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BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking
Regarding Emergency Disaster Relief
Program.

Rulemaking 18-03-011

ASSIGNED COMMISSIONER'S RULING AND PROPOSAL

This ruling sets forth the Assigned Commissioner's Proposals (Proposal) for maintaining resilient and dependable communications networks that aid first responders and allow the public to communicate reliably during catastrophes like wildfires or during public safety power shut offs (*e.g.*, de-energization events). Dissemination of the Proposal to parties via this Ruling is intended to facilitate development of the record in this proceeding on the issues of resiliency and responsiveness requirements for communications service providers during disasters, as well as public safety power shutoffs.

1. Background

This ruling solicits responses from parties on the question of whether the CPUC should require communications service providers to deploy sufficient backup power at key facilities across the state to maintain a minimum level of service, given the reach and impact of state-wide de-energization events and wildfires. This ruling also solicits responses from parties on whether the CPUC should adopt rules to require critical facility location sharing with emergency responders and requirements for disaster preparedness and outage information sharing.

2. Assigned Commissioner Proposal

The scoping ruling for this proceeding identified the goal of developing resiliency planning for communications service providers in areas that are prone to outage events and wildfires, with the ultimate purpose of establishing rules for resiliency by Summer 2020, if not sooner, in advance of the upcoming fire season.¹

As stated in the Scoping Memo and Ruling as well as in Decision (D.) 19-08-025, a reliable and resilient communications network is urgently needed to ensure public health and safety. The record developed thus far in this proceeding makes clear that emergency calls and notifications often fail during disasters such as wildfires, floods, and earthquakes, leaving the public in a communications void and, at critical times, in peril. After reviewing the record to date, and in consideration of the limited schedule to implement mitigation measures in advance of the upcoming fire season, this Assigned Commissioner's Ruling seeks party comments on the Proposal to inform the development and resolution of the record. The Proposal is attached as Appendix A to this Ruling. The revised schedule of activities is provided below.

3. Revised Phase II Schedule

Phase II of this proceeding encompasses the Commission's goal of requiring resiliency planning in areas prone to outage events and wildfires, with the goal of putting communications resiliency measures in place by Summer 2020, if not sooner.² With this goal in mind, the schedule for Phase II is

¹ Order Instituting Rulemaking Regarding Emergency Disaster Relief Program to Support California Residents (Rulemaking (R.) 18-03-011) November 20, 2019 Prehearing Conference Transcript at 130, lines 12-17.

² *Id.*

reset below, with an anticipated decision giving direction for mitigation measures ready for implementation to be released no later than Summer 2020.

Therefore, the following revised schedule is adopted and set forth below:

1. Opening comments on the Proposal only, due on March 27, 2020; and
2. Reply comments on the Proposal due on April 3, 2020.

For future discussion purposes, a subsequent ruling noticing a status conference may be issued, as deemed necessary, by the assigned Commissioner or Administrative Law Judge upon submission of Reply comments.

4. Request for Formal Response

To guide parties' and the Commission's review of the Proposal and party comments, this ruling directs parties to respond in their comments to the following questions about the recommendations contained in the Proposal. When responding to the following questions, parties shall organize and submit their comments in the same order in which the issues and questions are presented below.

4.1. Proposal for Ensuring Resiliency in Communications Provider Networks

1. Applicability of Requirements: The Proposal states that the requirements shall be applicable to all companies owning, operating, or otherwise responsible for infrastructure that provides or otherwise carries 9-1-1, voice, text messages, or data.
 - (a) Is this definition of applicability reasonably tailored to ensure regulatory compliance over all communications service providers? Why or why not?
 - (b) Which types of providers, if any, should be excluded from these requirements because their services are not essential to reliable access to 9-1-1 and the distribution of essential emergency information?

2. Alternatively, D.19-08-025 defined communications service providers into the following categories: (1) facilities-based and non-facilities-based landline providers include 9-1-1/E9-1-1 providers, LifeLine providers, providers of Voice Over Internet Protocol [VoIP], Carriers of Last Resort [COLRs], and other landline providers that do not fall into the aforementioned groups; (2) wireless providers include those that provide access to E9-1-1 and/or LifeLine services; (2A) facilities-based wireless providers; and (2B) non-facilities-based wireless providers, include resellers and mobile virtual network operators [MVNOs].³

- (a) For purposes of Phase II, should the Commission apply the definition from D.19-08-025, instead of the proposed definition in the Proposal?

3. Definition of Resiliency: The Proposal defines resiliency as the ability to recover from or adjust easily to adversity or change and is achieved by Providers through utilizing a variety of strategies. The proposal lists an array of strategies and provides definitions for each one.

- (a) Please provide comments on the definition of resiliency in the context of communications service resiliency strategies and their definitions.
- (b) Please comment on any recommendations or modifications that should be considered to the proposed resiliency definition and the resiliency strategies. Please provide a complete discussion for any proposed recommendations or modifications.

4. Backup Power Requirement: The Proposal recommends that all Providers have:

on-site emergency backup power to support all essential communications equipment including but not limited to,

³ D.19-8-025 at 4.

switching centers, central offices, wire centers, head ends, network nodes, field cabinets, remote terminals, and cellular sites (or their functional equivalents) necessary to maintain service for a minimum of 72 hours immediately following a power outage. Service must be sufficient to maintain access for all customers to 9-1-1 service, to receive emergency notifications, and to access web browsing for emergency notices.

- (a) Please provide comments on the proposed backup power requirement.
- (b) How should “outage” be defined?
- (c) Should the length of the 72 hour⁴ backup power requirement be shorter, longer or indefinite? Please provide an analysis to support your recommendation.
- (d) What other backup power requirements or components should the Commission consider? Please provide an analysis to support your discussion of any additional requirements or components.

5. Backup Power Plans: The Proposal recommends that Providers file a Backup Power Plan with the Commission six months from the effective date of an adopted Commission decision with an array of requirements that illustrate the Provider’s preparedness to ensure 9-1-1 access, ability to receive emergency notifications, and access web browsing for 100 percent of customers in the event of a commercial power outage. Please provide comments and analysis on this compliance requirement.

- (a) Clean Energy Generation: The Proposal directs Providers to utilize clean energy backup power options (*e.g.*, solar, *etc.*) as reasonable before using diesel generators to meet the backup power requirement, among other provisions.

⁴ Order Instituting Rulemaking Regarding Emergency Disaster Relief Program to Support California Residents (R.18-03-011) November 20, 2019 Workshop Transcript at 29, lines 1-6.

Please provide comments and analysis on this issue, and specifically address the following:

- i. How should “clean energy backup” be defined?
 - ii. Provide specific information on barriers to procuring specific types of clean energy backup power (*e.g.*, cost, permitting, *etc.*).
- (b) Waivers: The Proposal directs Providers to submit waivers if they qualify for any of the exemptions enumerated in the Proposal. Please provide comments and analysis on this issue.
- (c) Critical Facility Location Information Sharing: The Proposal directs Providers to share critical facility location information to emergency responders to enhance the ability to defend vital facilities against wildfire damage and ensure facility redundancy. Please provide comments and analysis on this issue.
- (d) Critical Infrastructure Resiliency, Hardening and Location Information Sharing: The Proposal directs Providers to annually submit geographic information system (GIS) information with the specific location of network facilities and backhaul routes to the Commission. The Proposal directs Commission staff to analyze and process this information, so it is accessible to state and local emergency responders, subject to confidentiality requirements. Please provide comments and analysis on these proposed directives.
6. Emergency Operations Plans: The Proposal directs Providers to file emergency operations plans with the Commission, discussing how their operations are prepared to respond to emergencies. Please provide comments and analysis on this issue.
- (a) Additionally, the Proposal itemizes required content that the Providers must submit to the Commission. Please provide comments and analysis on this issue.

- (b) Should the proposed rule for Emergency Operations Plans include any other information that the Proposal does not address? Please explain why any additional information is legitimate and necessary for adoption.

7. Current Mitigation Efforts: in response to this ruling, all respondent communications service providers shall provide a discussion of what current mitigation efforts they are undertaking to ensure continuity of service in preparation and in advance of the upcoming 2020 wildfire and grid outage season. This should include, but is not limited to, the following topics:

- (a) Number of additional generators acquired (both fixed and mobile);
- (b) Number of additional temporary facilities acquired (*e.g.*, COWs, COLTs, *etc.*);
- (c) Additional network redundancy built into network (*e.g.*, logical and physical);
- (d) Provide details on plans in the near, intermediate and long term to further harden facilities;
- (e) Identify barriers to building resiliency into your networks;
- (f) Identify any other investments or cooperative agreements that will be made to build in more backup generation or minimize the need for backup generation; and
- (g) Identify if communications service outages as a result of future public safety power shutoff events are expected. Identify specific locations and reasons where network outages are expected.

To the extent practicable, communication service providers are directed to submit as much of this information as possible without assertion of confidentiality.

8. Other Topics for Commission Consideration: Parties may identify issues in addition to the proposed rules and discussion in the Proposal.

IT IS RULED that:

1. The Assigned Commissioner's Proposal is hereby entered into the formal record of this proceeding.
2. Opening Comments are due on March 27, 2020.
3. Reply comments are due on April 3, 2020.

Dated March 6, 2020, at San Francisco, California.

/s/ MARYBEL BATJER

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Assigned Commissioner

APPENDIX A

Communications Service Provider Resiliency and Disaster Response Requirements

ASSIGNED COMMISSIONER PROPOSALS

BACKGROUND

In this proceeding, the California Public Utilities Commission (Commission) has convened several forums and established a robust record laying out the importance of communications services before, during, and after disasters, which include but are not limited to, wildfires, floods, earthquakes or grid outages. Californians rely on both their phones and the Internet, whether using wireline or wireless technologies, to receive emergency notifications and critical information in a disaster, to contact family and friends, and to access 9-1-1 to reach first responders. Californians have a reasonable expectation that these services will be operational even, and especially, during a power outage. Communications service providers – just like their electrical corporation counterparts – have a duty to maintain continuity of service in times of disaster.

Loss of communications service often is a matter of life and death. Without access to 9-1-1 and emergency services, the people of this state cannot function or receive vital information on how to be safe in an emergency. During recent wildfire and Public Safety Power Shutoff (PSPS) events, widespread communications outages occurred across all sectors: in the facilities used to provide wireless telephone service, traditional landline telephone service, cable video service, Voice over Internet Protocol service, and broadband Internet access service. These outages demonstrated that a lack of resiliency, a failure to prepare for disasters, and a failure to actively communicate service outages to the public and emergency responders had real consequences for the public in the affected areas. Network infrastructure resiliency must be improved so that vital communications services are uninterrupted and available for Californians during emergencies. To effectively manage these catastrophes, emergency responders must have access to near real-time information and reliable clear communication regarding network outages, resiliency, and backup power.

For these reasons, as both stated at the prehearing conference in this proceeding¹ and in the Scoping Memo and Ruling,² the Commission shall promulgate resiliency rules for communications service providers in advance of the upcoming wildfire season and any PSPS events by the Summer of 2020, if not sooner. Phase II of this Rulemaking shall establish the requirements necessary to ensure resilient and dependable communications networks that aid first responders and allow the public to communicate in a reliable manner during disasters or PSPS events. To this end, these proposals are

¹ Order Instituting Rulemaking Regarding Emergency Disaster Relief Program to Support California Residents (Rulemaking (R.) 18-03-011) November 20, 2019 Prehearing Conference Transcript at 130, lines 12-17.

² Assigned Commissioner's Phase II Scoping Memo and Ruling, January 2020, available at: <http://docs.cpuc.ca.gov/SearchRes.aspx?docformat=ALL&docid=324941921>.

set forth to develop a uniform and structured approach for ensuring that communications providers are addressing every facet of their responsibility to provide safe and reliable service to Californians in future disasters and PSPS events.

1. Ensuring Resiliency in Communications Provider Networks

The comments in the record to date from Providers demonstrate that there is not a need to adopt a backup power requirement for every single component of communications networks and that circumstances may exist in which placing a generator is not possible or in the public interest. Communications networks are complex and diverse and there may not be a "one size fits all" approach to ensuring resiliency. For example:

- Network architectures for the different types of providers – traditional copper phone networks, cable networks, fiber networks, and wireless networks – vary considerably.
- Network architectures for competitors of the same service may also vary dramatically (e.g., network design, network component variation, spectrum wavelength, etc.).
- Similarly, the different regions and communities within California vary considerably, presenting different challenges providers must take into consideration when ensuring resiliency of their networks (network density, housing density, climate variation, and topographical challenges such as forests, mountains, valleys, remote areas, etc.).

Regulatory compliance conflicts must be taken into consideration. For example, environmental and clean air requirements, local fire codes, and building safety rules may disallow the citing of diesel generators or battery arrays at specific sites. Network components may be located in restricted rights-of-way, have prohibitions in lease agreements, or other restrictions that limit the addition of batteries or fuel tanks to the site. In addition, a wireless company may have flexibility at antenna sites that may entail boosting power of adjacent sites to enhance the coverage area or have roaming agreements with other carriers. Wireline services may similarly deploy generators or re-route traffic to maintain service.

For these reasons, this proposal does not put forward specific requirements for every network component at this time.

Application of Requirements.

These requirements shall be applicable to all companies owning, operating, or otherwise responsible for infrastructure that provide or otherwise carry 9-1-1, voice, text messages, or data. These services are all necessary components of the state's ability to provide access to 9-1-1, to distribute emergency alerts, warnings and notifications, and to provide access to web-based instructions and GIS maps that may provide access to critical de-energization or evacuation information.

In this document, hereafter these companies will be referenced collectively as “Providers.”

Definition of Resiliency

“Resiliency” – the ability to recover from or adjust easily to adversity or change – is achieved by Providers through a variety of strategies, including but not limited to the following:

- Backup Power: Network operators that design their networks with fixed batteries and generators, as well as maintain mobile generators and refueling plans, are able to maintain service during the loss of power.
- Redundancy: Networks that are designed with redundancy – both wired (e.g., logical and physical route diversity) or wireless (e.g., dense and overlapping cell sites) – are able to mitigate impacts caused by disasters and power outages.
- Hardening: Networks that are hardened can withstand damage from disasters. For example, ensuring that backhaul and critical sites have defensible space and are built to withstand natural disasters, including earthquakes.
- Temporary Facilities: Network operators that own and maintain temporary facilities (e.g., mobile cell sites, mobile satellite and microwave backhaul, etc.) are able to restore service to their networks when facilities are damaged or destroyed.
- Communication and Coordination: Network operators that establish clear lines of communication and coordinate with other Providers, other utilities, emergency responders, and the public are best positioned to maintain and restore service after a power outage or disaster.
- Preparedness Planning: Network operators that maintain comprehensive preparedness plans and qualified staff are able to maintain and restore service to their networks quickly and effectively.

Backup Power Requirement

All Providers shall have on-site emergency backup power to support all essential communications equipment including but not limited to, switching centers, central offices, wire centers, head ends, network nodes, field cabinets, remote terminals, and cellular sites (or their functional equivalents) necessary to maintain service for a minimum of 72 hours³ immediately following a power outage. Service must be sufficient to maintain access for all customers to 9-1-1 service, to receive emergency notifications, and to access web browsing for emergency notices.

Backup Power Plans. Providers shall submit a verified Backup Power Plan to the Communications Division Director. The plan shall describe the Provider’s ability to

³ Order Instituting Rulemaking Regarding Emergency Disaster Relief Program to Support California Residents (R.18-03-011) November 20, 2019 Workshop Transcript at 29, lines 1-6.

maintain access to 9-1-1 and maintain the ability to receive emergency notifications and access web browsing for emergency notices for 100 percent of customers in the event of a power failure.

The plans should include, but are not limited to, the following:

- Detailed PSPS and grid outage response plans.
- Facilities with and without battery backup, fixed generation, and mobile generator hookups.
- The number of mobile generators and refueling trucks and specify which are stationed in California.
- Identify the ability to replace damaged facilities, including logical and physical network route diversity and temporary facilities (e.g., mobile cell sites and temporary microwave backhaul).
- Identify employees dedicated to refueling and vendors including company and contract agreement.
- Identify to the ability to support near real time reporting on system outages as required by CPUC rules, Cal OES regulations and California Government Code.
- Provide copies of refueling schedules.
- Provide copies of roaming agreements.
- Provide copies of cooperative agreements to pool resources with other providers.

Clean Energy Generation. Providers shall utilize clean energy backup power options (e.g., battery, solar, wind, fuel cell, etc.) as reasonable before using diesel generators to meet the backup power requirement. Providers shall:

- Identify the number and specific types of generators they utilize.
- Develop cooperative agreements with other utilities and Providers to make clean generation feasible.
- Identify annual targets for the reduction of fossil fuel generation.

Providers shall provide updates annually on these efforts within their Backup Power Plans.

Waivers. Providers may include, within their Backup Power Plans, specific facilities or classes of facilities that require a waiver from the backup power requirements proposed in this section. Waivers may be submitted for one or both of the following two reasons:

Waiver for Redundant Facilities: A Provider may seek a waiver for each facility or class of facilities that does not need 72-hours of backup power to maintain overall consumer access to 9-1-1, as well as the ability to receive emergency notifications and access web browsing for emergency notices for 100 percent of customers. The waiver shall include information on the location of the facility(s),

detailed information on how the Provider will maintain service for a minimum of 72 hours immediately following the loss of power and why these facilities are unnecessary to do so.

Waiver for Noncompliant Facilities: A provider may seek a waiver to address each facility or class of facilities that is unable to comply with the 72-hour backup power requirement because of significant risk to safety of life or health; or specific existing federal, state, tribal or local law. The waiver shall include the specific location of the facility(s) and a detailed description of facts supporting the basis of the Provider's claim of preclusion from compliance, including legal citations.

Providers shall submit their backup power plans to the Communications Division Director within six months from the adoption of the decision. Providers shall annually submit updates to their plans, including detail on any changes and compliance of new facilities that are built, to the Communications Division Director.

Communications Division is directed to develop, and adopt standards, templates, and a schedule for reporting requirements.

2. Critical Facility Location Information Sharing

The record of this proceeding shows that Providers sharing critical infrastructure location information with emergency responders enhanced the ability to defend vital facilities against wildfire damage. Emergency responders having this information ahead of a disaster will enable state and local emergency responders to improve situational awareness, plan fire lines, defend these vital facilities against wildfire damage, and aid in restoration where damage occurs. Further, knowing the location of cell sites, including whether sites are operational, will enhance the ability of emergency responders to effectively target the distribution of emergency alerts.

The record of this proceeding has additionally exhibited that communications networks are subject to massive outages as a result of a lack of network redundancy and hardening. At times, a single point of failure has resulted in the loss of all communications services to large swaths of the state, and even multiple counties. Identifying communities that are most vulnerable to communications outages as a result of a lack of redundancy is imperative. It is necessary to collect and analyze information on the location of critical communications infrastructure to determine whether there is sufficient physical redundancy and hardening integrated into communications networks.

Critical Infrastructure Resiliency, Hardening and Location Information Sharing:

Providers shall annually submit to the Communications Division GIS information with the specific location of network facilities and backhaul routes. The Communications Division shall process and consolidate the information from all Providers and make it available to state and local emergency responders upon verification of procedural and substantive protections equivalent to federal confidentiality statutes and rules.

The Communications Division shall analyze this information, in coordination with emergency responders, to identify locations in the state where actions must be taken to harden communications infrastructure for risk, including areas and communities where fiber backhaul routes do not have adequate hardening or physical redundancy (e.g., a single fiber cut could result in the loss of communications to a significant population).

Providers shall submit this information within six months of the effective date of formal Commission adoption.

3. Emergency Operations Plans

Many Providers identified existing plans for how their companies respond to emergencies. This proposal seeks to ensure that all Providers develop plans, that the plans have uniform requirements across all Providers, and that the plans are shared with the relevant emergency responders.

Emergency Operations Plans

Annually, each Provider shall submit to the Director of the Communications Division a copy of its Emergency Operations Plan. By submitting the Emergency Operations Plan, the Provider agrees that all relevant operating personnel are familiar with the contents of the emergency operations plan and that operating personnel are committed to carrying out the plans and the provisions contained therein in the event of a system-wide or local emergency that arises from natural or manmade disasters, except to the extent deviations are appropriate under the circumstances during the course of an emergency. To the extent the Provider makes substantive changes to its Emergency Operations Plan, the Provider shall submit a revised plan.

Emergency Contact Information. Each Provider shall submit emergency contact information in a form prescribed by the Communications Division Director and updated at least annually. Providers shall notify the Communications Division Director when any changes are made to the emergency contact list. Emergency contact information shall include individuals who will be able to serve as the State Operations Center (SOC) liaison and can be present 24/7 in the state operations center during emergency response events. The SOC liaisons shall be trained in emergency response, in accordance with Standardized Emergency Management System (SEMS), shall have working knowledge of Provider operations and business processes, shall be informed of the impacts of PSPS events and disasters on the Provider's network, and shall be enabled and empowered to resolve issues as they arise.

Providers shall annually provide their Emergency Operations Plans and Emergency Contact Information to state emergency response organizations and local emergency response organizations within their service territories.

Emergency Preparedness Exercises. Each Provider is required to train its operating personnel in the proper procedures for implementing its emergency plan. Each Provider shall conduct or participate in an annual Emergency Preparedness Exercise to

test its emergency procedures unless it has implemented its emergency procedures in response to an actual event within the last 12 months. Following the annual Emergency Preparedness Exercise, the Provider shall assess the effectiveness of the exercise and modify its emergency operations plan as needed.

Public Communication Plans. As soon as reasonably possible at the onset of a disaster or PSPS event, each provider shall post on its website an outage map, a description of anticipated outage impacts, and the expected restoration time. This information shall be distributed to impacted customers and the general public by posting relevant information on the Provider's website and social media accounts, by sharing information with local media, and by providing updates to local and state elected officials and public safety stakeholders.

Communication with State and Local Emergency Responders. For the duration of a disaster or PSPS event, Providers shall give emergency responders precise ZIP code updates of 1) facilities that are damaged or destroyed, 2) status of facilities on backup battery or generator power, and 3) facilities that are offline. At a minimum, these updates shall be provided to emergency responders at 7:00 am, 1:30 pm, and 7:00 pm every day throughout active power shutoffs or disasters. Temporary access to real-time network monitoring tools shall be provided to the responsible State agencies. Providers shall also give the estimated time of service restoration, the reason for the service impact, and the corrective measures taken.

(End of Appendix A)