

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding
Emergency Disaster Relief Program

R.18-03-011
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**COMMENTS OF CELLCO PARTNERSHIP (U 3001 C) (“VERIZON”)
ON ASSIGNED COMMISSIONER’S PROPOSED DECISION**

Jesús G. Román
Verizon
15505 Sand Canyon Avenue
Irvine, CA 92618
Tel: (949) 286-7202
E-mail: jesus.g.roman@verizon.com

Jane Whang
Verizon
201 Spear St. 7th Floor
San Francisco, CA 94105
Tel: (415) 778-1022
E-mail: jane.whang@verizon.com

Attorneys for Verizon

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Cellco Partnership (U 3001 C) d/b/a Verizon Wireless (“Verizon”) submits these comments on the Assigned Commissioner’s Proposed Decision Adopting Wireless Provider Resiliency Strategies (“PD”).

I. Introduction and Summary

Verizon appreciates the Assigned Commissioner’s efforts and intent in the PD to create reasonable wireless provider resiliency strategies and best practices.¹ To the extent that the PD sets forth flexible strategies for resiliency, it correctly: (i) focuses wireless network resiliency strategies on Tiers 2 and 3 High Fire Threat Districts; (ii) acknowledges that deployment of various methods of backup power or other solutions will maintain service after outages; and (iii) recognizes that backup power may not be available at certain sites due to impossibility, infeasibility, or lack of necessity.² But other parts of the PD should be revised to provide additional flexibility for providers to implement resiliency strategies feasibly and without undue delay.

As a threshold matter, certain aspects of the PD belie the record. The PD, for example, perpetuates a false narrative involving Verizon’s alleged “throttling,” which is incorrect, irrelevant to network resiliency, and should be deleted to preserve the Commission’s commitment to truth and fairness.

In addition, consistent with the PD’s intent to adopt flexible strategies, the PD should be revised to acknowledge the impossibility or infeasibility of certain directives. For example, the PD must exempt small and micro cells from the documentation requirements for why certain sites do not have backup power. Small and micro cell sites as a whole cannot viably support backup power, and providers can achieve the service continuity goals of the Commission through other resiliency measures. So, providers should not be required to expend unnecessary and potentially extensive resources reproducing documentation to explain this reality

¹ PD at 55.

² The PD also acknowledges that certain disasters may cause service disruptions no matter how many strategies are used. PD at 55.

over and over again. Similarly, the requirement that providers maintain service to support basic internet browsing imposes an impossible standard for compliance that is beyond the Commission's authority,³ and should instead be adopted as a goal, where feasible.

Finally, the PD imposes various detailed reporting and filing requirements that are overly prescriptive and not relevant to network resiliency. Given the Commission's limited authority over network resiliency requirements, companies should submit the network resiliency plan via an informational filing, similar to the emergency operations plan. And while Verizon has made bold commitments to reduce its carbon footprint, the implication in the PD that the Commission may prohibit the use of diesel generators is error because such a prohibition exceeds its authority. The emergency operations plan requirements also impose certain other infeasible and unreasonable requirements that should be modified, as detailed below.

II. The PD Contains Legal and Factual Errors About a Purported "Throttling" Incident

The PD commits factual and legal errors in its discussion of the incident with the Santa Clara Fire Department ("SCFD") and Verizon in the fall of 2018. At that time, SCFD had chosen to purchase a plan that provided unlimited broadband data in speed tiers, subject to data throughput limitations after more than 25 gigabytes per account line had been used during a billing period. During the Mendocino Fire, the SCFD contacted Verizon to lift the limitations. Although our practice is to lift such limits for public safety customers upon request during emergencies, due to a customer service error that practice unfortunately was not followed here. After Verizon learned of the error, we publicly apologized, removed the limitation on the customer's plan, and updated training of customer service representatives to

³ While Verizon is fully committed to implementing resiliency strategies consistent with the PD, and supports the Commission in issuing strong guidance on the level of backup power as it has, the PD commits legal error in declaring that the Commission has authority to impose network deployment requirements, such as a minimum level of internet service or the requirement to use renewable sources for backup power. See CTIA's Opening Comments on the PD discussing the limits of the Commission's jurisdiction in this subject area.

prevent future mistakes. We also accelerated deployment of new plans we had been developing specifically for public safety; the new plans did not contain any data throughput limitations for first responders, and reinforced our practice to lift any remaining limits in legacy plans in times of public emergency.

As SCFD and other public agencies have conceded, this incident did not implicate net neutrality and was ***not*** “throttling”,⁴ which is the restriction or targeting of certain content, applications, services, or non-harmful devices on mass market broadband internet access services.⁵ Indeed, tiered plans such as the one purchased by SCFD were expressly permitted under the then-effective FCC rules.⁶ The PD’s descriptions of this incident are wrong on the facts and the law and should thus be deleted.

III. The PD’s Strategies for Backup Power to Maintain Service Should be Clarified

a. The Commission Should Exempt Small Cells and Microcells From Backup Power Documentation Requirements

The PD recognizes correctly that backup power is unnecessary, infeasible, or impossible at certain sites and does not mandate backup power at all sites. Instead, the PD requires providers to adopt resiliency plans and to describe in such plans their network efforts to maintain service during outages, and why certain sites do not have backup power.⁷ But the PD does not expressly exempt small cells and micro cells from these documentation requirements despite acknowledging comments that providing backup power for 72 hours to these facilities is infeasible.

⁴ Br. for Gov’t Pet’rs at 23-24 & n.13, *Mozilla Corp. v. FCC*, No. 18-1051 (D.C. Cir. Aug. 20, 2018).

⁵ *In the Matter of Protecting the Open Internet*, Report and Order on Remand, Declaratory Ruling and Order, FCC 15-24 (Feb. 2015) (“Open Internet Order”), at para. 122.

⁶ *Open Internet Order*, at para. 122 (stating: “Because our no-throttling rule addresses instances in which a broadband provider targets particular content, applications, services, or non-harmful devices, it does not address a practice of slowing down an end user’s connection to the Internet based on a choice made by the end user. For instance, a broadband provider may offer a data plan in which a subscriber receives a set amount of data at one speed tier and any remaining data at a lower tier.”) .

⁷ PD at 92, 94-95.

As Verizon and various other parties (AT&T, San José, WIA, and Extenet) explained in their comments on the Assigned Commissioner Ruling and Proposal (“ACR Proposal”), for space and technological reasons, small cell and microcell sites cannot support backup power.⁸

Because small cells and microcells are placed in the right of way on streetlights and utility poles, almost invariably there is inadequate space either on the pole or the sidewalk to support large batteries or generators (permanent or temporary) for backup power purposes.⁹ Of particular importance, in many instances small cells and microcells are designed to provide additional capacity to wireless services and do not provide “coverage.” Due to their locations in rights of way and on sidewalks, it is also often infeasible to place temporary mobile assets such as cells on wheels (“COWs”) or cells on light trailers (“COLTs”) at these sites.

The requirement creates unnecessary and considerable redundant paperwork to identify and describe sites that, almost without exception, cannot feasibly support backup power. The PD should be revised to exempt small cells and microcell sites from these duplicative documentation requirements.

Finally, Verizon reiterates its commitment to deploy resiliency measures consistent with the PD, but any attempt by the Commission to impose a specific backup power requirement on small cells or microcells would exceed the Commission’s authority. Any backup power requirements for small cells and microcells would also create perverse disincentives for providers not to build out their network with advanced technologies or capacity/coverage.¹⁰ Specifically, because it is infeasible to deploy backup power at small and micro cell sites, we would not be able to build these sites under such requirements. The PD seems intended to encourage thoughtful consideration of how to provide coverage at

⁸ Verizon Reply Comments on ACR Proposal, at 8.

⁹ Verizon Reply Comments on ACR Proposal at 9; Verizon Opening Comments at 18-20.

¹⁰ As Verizon explained extensively in its comments on the ACR Proposal, this policy would significantly impede deployment of Verizon’s 5G network and added capacity or coverage, an outcome that directly contravenes the State’s goals to promote advanced communications services. See, e.g., Verizon reply comments on ACR Proposal at 10.

these sites during a commercial power outage (which as our actions demonstrate, we are committed to do) but it must be revised to avoid the jurisdictional bar and clearly state this point.

b. Requiring Basic Internet Browsing is Infeasible

The PD appropriately recognizes that wireless providers cannot guarantee service to 100% of customers, even during non-emergencies.¹¹ Despite this recognition, the PD continues to incorporate the ACR Proposal’s recommendation that service for 72 hours following an outage includes “basic internet browsing for emergency notices for their customers.”¹² The concept of basic internet browsing is unduly vague and raises questions about whether this means access at a particular speed. Requiring access to “basic internet browsing” at some speeds may be impossible and potentially create adverse unintended consequences, and the requirement altogether raises significant jurisdictional issues.¹³

While the PD correctly rejects TURN’s proposal that carriers provide low quality video streaming, its requirement of basic internet browsing still poses practical problems. *First*, as mentioned, it is unclear what “basic internet browsing” entails. *Second*, it is not possible for an internet service provider (ISP) to track and limit customers’ access (as the PD proposes) to “basic” internet browsing or only to certain sites (such as those with emergency notices); such attempts could constitute impermissible “throttling.” Our network is not designed to allow or block access to certain sites. And, even if feasible, doing so would complicate management of the network to attempt to throttle or limit access to certain sites during a time when all resources are focused on the maintenance of service and power to the sites.

¹¹ PD at 82.

¹² PD at 95.

¹³ Internet access services are “interstate” and information services. See *In re Restoring Internet Freedom*, Declaratory Ruling, Report and Order, and Order, 33 FCC Rcd. 311 ¶¶ 26, 87, 199 (2018) (“RIF Order”) (finding that broadband Internet access service is an interstate, information service). Indeed, the Commission has acknowledged that internet access services are information services, over which the Commission does not have jurisdiction. D. 13-12-005 at 2.

Third, during a widespread power outage, network capacity is often significantly diminished. Some internet browsing may be possible but at very slow speeds or in some locations not at all. Requiring a specific level of internet browsing is tantamount to requiring internet browsing everywhere all the time, which is infeasible because during an emergency or PSPS event, there will inevitably be congestion on the network as more people attempt to make phone calls, text, or access the web at the same time. There may also be some sites that are out of service, sites that cannot handle the increased traffic, or backhaul that is damaged. Although Verizon strives to maintain network availability, due to increased activity and any of the foregoing cases, there will be less bandwidth for *all* services. Higher bandwidth activities such as internet browsing will be more affected than text messages or voice calls. As we commented on the ACR Proposal, where text messages require a few hundred bits to send, voice calls require tens of thousands of bits per second, and low-quality video streaming (and web browsing of sites heavily loaded with video or graphics) consumes *millions* of bits per second.¹⁴ The network currently prioritizes 911 voice calls and traffic for first responders. As a result, web browsing sufficient to access emergency notifications on, for example, the electric utilities' websites, may be disrupted or speeds may be affected, depending on the magnitude of a disaster and other factors. Imposing such a requirement on web browsing could detract from our ability to prioritize services such as 911 and priority service for first responders.

In sum, while web browsing may be available in many cases during a commercial power outage where cell sites are on air with the help of backup power generation, it is impossible to ensure this service as required in light of the foregoing. Verizon urges the Commission to recognize the infeasibility of this standard just as it recognized the impossibility of the requirement that wireless providers must maintain service to 100% of customers. Instead, the Commission

¹⁴ Verizon Reply Comments on ACR Proposal at 15.

should clarify that providers should *strive* to maintain web browsing, to the extent feasible.

And while we support state strategies for resiliency, Verizon must raise the Commission's lack of authority to impose basic internet browsing requirements.¹⁵ As explained more thoroughly in CTIA's comments, the Commission does not have jurisdiction to mandate the provision of interstate, information services such as internet browsing. The Commission should modify the PD in such a way as to avoid this legal error, while still taking action to set reasonable and flexible standards on these fronts.

IV. The Reporting and Filing Requirements are Overly Detailed and Prescriptive

Verizon supports transparency and communication with the Commission and relevant stakeholders during emergencies and PSPS events. But, some of the PD's listed items for these filings are overly prescriptive, would impose unnecessary burdens on providers without offering much benefit, and are contrary to the PD's intent not to adopt "rigid" requirements on how carriers maintain network resiliency.¹⁶ Below are suggestions for making these requirements more flexible and workable.

a. The Network Resiliency Plan Requires Irrelevant Information and Raises Jurisdictional Concerns

The filing should be informational. The PD requires the network resiliency plans to be filed as Tier 2 Advice Letters, which implies that the Commission may approve or reject the sufficiency of such plans. As noted, while Verizon is committed to working in partnership with the Commission to address PSPS events and climate

¹⁵ *RIF Order* at ¶¶ 26, 87, 194; D.13-12-005 at 2. See also CTIA comments on PD; *Bastien v. AT&T Wireless Servs.*, 205 F.3d 983 (7th Cir. 2000); see also *Telesaurus VPC, LLC v. Power*, 623 F.3d 998, 1008 (9th Cir. 2010) (FCC exclusively regulates market entry for mobile services "through determinations of public interest, safety, efficiency, and adequate competition"); *Stroyer v. New Cingular Wireless Servs.*, 622 F.3d 1035, 1040-41 (9th Cir. 2010) (decisions on "the requisite number of cellular towers to support service" and whether service "is above or below the proper standard for cell phone service" deal with market entry).

¹⁶ PD at 55.

change, the Tier 2 advice letter process improperly suggests that the Commission can mandate levels of network investment and service quality, which is beyond its authority.¹⁷ Instead of an advice letter filing, the Network Resiliency Plan should be filed as an informational filing, similar to the Emergency Operations Plans. An informational filing will achieve the purpose of providing the Commission with information about providers' network resiliency. At the same time, an informational filing will avoid the numerous potentially unfounded protests to Advice Letters that have become all too common and that unnecessarily consume considerable Commission and wireless company resources. Further, Commission staff should work with the wireless providers to develop the reporting template for these filings.

The clean energy filing requirements are extensive, unreasonable, and raise jurisdictional issues. Verizon strongly supports taking reasonable and appropriate steps to transition to a low carbon economy and build climate resiliency. We discuss our approach to managing climate-related risks, including our strategies to reduce our carbon footprint and build network resiliency, in our recently issued Task Force on Climate-related Financial Disclosures ("TCFD") Report, an investor-focused report which is aligned with the recommended guidelines of the Task Force.¹⁸ From sourcing renewable energy and partnering with reforestation projects to creating connected solutions that help customers save energy, Verizon is committed to protecting our planet for future generations.¹⁹ As further demonstration of our determination to reduce our carbon footprint, Verizon made two new commitments in 2019: be carbon neutral in our operations (scope 1 and 2 emissions) by 2035 and set an approved science-based emissions reduction target by September 2021.

¹⁷ See CTIA comments on PD.

¹⁸ See <https://www.verizon.com/about/sites/default/files/Verizon-TCFD-Report.pdf>

¹⁹ On November 18, 2019, Verizon announced that one of its three main goals is climate protection. See <https://www.verizon.com/about/news/mission-to-move-the-world>. The credibility of our commitment to this goal is supported by the fact that Verizon's CEO, Hans Vestberg, worked with the United Nations to help lead the United Nations Sustainable Development Solutions Network. Our specific objectives align with the United Nations Sustainable Development Goals (SDGs).

Verizon also announced it joined [The Climate Pledge](#) - the commitment co-founded by Amazon and Global Optimism to meet the Paris Agreement ten years early. The Climate Pledge calls on new signatories to be net zero carbon across their businesses by 2040 – a decade ahead of the Paris Agreement’s goal of 2050.²⁰

Verizon supports the transition to a greener grid by making substantial investments in renewable energy. We have set an ambitious goal to source or generate renewable energy equivalent to 50% of our total annual electricity consumption by 2025. We are working toward achieving this goal by developing green energy at our own operations and by facilitating the development of renewable energy through long-term power purchase agreements. With nearly 20 megawatts of on-site green energy already installed, we have committed to adding 24 megawatts at our facilities by 2025. As of April 2020, we have entered into long-term virtual power purchase agreements for 384 megawatts of anticipated renewable energy capacity. These agreements will help finance the construction of new wind and solar farms.

Verizon is also on track to plant more than 10 million trees between 2009 and 2030. To help fund these sustainability initiatives, Verizon launched a \$1 billion green bond in 2019, the first to be issued by a U.S. telecommunications company. As of December 31, 2019, approximately \$500 million of net proceeds from our \$1 billion green bond had been allocated. In short, our efforts to address climate degradation are demonstrable.²¹

The PD purports not to specifically require clean energy backup power sources, but unreasonably implies that wireless providers may not use fossil fuel-based generators after 2021. It directs wireless providers to explore ways to transition to renewable generation for backup power²² and requires that the

²⁰ See <https://www.verizon.com/about/news/verizon-amazon-global-optimism-climate-pledge>.

²¹ See, e.g., <https://www.greentechmedia.com/articles/read/verizon-announces-carbon-neutrality-commitment-hints-at-increased-renewable>.

²² PD at 108.

transition plans address an extensive number of very detailed elements.²³ Verizon supports a reasonable and appropriate transition to a lower carbon, more climate resilient world, but questions the level of detail the Commission seeks. Indeed, the clean energy filing requirements proposed in the PD are overly prescriptive, impracticable and implicate jurisdictional issues.

The PD commits legal error, distracting from the Commission’s laudable effort here, by implying that it has the authority to prohibit carriers from using diesel generators in their network designs and requiring them to transition to renewable backup generation. The PD states in particular that: “**We allow** the wireless providers to use fossil fuel generators for backup power in the short-term. . . .”²⁴ And Conclusion of Law 55 states: “It is reasonable **to allow** the wireless providers to use fossil fuel generation as a primary backup power resource, *in the near-term, but require the wireless providers to transition to a future of renewable backup generation.*”²⁵

First, the Commission errs in failing to recognize that renewable energy is not close to being scalable for cell site deployment any time soon. To the extent the PD appears to require green backup starting in 2022, that requirement is infeasible to meet. As explained in comments on the proposal, solutions for renewable back-up power generation for cell sites are not viable or scalable and will not be in the foreseeable future. Second, a prohibition on the use of diesel generators and a

²³ See PD at 100 (“We direct the wireless providers to discuss the following elements of their backup power generation plan in their Resiliency Plans: (1) the types of generators they will use in the near-term; (2) their efforts to develop cooperative agreements with the electric corporations, other utilities, and the renewables market developers to make clean generation feasible and scalable; (3) identify the number, location, and specific types of generators the wireless providers will use; (4) provide an estimate of the emissions by greenhouse gas (GHG) emitted from prior use, on an annual basis; (5) detail the criteria air pollutant emissions factors; (6) discuss lessons learned from past use of both clean and fossil fuel generation as a widespread backup power resiliency strategy; and (7) include an approximate timeline of when and how the wireless providers anticipate a transition to renewable generation from fossil fuel generation for backup power resiliency.”)

²⁴ PD at 100 (emphasis added).

²⁵ PD at 126 (emphases added).

requirement to use renewable sources exceeds the Commission's authority.²⁶ The Commission should make clear that it is encouraging but not mandating a transition to green sources.

Finally, the PD should clarify that the Commission does not seek to replace thousands of diesel generators already deployed and in use with renewable energy backup power sources. That would constitute a taking that requires the State to pay substantial compensation to wireless providers for the enormous costs of complying with the mandate.²⁷

Verizon is indeed committed to working towards a greener future, including supporting the development of feasible renewable energy solutions for cell site backup power. But the Commission cannot mandate that solution, and the PD should thus be revised to express aspirational goals, not unenforceable mandates.

Roaming agreements and cooperative agreements with other carriers. The PD seeks information such as FCC-regulated roaming agreements, which are unnecessary and irrelevant to a service provider's own network resiliency. The terms and conditions of such agreements would not provide meaningful information that could not be simply summarized in the filing. At the most, this item should be modified to require only an attestation of having such roaming agreements or

²⁶ The PD's clean energy requirements are expressly preempted under 47 U.S.C. § 332(c)(3)(A). See *Johnson v. American Towers, LLC*, 781 F.3d 693, 705 (4th Cir. 2015) (quoting *Pinney v. Nokia, Inc.*, 402 F.3d 430, 456 (4th Cir. 2005)); see also *Bastien v. AT&T Wireless Services, Inc.*, 205 F.3d 983, 988 (7th Cir. 2000). In addition, the FCC's decision not to adopt resiliency requirements, *In re Improving the Resiliency of Mobile Wireless Commc'ns Networks*, 31 F.C.C. Rcd. 13745, 13746 (2016), is entitled to preemptive effect, see *Arkansas Elec. Co-op. Corp. v. Arkansas Pub. Serv. Comm'n*, 461 U.S. 375, 384 (1983) ("[A] federal decision to forgo regulation in a given area may imply an authoritative federal determination that the area is best left unregulated, and in that event would have as much pre-emptive force as a decision to regulate.")

²⁷ The clean energy requirements would constitute a taking of (a) carriers' existing fossil fuel-powered backup power systems and (b) the funds carriers will be forced to spend to obtain the equipment necessary to satisfy the mandate. See *Penn Central Transportation Company v. City of New York*, 438 U.S. 104, 124 (1978) (finding that the taking analysis considers: (1) '[t]he economic impact of the regulation on the claimant,' (2) 'the extent to which the regulation has interfered with distinct investment-backed expectations,' and (3) 'the character of the government action.'"); *Michigan Bell Tel. Co. v. Engler*, 257 F.3d 587, 594 (6th Cir. 2001) (companies "are not required to subsidize their regulated services with income from rates either deemed to be competitive, or with revenues generated from unregulated services") (citing *Brooks-Scanlon Co. v. R.R. Comm'n of Louisiana*, 251 U.S. 396, 399 (1920)).

cooperative agreements with a high level summary, as such agreements are highly technical and confidential.

The locations or class of facilities that do not have backup power duplicates other information provided in the plans and is unnecessary. The PD requires in the fourth bullet that providers include a list of sites with backup power and those without. Thus, to the extent that the plan requires again in the 14th bulleted item the locations or “class” of facilities that do not have backup power, it is duplicative.²⁸ Moreover, this requirement should be clarified to apply only to *macro* cell sites, because as explained above, it is infeasible to install backup power for small cell and microcell sites.

Certain information may not exist. The PD also requires certain information or data that may not exist, such as the identification of “refueling trucks.” Verizon does not have its own refueling trucks, and instead relies on vendors for this function. The PD should be revised to indicate that the bulleted list of items should be provided, “*if they exist or are available.*” Such clarification will prevent unnecessary protests filed for minor deviations from the Commission’s prescribed list (if these plans must be filed as a Tier 2 advice letter – which they should not).

b. Emergency Operations Plan Requirements are Overly Prescriptive

Contact Information. The PD requires that providers share contact information for personnel who can be available 24 hours/7 days a week, at the State Operations Center (SOC). Given that personnel may change during the year, identifying specific personnel would be less effective than other approaches. However, to the extent that the PD seeks to ensure that there is someone who can respond to questions about the network during emergencies, we can provide a telephone number to call during emergencies and/or to obtain information about network status, which is more useful than contact information for various personnel.

Physical presence in the SOC. The requirement of physical presence at the SOC is unreasonable, particularly where an emergency or disaster has not arisen to

²⁸ See PD at 92.

Level 1 activation. A Level 1 state of emergency occurs when all SOC positions and state agencies are activated.²⁹ While Level 1 emergencies may require physical presence at the SOC for certain periods of time, wireless providers should not be required to have personnel embedded at the SOC on a 24 hour/7 days a week basis for all emergencies and not during non-Level 1 events. As the COVID-19 emergency has demonstrated, video conferencing has enabled business to be conducted as usual on a remote basis. The PD should be revised to encourage participation by video where feasible, so that carriers can focus on managing their networks and deliver reports remotely, instead of embedding scarce personnel and resources on a continual basis at the SOC.

Outage maps. Verizon supports the PD's goal of providing awareness to wireless customers of an outage that impacts their service. Specifically, the PD requires that providers post maps of outages and make such maps available to customers, the general public, via their websites, social media, and communications to local and state public safety stakeholders and officials. Verizon recently developed a process to identify and notify potentially impacted customers of outages.³⁰ There is no opt-in requirement; all Verizon customers are automatically enrolled. When an outage occurs in an area where the customer has been recently or is likely to transit, Verizon will send a notice to the customer about potential service disruption and the customer will be able to log in to their account to see an approximate map of the outage area.

Verizon does not support, however, making these maps public. While Verizon customers may want to know whether their service is experiencing issues, customers of other carriers would find such information of no value. There is also significant risk of customer confusion. Areas with some cell sites affected by an outage may nonetheless have coverage via adjacent sites. And maps are

²⁹ A Level 2 emergency is when Cal OES Incident Support Team SOC positions and limited state agencies are activated, and Level 3 occurs when select SOC positions are activated.

³⁰ Customers may be able to access their accounts through WiFi where their wireless service is impaired.

necessarily only an approximation that can be misinterpreted or misrepresented and become outdated quickly.³¹ We thus urge deletion of the requirement to share such maps with the *general public or social media accounts*.

Customer notices of potential service impacts. The PD requires providers, upon receipt of a PSPS notification, to notify customers of *likely* service impacts in advance of the event. Although Verizon does provide its customers with information about service impacts as discussed above, this requirement of notifying of *likely* service impacts poses potentially insurmountable practical difficulties for implementation. Among other things, if the Commission's calculation is that wireless carriers would know where outages are likely due to PSPS notifications provided by the investor owned utilities (IOUs), this is misplaced. Verizon's experience is that it often receives PSPS notifications that ultimately end up being false alarms. In those situations, customers may become confused and irritated to receive notifications about service impacts when the PSPS events do not occur. And it would have the perverse effect of penalizing those service providers who are most diligent by erring on the side of caution and sending notifications more promptly.

Such a notice is also infeasible when the IOUs do not provide sufficient advance notice, which happens in too many cases. In the PSPS events for last October 2019, for example, we did not receive notification at all in certain cases. Moreover, to the extent that this requires texts to be sent to customers who are located in the area of a PSPS event, it is impossible for a provider to do this with any level of accuracy as we cannot identify where customers may be in the next 12-24 hours, given the mobility of wireless service.

Finally, with few exceptions it is impossible to predict exactly where coverage may be affected, notifications may prove to be false (and confuse or frustrate

³¹ For example, a social media message that is forwarded or reviewed several hours after it is posted, by users far away from the affected area, risks creating confusion regarding the duration and location of the outage.

