but determines that “further consideration is warranted to ensure that the process includes adequate safeguards to maintain the security and confidentiality of sensitive information.”<sup>21</sup> This *Report and Order* directs the FCC’s Public Safety and Homeland Security Bureau (Bureau) “to study these issues, and develop proposals for the Commission consideration regarding how NORS filings and information collected from all part 4 providers could be shared in real time with state commissions, with other federal partners, and with the NCC, keeping in mind current information sharing privileges granted to DHS.”<sup>22</sup>

In the *FNPRM*, the FCC seeks comment “with respect to how NORS data from broadband providers could be properly shared with state and federal entities other than DHS, including instances where state law may prohibit information sharing.”<sup>23</sup> It also requests comments on “the current reporting and information sharing practices of

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<sup>17</sup> CPUC Reply Comments (March 19, 2010), at 1 (emphasis in original).

<sup>18</sup> See D.09-07-019.

<sup>19</sup> See *In re Amendments to Part 4 of the Commission’s Rules concerning Disruption to Communications, New Part 4 of the Commission’s rules concerning Disruptions to Communications*, PS Docket No. 15-80; *New Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, ET Docket No. 04-35, Notice of Proposed Rulemaking, Second Report and Order and Order on Reconsideration, released March 30, 2015.

<sup>20</sup> See CPUC Comments (July 16, 2015); see also CPUC Reply Comments (July 31, 2015).

<sup>21</sup> *FNPRM*, ¶¶ 4, 89.

<sup>22</sup> *Id.*, ¶ 89.

<sup>23</sup> *Ibid.*

broadband and interconnected VoIP providers with state governments and other federal agencies.”<sup>24</sup>

**DISCUSSION AND RECOMMENDATIONS:** Staff recommends that the CPUC file comments in response to this *FNPRM* on the following issues:

### **A. Broadband Network Outage Reporting**

*Need for mandatory broadband outage reporting* (§§ 93, 102, 103, 106, 111, 124). Staff agrees with the *FNPRM*’s observations that there is a real need for broadband network outage reporting and that such reporting should be mandatory. “Broadband networks now provide an expanding portion of today’s emergency and non-emergency communications and have technological flexibility that allows service providers to offer both old and new services over a single architecture.”<sup>25</sup> Broadband “outages and service disruptions can occur at both the physical infrastructure and the service levels. Broadband networks are just as vulnerable to physical outages and service disruptions as the public-switched telephone network (PSTN), but are also susceptible to attacks at the application layer, which may not affect the underlying physical infrastructure.”<sup>26</sup> Staff also agrees with the *FNPRM*’s observation that “broadband networks’ interrelated architectural makeup renders them more susceptible to large-scale service outages” and that “[t]his new paradigm of larger, more impactful outages suggests that there would be significant value in collecting data on outages and disruptions to commercial broadband service providers.”<sup>27</sup> The CPUC will provide data from its mobile broadband testing on the increased number of IP addresses used in the delivery of packets from a host computer to a server/ISP.

*BIAS and dedicated services* (§§ 109, 110). In the *FNPRM*, the FCC would require BIAS providers, for the first time to provide broadband-specific outage information for dedicated services to further its public safety goals. The *FNPRM* seeks comment on the view that its requirements “apply equally and neutrally regardless of technology or provider type.”<sup>28</sup> Ensuring safety is of paramount concern to the CPUC,<sup>29</sup> and promoting technology-neutral outage reporting rules is also a shared policy goal of the CPUC. Thus, Staff agrees with the *FNPRM*’s proposal to require comprehensive outage reporting, “that, for BIAS and dedicated services, would encompass: (i) all customer market segments to include – mass market, small business, medium size business, specific access services, and enterprise-class (including PSAPs, governmental purchasers,

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<sup>24</sup> *Id.*, ¶ 147.

<sup>25</sup> *FNPRM*, ¶ 102.

<sup>26</sup> *Ibid.*

<sup>27</sup> *Id.*, ¶ 103.

<sup>28</sup> *Id.*, §§ 109, 110.

<sup>29</sup> See e.g., R.11-12-001 (Service Quality), Order Instituting Rulemaking (OIR), issued December 12, 2011.

carriers, critical infrastructure industries,<sup>30</sup> large academic institutional users, etc.); (ii) all providers of such services on a technology-neutral basis; and (iii) all purchasers (end users) of those services without limitation.”<sup>31</sup>

*Outages caused by unintended changes to software or firmware or unintended modifications to a database* (§§ 124, 126). As with events involving critical network element failure, the *FNPRM* proposes “to modify the NORS interface to support information regarding outages and disruptions that are associated with unintended changes to software or firmware or unintended modifications to a database.” Staff supports carriers providing more specific reasons for outages which will better position the FCC to respond to specific failures.

*Metrics for performance degradation* (§§ 137, 138). The FCC asks for comments regarding the *FNPRM*'s proposal for measuring performance degradation that includes throughput, packet loss, and latency. Based on Staff's review of data from the CPUC's semi-annual mobile field tests, packet loss and latency can vary greatly, depending on a host of factors, including provider, network technology, location, and backhaul distance. Staff does not have a specific data collection threshold recommendation at this time. However, staff supports the collection of performance degradation data, such as packet loss and latency, because this type of information has been useful in the CPUC's data collection efforts to determine the availability of broadband in California. The FCC may similarly find this type of data useful in formulating best practices to address communications outages.

*Ensuring reliable access to 9-1-1 by the disabled.* (§§ 199, 200): The *FNPRM* states, “[g]iven that video, text, and voice communications to 911 already traverse broadband networks and will continue to do so as the deployment of Real-Time Text and other NG911 multimedia applications grow, we believe that the CVAA's [Communications and Video Accessibility Act of 2010] mandate for ensuring equal access to 911 provides an additional legal basis for the broadband reporting rules proposed herein. The *FNPRM* seeks comment on this tentative conclusion and on whether “the proposed broadband reporting requirements are an ‘achievable and technically feasible’ way to meet this CVAA mandate.”<sup>32</sup> Staff recommends agreeing with the *FNPRM* and citing to the CPUC's comments on the FCC's April 29, 2016 *Notice of Proposed Rulemaking on Transition from TTY [text telephone] to Real-Time Text Technology [RTT]*.<sup>33</sup> In those comments the CPUC noted the compatibility problems with the analog-based TTY

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<sup>30</sup> Regarding critical infrastructure industries, the adverse impact of the failure of their operations frequently do not show up in NORS currently because 1) the thresholds are frequently not reached which impact the application (voice or control system) and 2) the end users are not identified as critical infrastructure (e.g. as 911 facilities are).

<sup>31</sup> *FNPRM*, § 110.

<sup>32</sup> *FNPRM*, § 102.

<sup>33</sup> See CPUC Comments (August 5, 2016).

legacy equipment being used over IP-based service – garbling, dropped calls, missed characters, and depending, on the service provider, connection problems. The CPUC recommended that RTT be interoperable with analog-based TTYs.

*Confidentiality of broadband outage reports* (§ 145). Staff agrees with the *FNPRM*'s presumptive confidential treatment of broadband reports filed pursuant to Part 4 rules. Currently, the CPUC deems NORS outage reports provided to the CPUC to be confidential and thus, it is reasonable to presume that broadband outage reports, which are to be submitted in NORS, should also be confidential. We agree with the *FNPRM* that the “approach of presumed confidentiality may need to evolve as networks, and consumer expectations about transparency, also evolve.” This is a balanced approach that appropriately considers both provider and user perspectives.

*Information sharing practices of broadband and interconnected VoIP providers* (§ 147). Staff recommends describing the CPUC's experience with obtaining data from broadband and interconnected VoIP providers, as requested in the *FNPRM*. Since Cal. Pub. Util. Code § 710 became effective January 1 2013, interconnected VoIP providers have generally objected to providing the CPUC with any data regarding their interconnected VoIP services, citing § 710. Section 710 limits the CPUC's regulatory authority over interconnected VoIP or IP-enabled services, but allows the CPUC to regulate where state or federal law expressly delegates authority to do so or if the activity falls within one of § 710's enumerated exceptions. Section 710(f) authorizes the CPUC to “continue to monitor and discuss VoIP services,” and under current consideration by the CPUC, in Rulemaking (R.) 11-12-001, is a proposal to require certain interconnected VoIP providers to provide the CPUC with copies of their NORS reports. Interconnected VoIP providers object to this proposal, arguing that §710(f) does not authorize the CPUC to obtain this information from them.

The CPUC should note that the California Public Utilities Code grants the CPUC with broad authority to obtain data from public utilities and authority to issue administrative subpoenas to non-public utilities (P.U. Code § 312). Section 710 does not alter that authority.

*Reciprocal sharing of information on broadband network outages between state and federal partners.* (§ 148). In requesting the FCC share California-specific NORS data with the CPUC, it is clear the CPUC supports the concept of information sharing between state and federal agencies. However, the CPUC should urge the FCC not to preempt states from the ability to obtain outage data directly from providers as states see fit.<sup>34</sup> The CPUC has a state obligation to require that public utilities provide safe and reliable service and must be able to meet that obligation by collecting data that is specific to California's needs.

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<sup>34</sup> See fn. 7, *supra*.

## **B. Changes to Interconnected VoIP Reporting Rules**

Staff agrees with the FCC's proposal in the *FNPRM* to have interconnected VoIP providers report in the same manner as legacy service providers. (See ¶¶ 127, 163.) Interconnected VoIP providers would now file the same reports within the same time frames as other applicable communications providers. This approach is consistent with the CPUC's technology-neutral goals. These carriers are providing voice service, and customers frequently do not know the difference between VoIP and traditional telephone service. Accordingly, safety rules should be technology neutral.

### **Assigned Staff:**

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