

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

Order Instituting Rulemaking Regarding
Emergency Disaster Relief Program

R.18-03-011

**T-MOBILE WEST LLC, METROPCS CALIFORNIA, LLC, SPRINT
SPECTRUM, L.P. AND ASSURANCE WIRELESS, L.P. JOINT
COMMENTS ON COMMISSIONER BATJER'S PROPOSED DECISION
ADOPTING WIRELESS PROVIDER RESILIENCY STRATEGIES**

PUBLIC VERSION

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Pursuant to Commission Rule of Practice and Procedure 14.3, T-Mobile West LLC dba T-Mobile (U-3056-C), MetroPCS California, LLC dba Metro by T-Mobile (U-3079-C), Sprint Spectrum, L.P. dba Sprint (U-3062-C) and Assurance Wireless, L.P. dba Assurance (U-4327-C) (collectively referred to as “T-Mobile” unless otherwise indicated),¹ submit the following opening comments on Commissioner Batjer’s Proposed Decision Adopting Wireless Provider Resiliency Strategies (the “PD”).

I. BACKGROUND

T-Mobile wholeheartedly agrees that telecommunication carriers play a critical role in helping consumers and first responders face the serious challenges presented by natural disasters, like the many wildfires that have plagued California in recent years, as well as PSPS events during which the electric utilities shut off all commercial power to various parts of the state.² T-Mobile further agrees with the PD that providers “should *strive* toward immediate recovery from disruption of their network and minimize the likelihood of outages to end users.”³ To that

¹ With the April 2020 consummation of the merger between T-Mobile US, Inc. and Sprint Corporation, T-Mobile, Metro by T-Mobile, Sprint and Assurance are now all wholly-owned subsidiaries of T-Mobile USA, Inc. Although the network integration process has begun, Sprint/Assurance and T-Mobile/Metro by T-Mobile still operate separate networks in some respects.

² See, e.g., T-Mobile Comments in Response to the Assigned Commissioner’s Ruling Requesting Information on Hardening Communications Infrastructure and to Ensure Customer Access to 911 at All Times (August 29, 2019) (“Infrastructure Hardening Comments”); see also T-Mobile Comments in Response to the Assigned Commissioner’s Ruling Requesting Information on Development Of The Record In This Proceeding On The Issues Of Resiliency And Responsiveness Requirements (April 3, 2020) (“Resiliency Proposal Comments”).

³ PD at 88 (emphasis added).

end, as discussed below, T-Mobile continues to focus on using a broad array of strategies to create a robust and resilient network for consumers and first responders at all times including during emergencies and PSPS events.

In that context, T-Mobile submits that the PD reflects an important step forward in understanding the issue of network resiliency. For example, it explicitly recognizes that public policy is well-served by adopting a “flexible structure for wireless providers to determine how best to maintain service”⁴ and acknowledges the indisputable fact that at times, natural disasters, as well as PSPS events, unavoidably disrupt some services.⁵ It also recognizes that providing service to 100% of consumers at all times is neither realistic nor feasible (even under normalized conditions) and seems to recognize, at least in part, that coverage – not cell sites – is the appropriate way to gauge the impact of outages on consumers.⁶

However, the PD contains a number of factual, legal and technical errors that perpetuate certain fundamental misperceptions of wireless network resiliency and otherwise relies on unprecedented and unlawful assertions of Commission authority. As discussed in greater detail below:

- The Commission does not have the authority to mandate how wireless carriers design their networks, the type or level of service they provide, the times that service is available, or what equipment should be used to help maintain service. Those issues are both expressly and implicitly reserved for the Federal Communications Commission (the “FCC”). (*See* Section III, *infra.*)

⁴ PD at 88 (“The Proposal, as we adopt it, sets forth a flexible structure for the wireless providers to determine how best to maintain service. To repeat, the Proposal, and consequently, the Resiliency Plan, does not suggest imposing specific requirements on *how* providers maintain service.”)(emphasis in original); *see also* PD at 55 (“We agree with Verizon that we should not adopt a rigid definition of resiliency that could result in hand-cuffing providers in how they achieve and maintain their network’s resiliency.”).

⁵ *See, e.g.*, PD at 54-55 (“We also acknowledge that these measures are not fool proof – that no matter how many strategies are employed, sometimes, because of their scale, disasters will cause severe service disruption.”); *id.* at 83 (“Indeed, there are certain disasters where it will be impossible to maintain service, including during extended power outages. We recognize that networks will likely be degraded, especially as providers determine that some sites that are used for capacity will not be maintained during an outage.”).

⁶ *See, e.g.*, PD at 81-82 (acknowledging that “the “100 percent language” creates an inappropriate expectation” and focusing on “access to minimum service levels and coverage.”).

- The premise of the PD that wireless networks are not resilient reflects a critical misunderstanding of how natural disasters and PSPS events impact wireless coverage and consumers. The facts are that a cell site down does not necessarily impact a consumer’s experience or prevent a carrier from continuing to provide fundamental services. The PD’s continued reliance on Network Outage Reporting System (“NORS”) and Disaster Information Reporting System (“DIRS”) reports to gauge the impact of cell site outages on wireless customers and service availability is both inaccurate and misleading. (*See* Section IV, *infra*.)
- Although T-Mobile fully supports ongoing and continuing collaboration with the Commission on promoting resilient communications and power networks, the proposed Resiliency Plan requirements are overbroad, inconsistent with the explicit goals of the PD, and otherwise unsupported by the record. If anything, certain of the proposed requirements distract from the legitimate goals of better understanding and fostering network resiliency. (*See* Section V, *infra*.)
- The PD also includes a number of assertions that are factually incorrect, unsupported by the record and otherwise erroneous. (*See* Section VI, *infra*.)

T-Mobile respectfully urges the Commission to revise the PD to correct these errors and has included a redline of the Findings of Fact, Conclusions of Law, and Ordering Paragraphs which are intended to address these issues.⁷ To be clear, however, T-Mobile’s efforts to address the deficiencies in the PD do not detract in any way from T-Mobile’s commitment to providing Californians with a safe, reliable and resilient network in the face of both the natural disasters and PSPS events which afflict the state on an increasingly regular basis.

II. T-MOBILE’S NETWORK IS RELIABLE AND RESILIENT

The overall resiliency of T-Mobile’s network and its ability to provide service to first responders and consumers in the event of devastating natural disasters like the California wildfires and PSPS events is a matter of vital importance and a priority to the company.⁸ To that end, T-Mobile has a comprehensive business continuity program to ensure that it has the ability and flexibility needed to address emergency situations, regardless of cause, as they arise across California and the country.⁹

⁷ *See* Attachment A.

⁸ *See* <https://www.t-mobile.com/responsibility/community/emergency>.

⁹ *See* Network Hardening Comments at 6-7.

In addition, T-Mobile's network is designed to be resilient. As explained previously, essentially all of T-Mobile's macro cell sites in California have battery backup and T-Mobile is continuously working to enhance those capabilities.¹⁰ T-Mobile has permanent generator backup power at all of its California mobile switching centers and data centers as well as in numerous strategic cell sites including sites located in rural areas.¹¹ Moreover, as recognized by the PD, T-Mobile is also in the midst of a multi-year network enhancement program to install hundreds of permanent generators on additional cell sites throughout the state.¹² T-Mobile further retains a variety of tools to expedite restoration of service when outages occur (for whatever reason) including but not limited to COLTs, COWs, portable generators, and alternate backhaul options via microwave or satellite.¹³

Perhaps most strikingly in the context of the PD, T-Mobile has the ability to establish an overlay network in impacted areas using a subset of its cell sites by, among other things, adjusting antennas and radio power on operational sites and utilizing low-band spectrum (with greater propagation characteristics so that it provides coverage to a wider area).¹⁴ T-Mobile also has the ability to redirect traffic to adjacent sites where appropriate and deploy generators strategically to best ensure continued coverage to the extent possible.¹⁵ This combination of tools and strategies allows T-Mobile to provide connectivity that enables as many consumers as possible in impacted areas, if not all, in to make voice calls, send or receive text messages, and receive Wireless Emergency Alerts, and access the internet for web alerts.¹⁶

¹⁰ See Declaration of Daniel Paul ("Paul Declaration") at ¶ 3, a copy of which is attached as Confidential Attachment B. As a general matter, the only places where T-Mobile does not have battery backup on its macro cell sites is where local authorities restrict the provision of battery backup or there are physical limitations at the site that prevent the backup power source. Battery backup, however, is not a feasible source of power when there are extended power outages. *Id.* at ¶¶ 4- 5.

¹¹ *Id.* at ¶ 6.

¹² *Id.* at ¶ 8.

¹³ *Id.* at ¶ 7.

¹⁴ See, e.g., PHC Transcript at 75:9 – 76:7 (November 7, 2019) (T-Mobile statement about ability to provide overlay network in emergency events when cells sites are down); see also Paul Declaration at ¶¶ 9-12.

¹⁵ PHC Transcript at 76:8 – 17; Paul Declaration at ¶ 12.

¹⁶ *Id.*

T-Mobile's ability to continue to provide service even in the face of broad commercial power outages is well-illustrated by its experience in October 2019 PSPS events. Indeed, T-Mobile was able to establish overlay networks in almost all of the impacted area and an analysis of T-Mobile's traffic for its San Francisco and Sacramento Markets – areas which essentially overlap with PG&E's territory – confirms that the traffic trends for voice, text and data traffic during the major October PSPS events remained consistent (and in certain cases increased) even though a number of cells sites went down during that same time frame.¹⁷ This ability to maintain a fundamental level of service during a PSPS event of unprecedented scope translated into customers sending and receiving texts and voice calls and using data in volumes comparable with normal operations.¹⁸

Although there has been, and continues to be, extensive discussion of the alleged failure of the wireless carriers during last fall's PSPS events in the PD, these discussions seem to all be premised on conclusions mistakenly drawn from the carriers' FCC NORS and DIRS reports and the number of cell sites down. *See* Section IV, *infra*. Network resiliency, and the ability to provide coverage, however, goes well beyond the number of cell sites impacted or generators available.¹⁹

III. THE COMMISSION IS PREEMPTED FROM MANDATING NETWORK RESILIENCY

As discussed more extensively in the Opening Comments of CTIA, the Commission does not have the authority or the jurisdiction to mandate how carriers build their networks, the level or type of service they have to provide, or when those services have to be provided. These are matters within the exclusive jurisdiction of the FCC pursuant to Section 332 and other federal law.²⁰

¹⁷ *See* Paul Declaration at ¶¶ 13- 17.

¹⁸ *See* Paul Declaration at ¶ 17, Confidential Exhibit 2.

¹⁹ T-Mobile does not assert that there were no actual service impacts during the October PSPS events. As noted previously, it identified three limited areas where coverage was materially impacted during the PSPS events. These areas, however, were along highways in remote areas of National Forests, where space/terrain and access issues made installation of generators unfeasible at the time, and in one area south of Eureka where fire related access and safety issues, generator failures, and terrain challenges prevented T-Mobile from using other sites for overlay. *See id.* at ¶ 18.

²⁰ *See* Opening Comments of CTIA (July 1, 2020).

The PD devotes almost 20 pages to explaining why it “has both the jurisdiction and the authority to require wireless telecommunications carriers to install emergency backup power at macro cell sites in Tier 2 and 3 high fire threat districts.” Based on that assertion of authority, it then goes on to purportedly require “wireless providers to have emergency backup power for a minimum of 72-hours in Tier 2 and Tier 3 High Fire Threat Districts ... immediately following a commercial grid outage to support all essential communications equipment and minimum service levels for the public.”²¹ Such an expansion of the Commission’s jurisdiction would be unwarranted and unlawful.²²

Moreover, the PD’s attempt to dictate the provision of broadband services by including “basic internet browsing” as part of a list of required minimum services is similarly within the exclusive jurisdiction of the FCC for the reasons stated above, and independently because broadband services are clearly information services.²³ Finally, the PD’s suggestion that it can dictate what type of generators a carrier uses, and when, is similarly preempted for the reasons discussed above.²⁴

²¹ PD at 75; *see also id.* at 78-79. In addition to the jurisdictional limitations to this type of mandate, the directive in the PD is internally inconsistent with the recognition that wireless networks are complex and that there are many approaches to creating a resilient network. *See, e.g., id.* at 88 (“In fact, we agree with T-Mobile, that communications networks are complex, diverse, and there may not be a “one size fits all” approach to ensuring resiliency.”) (footnote omitted).

²² *See, e.g., Bastien v. AT&T Wireless Servs.*, 205 F.3d 983, 988 (7th Cir. 2000)(the “[Communications A]ct makes the FCC responsible for determining the number, placement and operation of the cellular towers and other infrastructure.”); *see also Telesaurus VPC, LLC v. Power*, 623 F.3d 998, 1010-11 (9th Cir. 2010) (agreeing with *Bastien* that preemption under Section 332(c)(3)(A) is to be read broadly and the Communications Act’s savings clause for state jurisdiction narrowly and finding that “determinations of public interest, safety, efficiency, and adequate competition, [are] all inquiries specially within the expertise of the FCC.”); *Shroyer v. New Cingular Wireless Servs., Inc.*, 622 F.3d 1035, 1041 (9th Cir. 2010); *In re Apple iPhone 3G Prod. Liability Litig.*, 728 F. Supp.2d 1065, 1071 (N.D. Cal. 2010) (“where the relief sought would ‘alter the federal regulation of,’” among other things, “location and coverage,” the claims are preempted under *Bastien*’s standard).

See also, Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment et al., Declaratory Ruling and Third Report and Order, 33 FCC Rcd. 9088, 9104 n.84 (2018) (states do not “have the authority to require that providers offer certain types or levels of service, or to dictate the design of a provider’s network.”).

²³ *See* 47 U.S.C. § 153(24); *Charter Advanced Servs.*, 903 F.3d at 719-20; *Restoring Internet Freedom*, 33 FCC Rcd. at 345 ¶ 55.

²⁴ *See* PD at 100 (“We allow the wireless providers to use fossil fuel generators for backup power in the short term.”); *see also id.* at COL 55. The Commission separately does not have the authority to prohibit the use of generators that are otherwise compliant with relevant zoning and air quality codes. *See e.g.,*

The PD’s recitation of the various state statutes it relies upon, in general, to regulate communications carriers and other utilities does not alter the fundamental jurisdictional limitations of the Commission.²⁵ Moreover, the Commission’s authority to provide guidance on *how* utilities attach to joint poles (General Order 95) or to require land use approval notifications (General Order 159A) or to provide copies of NORS reports (General Order 133-D) does not in any way suggest that it has the authority to *mandate* backup power, network design or service quality.

This does not mean that the Commission has no role with respect to wireless resiliency. Among other things, the Commission can, as it has done in other contexts, *encourage* wireless carriers to maintain resilient networks during emergencies and PSPS events. Moreover, the Commission has a central role in both ensuring that PSPS events are appropriately and responsibly initiated by electric utilities, and in supporting collaboration among the various stakeholders trying to best address the disasters that all too often visit themselves upon the State.

Jurisdictional limitations aside, T-Mobile reiterates that it is firmly dedicated to continuing its efforts to provide and maintain a robust, resilient network for California consumers and first responders at all times, including during emergencies. The decisions on how best to create that network, however, are not subject to state mandates. If it were otherwise, national networks would be all but impossible to design and operate.

Cal Health and Safety Code §4000 (placing the “responsibility for control of air pollution from all sources, other than emissions from motor vehicles” under the auspices of local and regional air quality districts); *see also Orange County Air Pollution Control Dist. v. Public Util. Com.* (1971) 4 Cal. 3d 945,953. Moreover, even if it had such authority, which it does not, the use of “clean energy backup power solutions” for cell sites is neither feasible nor realistic at this time. *See* Paul Declaration at ¶ 19; *see also* AT&T Resiliency Comments at 37-38. There is nothing in the record to suggest otherwise.

Jurisdictional limitations aside, T-Mobile notes that it is – and has been - dedicated to addressing the serious issue of climate change and the use of renewable energy. It is constantly exploring alternative energy sources for both its network and its general business operations. *See, e.g.*, link at <https://www.t-mobile.com/content/t-mobile/corporate/responsibility/sustainability/our-network.html>; *see also* link at <https://www.t-mobile.com/news/t-mobile-green-america-scorecard>.

²⁵ Although the PD cites to many of the statutes that underlie its general authority to regulate public utilities (e.g., Pub. Util. Code sections 234, 451, 701, 1001 etc.), as well as its police power, none of those provides it with the authority to mandate wireless service quality or service design or otherwise addresses the fact that those issues are exclusively within the province of the FCC.

IV. THE PD's CONTINUED RELIANCE ON NORS AND DIRS DATA IS ERRONEOUS

The PD, much like the prior Resiliency Proposal,²⁶ is still based on a fundamental and critical misunderstanding of the data available through FCC NORS and DIRS reports.²⁷ In brief, the PD relies on data reflecting the number of sites down to calculate the number of impacted customers and thus concludes that the wireless networks failed. This is factually incorrect, misleading (and unnecessarily alarming) to the public and legislative policymakers, and it unfairly undermines consumers' perceptions of wireless service reliability.²⁸

As discussed previously, NORS reports identify the number of cell site outages which meet the FCC's outage threshold of 900,000 end user minutes – they do not identify customer impact. To calculate whether that threshold has been met and a report must be submitted, the FCC has directed carriers to create a nationwide average of subscribers per cell site (e.g., a carrier with 50 million subscribers and 25,000 cell sites would have an average of 2,000 subscribers/site)²⁹ and then essentially multiply that by the duration of the outage provided the outage lasts at least 30 minutes. For example, if the hypothetical carrier above had an outage that impacted 10 sites and it lasted for 45 minutes, the threshold would be met (i.e., 2,000 end

²⁶ See Assigned Commissioner Batjer's Ruling Requesting Information on the Development of the Record in this Proceeding on the Issues of Resiliency and Responsiveness Requirements (March 6, 2020). See also T-Mobile's Comments on the Resiliency Proposal at Section at 3-6 (April 3, 2020).

²⁷ In certain situations, like the late October 2019 PSPS events, the FCC activates its Disaster Information Reporting System ("DIRS") Reports in which case NORS reports are not produced and instead, information on the number of cell sites down in particular counties is provided. See Paul Declaration at Exhibit 1. See also link at <https://www.fcc.gov/general/disaster-information-reporting-system-dirs-0>

²⁸ Moreover, misplaced reliance on the number of cell sites down, or FCC data on "potentially affected wireless users," seems to have distracted the Commission (and lawmakers) from focusing on the underlying root cause of the disruptions created by the October PSPS events like untimely, inadequate and/or inaccurate outage notifications from IOUs, and overly broad shutoffs. As set forth in the recently filed Joint Motion Requesting Commission Review of PSPS Post-Event Reports in R.18-12-005 (June 15, 2020), the Commission has yet to determine the reasonableness of any of the PSPS events over the past three years.

²⁹ See 47 C.F.R. § 4.9(e)(2) ("In determining the number of users potentially affected by a failure of a switch, a wireless provider must multiply the number of macro cell sites disabled in the outage by the average number of users served per site, which is calculated as the total number of users for the provider divided by the total number of the provider's macro cell sites.").

users/site x 10 sites x 45 minutes = 900,000 potential end user minutes) and a report would be required. For purposes of completing the NORS report for that outage, the “Number of Potentially Affected Wireless Users” field would be populated with the figure 20,000 (i.e., 2,000 end users/site x 10 sites) based on the average calculated above.³⁰ That 20,000 “Potentially Affected Wireless User” figure, however, has no nexus to whether services available to customers in those areas were affected, nor does that figure provide any insight into the actual number of customers impacted by the cell site outage, if any.³¹

Although the PD purports to “disagree” with this explanation of the information provided in NORS reports, and seems to suggest that the number of potentially impacted customers is actually higher than the numbers calculated per the FCC rules,³² its analysis is factually, technically and conceptually incorrect. The NORS data on the “Number of Potentially Affected Wireless Users” is nothing more than a mathematical average of the number of subscribers per site multiplied by the number of impacted sites. It is not intended to – and does not reflect – whether any, or how many, end users were actually impacted by a cell site outage. As noted above, the number is used for determining whether the FCC’s threshold has been met; it is not a measure of impact.³³ At its core, the impact of any given emergency event (wildfire, PSPS, etc.)

³⁰ A blank NORS report with the “Number of Potentially Affected Wireless Users” field highlighted is included for reference as Attachment C. T-Mobile notes that DIRS reports, unlike NORS reports, do not include a field for “Number of Potentially Affected Wireless Users.” However, estimates of impacted end users associated with cell site outages reported in DIRS reports are based on the same methodology used for NORS and are similarly unrelated to any customer/coverage impact.

³¹ T-Mobile notes that it is unaware of any reliable way to determine how many customers are impacted by an actual service outage since if a subscriber is in an area where there is actually no coverage available, the network has no way of locating the subscriber’s device. Accordingly, T-Mobile looks at other metrics like traffic volumes and predicted engineering coverage to identify coverage impact, if any, and focuses on maintaining service over as large an area as possible in emergency situations so that as many customers as possible have access to service. *See also* Section II, *supra*.

³² *See* PD at 63.

³³ The FCC changed the methodology for calculating the threshold in 2016 but implemented the change in or about May 2018. *In re Amendments to Part 4 of the Commission’s Rules Concerning Disruptions to Communications*, PS Docket No. 15-180, *Report and Order et al.*, FCC 16-163 (rel. May 26, 2016) at ¶ 35 (“To accomplish these aims, we adopt the first of our proposed approaches: to determine if an outage meets the 900,000 user-minute threshold, a wireless provider must multiply the number of macro cell sites disabled in the outage by the average number of users served per site, which is calculated as the total number of users for the provider divided by the total number of the provider’s macro cell sites.”)(footnotes omitted). The change led to an increase in reportable outages nationwide; a fact the PD ignores in discussing the increased number of filings at the Commission. PD at 40.

in terms of wireless service is a function of the various resiliency tools at the carrier's disposal, not the number of cell sites out of service at a given time.

In fact, the recently promulgated Cal OES regulations defining community isolation outage reporting recognize this fact as it explicitly based wireless reporting on degradation of coverage, not the number of cell sites down.³⁴ The PD itself seems to recognize that concept, (at least in part, by generally focusing on service levels (i.e., “minimum service and coverage”) and not cell sites down in discussing resiliency.³⁵

However, the PD's repeated references to the hundreds of thousands of wireless customers left without service during the October PSPS events or the wildfires,³⁶ or unable to make 9-1-1 calls,³⁷ as well as its reliance on the Communication Division's impact analyses, are

³⁴ Cal OES Proposed Emergency Regulations at Section 5002(b) (3) (“ For telecommunications service provided by mobile telephony service, as that term is defined in Public Utilities Code section 224.4, an outage that lasts at least 30 minutes and *affects at least 50 percent of a carrier's coverage area* in a single ZIP Code”)(emphasis added).

<https://www.caloes.ca.gov/PublicSafetyCommunicationsSite/Documents/TextofEmergencyRegulations.pdf>

³⁵ See, e.g., PD at 81-82. However, the PD also seems to be internally inconsistent in that it purports to direct providers to maintain 72-hour back up power on sites in Tiers 2/3 and to consumers themselves. See *id.* at 83 (backup at Tier 2/3 sites) and at 88-89 (“We direct the wireless providers to maintain service through various technological means *to ensure that customers* in Tier 2 and Tier 3 High Fire Threat Districts *have access to 72-hour backup power* during the upcoming wildfires and de-energization events.”)(emphasis added). As discussed throughout, however, back up power is only one tool used by carriers to provide resiliency and maintain coverage for consumers.

³⁶ See, e.g., PD at 6 (referencing “significant outages” when referring to cell site outages, not coverage issues); *id.* at 40 (referencing increase in cell site outage reports); *id.* at 44-45 (referencing the percentage of cell sites down and various newspaper articles relying on the same data); see also Finding of Fact Nos. 17, 18, 20, 34, 39, 40, 41 and 42.

In addition, T-Mobile notes that the PD's finding that [i]n 2019, a substantial number of wireless sites in Butte County were inoperative due to the PSPS events is not supported by the record as the FCC DIRS reports confirm that during the late October PSPS event, the number of cell sites down in Butte ranged from low of “0” to a high of “9” out of a total of 174 sites. See, e.g., <https://www.fcc.gov/document/ca-power-shutoff-communications-status-report-oct-31-2019>

³⁷ See, e.g., PD at 65, 69; Finding of Fact Nos. 34, 41 and 42. In addition to the fact that a cell site down does not mean that coverage, or the ability to access 9-1-1, has been impacted, the networks and facilities used to provide 911 service have numerous levels of redundancy which include, but are not limited to (a) the ability of compatible networks to deliver a 911 call from another carriers' customers in the event our home network is down, and (b) multiple options to deliver 911 calls even if there is an issue at a particular mobile switching center. In addition, wireless networks are generally designed with the ability to prioritize traffic to and from emergency responders and other critical service providers in the

all based on NORS and DIRS data³⁸ These “impact analyses” simply add up the “Number of Potentially Affected Wireless Users” based on the average subscribers per cell site figure used to determine whether the NORS threshold has been met even though, as discussed above, those numbers are completely and wholly unrelated to customer impact (or even to the number of actual customers within the coverage area of a particular cell site at a given time).³⁹ These misstatements regarding the impact of cell site outages, although perhaps understandable when just looking at the face of a NORS report, are particularly problematic in that they form the bases upon which the PD justifies its actions, misleads the public and policymakers about the reliability of wireless services, and creates additional uncertainty in these already particularly uncertain times.

As noted above, T-Mobile acknowledges that there were some service impacts during the October PSPS events,⁴⁰ and it is clear that the power shut offs caused great disruption to California consumers and businesses alike. However, as noted above, the service outages on the T-Mobile network in the late October PSPS events were limited in scope and location-specific *precisely because of the resiliency of the T-Mobile network* and its general ability to provide service, including the ability to make voice calls, access the internet for web alerts, send or

event there are capacity limitations due to call volume or network limitations, either of which can occur in an emergency situation. *See* T-Mobile Network Hardening Comments at 8-9.

³⁸ *See, e.g.*, PD at 42 (“Communications Division staff measured the impact of the 2017-2019 wildfires and PSPS events by analyzing the wireless service providers’ MSI and DIRS reports and calculated the number of potentially affected wireless users, macro cell sites, and blocked calls.”).

The credibility of the Communications Division’s analysis of the impact of the wildfires is further undermined by its attempt to estimate the “approximate number of blocked calls” based on an assumed “ratio of a provider’s number of impacted cells sites and the average number of calls handled by those sites.” Although T-Mobile is unaware of any such data in this docket or elsewhere, it again notes that the fact that a cell site is down does not mean that service is unavailable or impacted. *See id.* at 43; *see also* Paul Declaration at ¶ 17 (data confirming that traffic trends remained steady even though sites were down). Thus, the analysis is simply not credible and the PD’s reliance on it is erroneous.

³⁹ As Cal OES noted, “Unlike wireline or VoIP communications, wireless communications depend on the ability of wireless infrastructure to provide coverage within the geographic areas of the wireless infrastructure. Individual users of wireless communications services do not originate or receive calls from fixed locations, and may travel throughout the state.” Cal OES Notice of Proposed Rulemaking at 12 (June 8, 2020).

<https://www.caloes.ca.gov/PublicSafetyCommunicationsSite/Documents/NoticeofEmergencyRulemakingandFindingofEmergency.pdf>

⁴⁰ *See* n. 19, *supra*.

receive text messages, and receive Wireless Emergency Alerts, through its overlapping coverage and emergency overlay capabilities.

V. THE PROPOSED RESILIENCY PLAN IS ONEROUS, OVERBROAD AND UNSUPPORTED BY THE RECORD

T-Mobile fully supports the dual goals of the proposed Resiliency Plan as set forth by the PD to (1) encourage collaboration between the carriers and the Commission on the important topic of network resiliency and (2) allow carriers to describe their respective abilities to maintain service in emergencies and PSPS events.⁴¹ To that end, T-Mobile welcomes the opportunity to provide relevant information to, and work with, the Commission to help it better understand wireless network resiliency in general, and T-Mobile’s capabilities in particular, to maintain service in the face of emergencies and PSPS events. Although T-Mobile submits that much of that information has already been provided in the course of this proceeding,⁴² it appreciates that the Commission may desire the submission of a Resiliency Plan.⁴³

The PD, however, goes far beyond that by requiring an extensive and onerous list of detailed information that is not reasonably related to the resiliency issues or to an understanding of how carriers are able to maintain service during emergencies. Moreover, the detailed list, and the proposed requirement to submit the plan as an advice letter, seem to run directly counter to the PD’s assertion that Resiliency Plans are meant to provide a “guidepost” and not to promote the micromanagement of the carriers’ respective ability to determine “how best to maintain service.”⁴⁴ For example, the proposed Resiliency Plan would require carriers to provide:

- “Clean” generator-related data including, but not limited to, CARB compliance practices, GHG estimates, and air pollutant emission factors all of which go to issues outside the jurisdiction and authority of this Commission;⁴⁵

⁴¹ PD at 86-87.

⁴² For example, T-Mobile has provided detailed network data to the Office of Public Advocates and to the Commission (in response to President’s November 13, 2019 Request in anticipation of the Prehearing Conference). It has also provided network information to Commission staff in the normal course although not directly in the context of this proceeding.

⁴³ To the extent the Commission maintains the Resiliency Plan, T-Mobile submits that it should be as an information-only filing. *See* Section III, *supra*.

⁴⁴ PD.at 87-88.

⁴⁵ *Id.* at 92; *see also* n. 24, *infra*.

- Refueling schedules and estimated time a facility will operate without refueling, both of which are dependent on multiple factors that cannot be determined in advance and which otherwise do not provide any insight into a carrier’s network resiliency, aside from the fact they exist as all generators require refueling at some point;⁴⁶
- The “ability” to support the reporting requirements of Cal OES and the CPUC when the actual submission of such reports is, by definition, apparent by virtue of the submitted reports themselves;⁴⁷
- Roaming agreements, the details of which are competitively sensitive and – beyond the fact of their existence - provide no additional insight into network resiliency;⁴⁸ and
- Efforts to develop cooperative agreements with electric corporations and others “to make clean energy feasible and scalable” while disregarding the fact that wireless carriers are not in the business of generating electricity or creating green alternatives – they are consumers of those services and products.⁴⁹

T-Mobile submits that the proposed Resiliency Plan be modified accordingly so that it remains focused on providing the Commission with the information needed to better understand how the carrier’s provide for network resiliency without unnecessarily – and inappropriately – placing onerous regulatory burdens on providers.

VI. THE PD INCLUDES NUMEROUS ERRONEOUS AND UNSUPPORTED ASSERTIONS

As noted at the outset of these Comments, the PD reflects a number of key concepts regarding network resiliency. However, it also contains a number of assertions that are factually and/or legally erroneous. Among others reflected in Attachment A, T-Mobile notes the following:

1. Elements of Resiliency Include Inaccurate Statements. In identifying the various elements of resiliency, the PD includes various statements which are unsupported by the record

⁴⁶ *Id.* at 92.

⁴⁷ *Id.*

⁴⁸ *Id.* T-Mobile is already a signatory to the CTIA Network Resiliency Cooperative Framework and is always looking for viable/feasible cooperative agreements and other opportunities. *See* link at <https://www.ctia.org/the-wireless-industry/industry-commitments/wireless-network-resiliency-cooperative-framework>.

⁴⁹ *Id.* at 100.

and otherwise inconsistent with basic concepts of resiliency. For example, the PD provides that carriers with backup power “are able to maintain service during the loss of power”⁵⁰ which is not necessarily the case as wireless service is dependent on a multitude of factors other than power (e.g., backhaul, safe access to sites, etc.), any of which might be affected by an emergency situation. In addition, the PD asserts that carriers with temporary facilities “are able to restore service to their networks when facilities are damaged or destroyed,”⁵¹ but does not account for the fact that access to impacted areas is often a key limiting factor in restoring service.⁵² These statements only confuse attempts to understand the complex nature of network resiliency and are otherwise unnecessary.

2. Electric Utilities, not Wireless Carriers, are Responsible for PSPS Events. The PD includes a number of striking, and confusing, assertions regarding the electric utilities reliance on wireless carriers when there is a PSPS event. For example, the PD proposes to include Findings of Fact that the “electrical corporations rely on wireless networks to ensure reliability and resiliency” and that these same “electrical corporations may benefit from a wireless network that is more resilient.”⁵³ The record in this proceeding does not support such statements but perhaps more importantly, these proposed Findings of Fact seem to flip the concept of reliance on its head by suggesting a key issue with PSPS events is that the electric utilities cannot rely on other service providers. This suggestion fails to address the serious issues faced by consumers, hospitals, businesses (including wireless providers) and first responders in light of the apparent inability of certain electric utilities to provide safe, reliable and resilient electric grids absent their ability to shut off the power altogether.

3. Seventy-two Hours of Backup Power Does not Ensure Service. Although the PD acknowledges that network resiliency is a multi-faceted concept, and that certain disasters make it impossible to maintain service, it still seems to rest on the misguided concept that 72-hours of

⁵⁰ *Id.* at 53.

⁵¹ *Id.*

⁵² For example, in the tragic Camp Fire which began on November 8, 2018, an example of a disaster which devastated existing infrastructure on a wholesale basis and otherwise required total evacuation, T-Mobile was unable to secure access to the area from authorities until November 12th. *See also* T-Mobile Advice Letter No. 7 (November 26, 2018).

⁵³ *See* PD at 114, FoF Nos. 44 and 45.

backup power is the key and that it “ensures wireless customers have access to communication services.”⁵⁴ As discussed above, however, there are many strategies available to try and maintain service during an emergency. Moreover, backup power alone is not a guarantee of service for a number of reasons including the fact that certain disasters are so comprehensive that they undermine the provision of any services, e.g., water, gas, backhaul, power and communications. In those instances, the overall ability to restore service is the critical component of network resiliency; not whether backup power on impacted sites is available.⁵⁵

VII. CONCLUSION

For the reasons set forth above, T-Mobile respectfully submits that the PD be revised as set forth in Attachment A and that the Commission and carriers continue their ongoing efforts to address the challenges created by devastating natural disasters and PSPS events in order to better serve consumers, first responders and California in general.

Respectfully submitted this 1st day July, 2020.

/s/

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⁵⁴ See e.g., PD at Finding of Fact 50, 51, 54, 55 and Conclusions of Law 48, 49 and 50.

⁵⁵ The wholesale devastation cause by the Camp Fire is perhaps the most recent example of such a disaster where backhaul, power, and access to the area, among other services, were impacted. Thus, the PD’s singular focus on backup power in that area is misguided. See e.g., PD at Conclusions of Law 36 and 37. Moreover, installing backup power is not necessary to ensure service nor is it feasible in many situations as a result of, among other factors, space constraints, landlord/lease limitations, and local noise/zoning ordinances.

ATTACHMENT A

REDLINE OF FINDINGS OF FACTS, CONCLUSIONS OF LAW AND ORDERING PARAGRAPHS

Findings of Fact

1. The Commission initiated Phase I of R.18-03-011 to adopt an emergency disaster relief program for electrical, natural gas, water and sewer, and communications service providers.

2. As part of Phase I of R.18-03-011, the Commission adopted D.19-08-025 requiring communications providers to implement an array of customer protections when the governor of California or the president of the United States declares a state of emergency.

3. D.19-08-025 found that during declared states of emergencies, such as in the 2017, 2018, and 2019 wildfires and 2019 PSPS, California's facilities-based wireless providers' networks failed, endangering the lives of customers and first responders.

4. The CalOES states that 80 percent of all calls to 9-1-1 during the 2017 and 2018 wildfires came from wireless devices and that this high percentage represents first responder and the public's dependence on data and wireless service.

~~5. In 2018, wireless service was throttled, adversely affecting the Santa Clara County Fire Department's control and command unit deployed to support relief efforts during the Mendocino Complex Fire.~~

6. Californians rely on their wireless devices among other modes of communication to receive emergency notifications, contact family and friends, and reach first responders during emergencies.

7. In October and November 2019, widespread reports of communications outages across all communications sectors were reported.

8. According to the FCC Disaster Information Reporting System reports, which the Commission takes official notice of pursuant to Rule 13.9 of the Rules of Practice & Procedure, 57 percent of cell sites in Marin County alone were out of service between October 26-27, 2019.

9. Without access to 911 and the ability to reach first responders, Californians often cannot access needed services, ~~be safe, or even function in an emergency.~~

~~10. The Commission's Communications Division experienced an increase in Major Service Interruption reports from the wireless providers in 2017, 2018, and 2019.~~

11. Communications Division received a 16 percent increase in Major Service Interruption reports from 2017 to 2018, and a 123 percent increase from 2018 to 2019 coincident with a change in the FCC reporting threshold calculations in 2018.

12. The wildfires and the power outages from the PSPS events contributed to a significant delay in the restoration of communications service as compared to non-fire threat circumstances and wireless communications failed at critical times during wildfire and PSPS events and, as a result, ~~many~~ some wireless customers were unable to make calls during times of emergency or disaster.

13. As of December 31, 2018, there were 45,335,804 wireless subscribers in California compared to 13,418,711 wireline subscribers.

14. The number of wireline subscribers ~~customers~~ has steadily decreased as consumers begin to rely solely on wireless service.

15. In 2019, approximately 27.4 million 9-1-1 calls were placed via wireless service as compared to approximately 3.6 million placed via wireline service.

16. The first major PSPS event took place on October 9-11, 2019, with the second and third event taking place between October 26- 31 that year.

17. Communications Division staff measured the impact of the 2017-2019 wildfires and PSPS events by analyzing the wireless service providers' major service interruption and disaster information reporting system reports and calculated the number of potentially affected wireless users, macro cell sites, and blocked calls.

~~18. Communications Division findings are illustrated in this table below, depicting the estimated impact from 2017-2019 wildfires and PSPS events on wireless service in California:~~

Year	Events	Number of Potentially Impacted Wireless Customers	Approximate Number of Impacted Cell Sites	Approximate Number of Blocked Calls
2017	Napa and Sonoma County Wildfires	96,097	248	814,041
2017	Mendocino and Humboldt County Wildfires	104,441	46	8,271,992
2017	Southern California Wildfires	97,811	457	434,086
2018	Camp Fire- Butte County	48,414	51	2,165,308
2018	Hill and Woolsey Fires Southern CA	512,231	492	4,228,585
2019	Kincade Fire and Statewide PSPS	1,122,645	224	n/a

19. The most severe impacts of these fires were in high fire-threat areas, where there were repeated reports of cell site failures, particularly in the 2018 Camp Fire in Butte County, town of Paradise.

~~20. In 2019, substantial numbers of wireless sites in Butte County were inoperative due to PSPS events.~~

21. “Facilities-based wireless providers” serve, directly and indirectly, approximately 45,335,804 wireless subscribers in California.

22. Resiliency is defined for purposes of this Decision as the ability to recover from or adjust to adversity or change through an array of strategies including, but not limited to: backup power, redundancy, network hardening, temporary facilities, communication and coordination with other utilities, emergency responders, the public and finally, preparedness planning.

23. Wireless providers that diligently and adeptly utilize resiliency, and its related strategies, demonstrate that they can maintain and restore service during a disaster.

24. Mitigating wireless network disruption through resiliency measures minimizes the likelihood that large numbers of wireless customers will be adversely impacted.

~~25. In 2019, Verizon utilized an array of resiliency strategies successfully and kept much of its network operational and running on backup power.~~

26. T-Mobile, AT&T, and Verizon demonstrates that using multiple resiliency strategies, including and backup power, results in network resiliency preservation.

~~27. Wireless providers that have not made these investments suffer more severe impacts and struggle to maintain service.~~

28. A power outage is the period during which a generating unit, transmission line, or other facility is out of service.

29. There is a public ~~need~~ benefit for carriers to continue to make reasonable and robust efforts to maintain the resiliency of their networks ~~to adopt a narrowly tailored and reasonable backup power requirement for wireless providers~~ during disasters and PSPS events.

30. Customers and first responders ~~have a reasonable generally~~ expectation that they will hear a dial tone, receive emergency alerts and notifications, and can access critical information during an emergency, ~~especially when the power is out.~~

31. Because of climate change, wildfires and PSPS events will be part of the future with an expected increase in both frequency and severity.

32. Energy and water utilities, customers, and first responders across all levels of government have expressed public safety concern with their ability to use ~~failure of wireless providers to adequately provide service continuity, including 9-1-1,~~ during disasters and during de-energization events.

33. In April 2018, the Commission's Communication Division issued a report analyzing major communication outages during the 2017 winter storms.

~~34. The April 2018 Communications Division report found that that a total of 964,003 subscribers, or 2.5% of Californians, did not have the capability to dial 9-1-1 for some period of time during the 2017 winter storms.~~

35. Communications Division's April 2018 report emphasized that many cell site outages could have been prevented with better availability of backup power for wireless providers and improved reliability of cable facilities for wireline providers.

~~36. Of the four providers serving the Town of Paradise, two had no macro cell sites with backup capacity beyond batteries and the other two providers had at least one macro cell site, with additional on-site backup capacity in the form of generators.~~

~~37. Of the 15 macro cell sites near the Town of Paradise, in the Tier 3 High Fire Threat District, only three (20 percent) of the macro cell sites have onsite backup generators.~~

38. Cell site oOutages were widespread for most wireless providers during the 2019 PSPS events, with outages occurring in nearly half of the counties in the State.

39. Most macro cell sites out of service in a single day during the 2019 PSPS events occurred on October 27, 2019, with 567 macro cell sites out of service.

40. In 2019, over half of California's counties ~~experienced were impacted by~~ network-cell site outages, with Marin County experiencing 57 percent of its 280 cell phone tower sites out of service and Sonoma, Lake, Santa Cruz, Humboldt, and Calaveras counties all ~~experiencing facing impacts when~~ over 20 percent of cellphone towers were without power.

41. In the October 2018 wildfires, CalOES saw a total of 341 cell sites go offline, ~~prohibiting 9-1-1 calls.~~

~~42. In the October 2018 wildfires, approximately 72,000 people had difficulty reaching 9-1-1, some due to the inability of the wireless system to provide service.~~

43. ~~Some of~~ California's water utilities rely on communications networks to monitor facilities, maintain contact with field personnel, communicate with personnel and customers, and receive emergency notifications and critical information.

44. California's wireless providers, like all California businesses, rely on ~~electrical corporations rely on wireless networks~~ utilities to provide ~~ensure~~ reliability and resiliency ~~commercial power.~~

45. California's wireless providers and their consumers will ~~electrical corporations may benefit from an~~ electrical grid ~~wireless-~~

~~communications network~~ that is more resilient.

46. Ensuring a more resilient electric grid ~~that wireless provider network operators continue to maintain have resilient networks reliable backup power~~ will help water utilities maintain safe and reliable service during an emergency.

47. State emergency services personnel state find ~~that~~ California's wireless network is not built to survive disasters, and many cell sites do not have resiliency, whether through backup power or ability to survive disruption.

48. In 2019, RCRC reported that Sonoma County made the difficult decision to evacuate early in response to the Kincade Fire because they feared what evacuation would be like without reliable access to wireless service to disseminate warnings and alerts.

49. Because of the widespread outages, RCRC reported that many fire departments in Sonoma County were forced to operate by radio alone, and had limited ability to receive data or maps.

50. There are certain disasters where it will be impossible to maintain wireless service, including during extended power outages ~~Without a clear backup power requirement for wireless providers operating in the State of California, the public will be harmed during disasters and commercial grid outage events.~~

~~51. Seventy two hours of required backup power ensures wireless customers have access to communication services, receive emergency alerts and notifications, and access the internet for critical information during an emergency, disaster, or when the power is out.~~

52. Electrical corporations de-energized 2,290 circuits during the 2019 PSPS events, and the average outage duration was just under 46 hours while over 16 percent of outages lasted longer than 72-hours.

53. Cal Advocate's analysis indicates that o Only 8 percent of power outages

at macro cell sites during the 2019 PSPS events lasted longer than 72 hours.

~~54. A 72-hour backup requirement would have, more likely than not, provided uninterrupted power to 92 percent of the macro-cell sites in California that lost commercial power during the 2019 PSPS events.~~

~~55. Requiring seventy-two hours of required backup power aligns with FCC standards.~~

56. Deployable generators that have capacity to provide 72-hours of backup power present less siting, permitting, and cost difficulties than requiring 72-hours of on-site backup power.

~~57. Minimum service levels and coverage includes the following: (1) 9-1-1 service; (2) 2-1-1; (3) the ability to receive emergency alerts and notification; and (4) basic internet browsing during a disaster or commercial power outage.~~

58. A ~~required~~ Communications Resiliency Plan ~~should~~ will ensure the wireless providers transparently describe to the Commission, their wireless provider's ability to maintain, to the extent feasible, the following:

(a) sufficient level of service and coverage to maintain access to 9-1-1 and 2-1-1; (b) the ability to receive emergency notifications; and (c) access to internet browsing for emergency notices in the event of a disaster or power outage.

59. The Communications Resiliency Plan will ~~promote~~ ensure collaboration between the Commission and the wireless providers to meet future challenges.

60. The Communications Resiliency Plan will demonstrate how that the wireless providers ~~can~~ maintain or restore service during disasters and outages.

61. The Communications Resiliency Plan will help prepare both the Commission and the wireless providers to face emerging challenges and implement key learnings as conditions change and we observe response efficacy

and effectiveness.

62. Using fossil fuel generators for backup power reliability and resiliency in both the 2020 and 2021 wildfire and PSPS seasons ~~will~~ may be necessary to ensure minimum continuity of service.

~~63. Fossil fuel generation as a backup power resource cannot be a long-term resiliency strategy.~~

~~64. Large fossil fuel generators—even when localized in select areas—present potential health risks for individuals who live or work near a temporary generation site.~~

65. Service provider's reasonable efforts to maintain ~~Minimum~~ continuity of service will promote ~~must be available for the~~ public safety given the dangers associated with widespread, commercial grid outages, including the potential loss of, or damage to, life, health, property, and essential services.

66. Wireless Emergency Operation Plans should include ~~providers must attest to the Commission that their organizations have an~~ emergency operation plan in place for disaster and PSPS preparedness.

67. Wireless Emergency Operation Plans must be submitted to the Commission by each wireless provider, as well as, emergency contact information, emergency preparedness exercise attestations, and public communications plans.

68. On March 19, 2020 Governor Gavin Newsom signed Executive Order N-33-20 in response to COVID 19.

69. Executive Order N-33-20 requires all individuals living in the State of California to stay home or stay at their place of residence, except as needed to maintain continuity of operation of the federal critical infrastructure sectors, in order to address the public health emergency presented by COVID-19.

70. The stay-at-home order is indefinite, and as of the date of the issuance of this decision it remains in effect.

Conclusions of Law

1. The Commission has jurisdiction over facilities-based wireless providers subject to limitations under federal and state law, and authority to ensure the reliability of communications networks in emergencies.

2. California is in an unprecedented climate emergency that has produced increasingly deadly and destructive wildfires, and PSPS events.

3. The State has a duty to ensure, as much as possible, the safety of all Californians.

4. The Commission has responded to this ongoing threat to essential utility infrastructure and services by acting across the breadth of its jurisdiction, addressing energy, water, and communications networks and their customers.

5. The Commission ~~has both the jurisdiction and the authority to~~ encourages ~~require~~ wireless telecommunications carriers to (i) install emergency backup power at macro cell sites in Tier 2 and 3 high fire threat districts, so that those cell sites continue to receive and transmit signal when commercial power sources are cut off, or (ii) otherwise enhance the resiliency of their networks in the face of commercial power shut offs.

6. The Decision sets forth a flexible structure for the wireless providers to determine how best to maintain service during emergencies and PSPS events~~Uninterrupted transport of communications is an essential precondition to the ability of public safety officials to communicate and coordinate with each other and with the public.~~

7. The Commission has jurisdiction over certain actions taken by wireless telephone corporations and other communications utilities.

8. Public Utilities Code § 216 gives the Commission ~~broad~~ jurisdiction over public utilities, including telephone corporations as defined by Public Utilities Code § 234.

9. The Commission's "broad regulatory power over public utilities" derives

from Article XII of the State Constitution, which establishes the Commission, and gives it ~~wide-ranging~~ regulatory authority, including but not limited to “the power to ... establish rules, hold various types of hearings, award reparation, and establish its own procedures.”

10. Public Utilities Code § 216 definition of a “public utility” includes every “telephone corporation” where service is performed, or a commodity is delivered to the public or any portion thereof.

11. Public Utilities Code § 234 definition of a “telephone corporation” includes “every corporation or person owning, controlling, operating, or managing any telephone line for compensation in this state.”

12. Public Utilities Code § 233 definition of a “telephone line” includes “all conduits, ducts, poles, wires, cables, instruments, and appliances, and all other real estate, fixtures, and personal property owned, or controlled, operated, or managed in connection with or to facilitate communication by telephone, whether such communication is had with or without the use of transmission wires.”

13. California’s Constitution, Art. XII, § 3, specifically extends the Commission’s jurisdiction to companies engaged in “the transmission of telephone and telegraph messages.”

14. The Commission’s authority over public utilities is based in part on ~~includes oversight over both public utility services and facilities pursuant to~~ California Constitution, Art. XII §§ 1-6 and Public Utilities Code § 701.

15. Public Utilities Code § 451 requires the Commission to ensure that utilities, including telephone corporations, “furnish and maintain such adequate, efficient, just and reasonable service, instrumentalities, equipment, and *facilities* ... as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.” [emphasis added]

~~16. Public Utilities Code § 761 requires the Commission to ensure the-~~

~~reasonableness and sufficiency of *utility facilities*³¹⁶ and may order “additions, extensions, repairs, or improvements to, or changes in” utility facilities that the Commission finds “ought reasonably to be made.”[emphasis added]~~

~~17. Public Utilities Code § 1001 gives the Commission the sole power to grant operating authority to California utilities, *i.e.*, issue a certificate of public convenience and necessity (CPCN) to traditional utilities seeking to operate in California.~~

~~18. Public Utilities Code §§ 1001 and 1013 gives the Commission the lone power to grant a “registration” license to companies the Commission has determined lack “monopoly power or market power in a relevant market or markets or to wireless telephone corporations.”~~

~~19. In the case of both non-dominant carrier and wireless registrations, the telephone corporations are required to comply with all applicable sections of the Public Utilities Code other than the entrance regulation inherent in Public Utilities Code § 1001.~~

~~20. A CPCN or equivalent authority confers upon a public utility telephone corporation numerous benefits in addition to the obligations under the Public Utilities Code, CPUC decisions, and regulations.~~

~~21. Public Utilities Code § 7901 states that public utility telephone corporations have the right to interconnect with other service providers³¹⁷ and the ability to access the public rights-of-ways to build or install facilities to provide their services.~~

³¹⁶ Pub. Util. Code § 761.

³¹⁷ State certification/registration entitles the telephone corporation to interconnect with other telephone corporations under 47 USC §§ 251 and 252 and analogous state law.

~~22. Public Utilities Code §§ 233, 224.4 extends the Commission’s jurisdiction to~~

~~the facilities wireless carriers rely upon to provision service.~~

23. Subject to limitations under federal law, including the jurisdiction of the FCC, ~~p~~Police power authority over matters related to public health and safety is traditionally reserved to the states.

24. Subject to limitations under federal law, including the jurisdiction of the FCC, ~~s~~States may traditionally rely on ~~have had great latitude under~~ their police powers to legislate as to the protection of the lives, limbs, health, comfort, and quiet of all persons.

25. The California Constitution and California statutory law designate the CPUC as the principal body through which the State exercises its police power in the case of essential utility network services.

26. Public Utilities Code § 451 provides ~~gives the Commission broad authority to regulate public utility services and infrastructure as necessary to ensure they are operated in a way that provides for the health and safety of Californians:~~ “Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities, including telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.”

27. Protections for Californians as consumers of telecommunication services are set forth in Public Utilities Code §§ 2890-2896.

28. The regulatory measures promulgated in this Decision are consumer safeguards intended to protect the health and safety of utility customers, particularly those encountering wildfires and related public emergencies triggered by historic climate change.

~~29. The Federal Communications Act does not preempt the Commission from exercising public safety regulation of wireless facilities.~~

30. The 1993 amendments to the Federal Communications Act limit the

Commission's ushered in an era of shared jurisdiction over wireless services.

31. In 1993, Congress passed the Omnibus Budget Reconciliation Act of 1993 (Budget Act), which amended Section 332(c)(3)(A) of the Communication Act § 332) as follows: no State or local government shall have any authority to regulate the entries of or the rates charged by any commercial mobile service or any private mobile service, except this paragraph *shall not prohibit a State from regulating the other terms and conditions of commercial mobile service.*

32. After Congress enacted the revised § 332, the CPUC issued multiple decisions implementing the change in federal law, and harmonizing those changes with existing Commission oversight of wireless telephony.

~~33. Accordingly, the Commission continues to exercise broad authority over wireless service.~~

~~34. In providing a role for states, Congress explicitly declined to occupy the field.~~

~~35. Congress did not expressly or otherwise, preempt state health and safety rules.~~

~~36. A 72-hour backup power requirement is not tantamount to rate regulation.~~

~~37. The scope of § 332's preemptive language is limited to regulations that directly and explicitly control rates, prevent market entry, or require a determination of the reasonableness of rates.~~

~~38. The Commission retains the unequivocal authority to regulate "other terms and conditions of service."~~

~~39. The emergency measures rules adopted herein do not conflict with federal law or regulations, and therefore, are not subject to conflict preemption.~~

~~40. A backup power regime does not run afoul of § 332(c)(3)(A) because the FCC has no current backup power rules.~~

~~41. The underlying facts of the Seventh Circuit Court of Appeals, *Bastien v. AT&T Wireless Servs., Inc.* are fundamentally different, and therefore not applicable here.~~

~~42. None of the requirements in this Decision conflict with the FCC's 2018 Order for 5G and advanced wireless network deployment.~~

43. The Commission has long established ~~regulated the safety-related aspects of utility networks, extending to~~ provisions relating to ~~backup power~~, support structures, and the requirements in General Orders 95 and 128, relating to overhead lines and underground facilities

44. Governor Gavin Newsom signed Executive Order N-33-20 requiring Californians to comply with the orders of the California State Public Health Officer and the Director of the California Department of Public Health that all individuals living in the State of California stay home or at their place of residence (Stay-At-Home Order). The Stay-At-Home order is indefinite, and as of the date of the issuance of this Decision, it remains in effect.

45. It is reasonable to require California's electrical corporations ~~the wireless providers~~ to collaborate with wireless providers ~~California's electrical corporations~~ in advance of a de-energization event or wildfire and give notice to their customers ~~if service coverage cannot be maintained.~~

46. It is reasonable to define resiliency for purposes of this Decision as the ability to recover from or to adjust to adversity or change through an array of strategies, consistent with Section 6.2.2, including, but not limited to: (a) backup power; (b) redundancy; (c) network hardening; (d) temporary facilities; (e) communication and

coordination with other utilities emergency responders, the public; and
(f) preparedness planning.

47. It is reasonable to define an outage, consistent with Section 6.3.2 of this decision.

48. It is reasonable for the wireless providers to use their best efforts to maintain service through various technological means ~~to ensure customers in~~ Tier 2 and Tier 3 High Fire Threat Districts ~~have access to 72-hours backup power~~ during the upcoming wildfire season and de-energization events, to the extent feasible.

~~49. It is reasonable to require the wireless providers to ensure customers and first responders in Tier 2 and Tier 3 High Fire Threat Districts have access to minimum service levels and coverage through 72 hours of backup power.~~

~~50. It is reasonable for the wireless providers to have a twelve (12) months implementation period from the effective date of this decision to implement the 72-hour backup power requirement.~~

51. It is reasonable to require wireless providers to report on their efforts to maintain ~~define minimum service levels and coverage as including:~~ (1) 9-1-1 service; (2) 2-1-1; (3) the ability to receive emergency alerts and notification; and (4) basic internet browsing during a disaster or commercial power outage.

52. It is reasonable to require each wireless provider to submit an informational filing regarding its Communications Resiliency Plan ~~via a Tier 2 Advice Letter~~ within 6 months from the effective date of this decision.

53. It is reasonable to require the Communications Resiliency Plan to include, but not be limited to, the following information:

- ~~• Facilities-based wireless providers shall submit a Communications Resiliency Plan pursuant to section 6.5.2 of this decision, within six (6) months of the effective date of this decision, to the Communications~~

~~Division via Tier 2 Advice Letter that~~

- a ~~description of how~~ the wireless provider's efforts to shall maintain ~~a minimum level of service and coverage to preserve~~ access to 9-1-1 and 2-1-1, maintain the ability to receive emergency notifications, and provide access to internet browsing for emergency notices for their customers in the event of a disaster or power failure. ~~Each resiliency plan shall include, but is not limited to, the following information:~~
- ~~Discussion of their ability to maintain a sufficient level of service and coverage to maintain access to 9-1-1 and 2-1-1, maintain the ability to receive emergency notifications, and access Internet browsing for emergency notices in the event of a disaster or power outage, including identifying how they maintain the resiliency of their networks, as defined in Section 6.2 of this decision~~
- Detailed PSPS and grid outage response plans;
- ~~Detailed Clean Generation and Diesel Generation Near and Long Term Approaches, consistent with Section 6.7.2 of this Decision;~~
- Facilities with and without battery backup, fixed generation, and mobile generator hookups, and their location ~~and the estimated length of time the facilities will operate during a grid outage with and without refueling at each site;~~
- 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 titles of management and number of personnel dedicated to refueling and vendors including company and contract agreement;
- ~~Identify the ability to support reporting on system outages as required by CPUC rules, Cal OES regulations and California Government Code;~~

- ~~• Detail how backup generators comply with CARB standards;~~
- ~~• Provide refueling schedules;~~
- ~~• Provide roaming agreements;~~
- Provide cooperative agreements which are used to pool resources with other providers;
- ~~• Identify facilities that do not need backup power, are unable to support backup power due to a safety risk, or that are objectively impossible or infeasible to deploy backup power pursuant to Section 6.6.2.; and~~
- Identify investment plans to improve network resiliency pursuant to Section 6.6.2. (e.g., deployment of redundant backhaul and deployment of fixed generators).

54. ~~It is reasonable to allow~~ ~~T~~he wireless providers ~~may elect to~~ identify, in their Communications Resiliency Plans, facilities that do not need backup power, are unable to support backup power due to a safety risk, or are unable to support backup power because the conditions make it objectively impossible or infeasible to deploy backup power.

55. It is reasonable to ~~treat all information provided as part of the Communications Resiliency Plans as confidential under General Order 66-D and the California Public Records Act unless otherwise designated as public by~~ ~~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.~~

56. It is reasonable to require the wireless providers to submit annual emergency operations plans that discuss emergency response procedures and ensure substantive engagement with the Commission and CalOES during emergencies.

57. The actions directed in this decision require the wireless providers to comply with the Governor's Executive Order N-33-20, the orders of the

California State Public Health Officer and the Director of the California Department of Public Health that all individuals living in the State of California stay home or at their place of residence, except as needed to maintain continuity of operation of the federal critical infrastructure sectors, in order to address the public health emergency presented by the COVID-19 disease.

58. It is reasonable to require the wireless providers, when implementing the requirements of this decision, to comply with the direction from public health officials regarding shelter-in-place, social distancing, or other measures that may need to be taken in response to the COVID-19 pandemic, consistent with Executive Order N-33-20.

O R D E R

IT IS ORDERED that:

1. Facilities-based wireless providers shall file a Communications Resiliency Plan pursuant to Section 6.5.2 of this decision, within six (6) months of the effective date of this decision, to the Communications Division via an informational filing, Tier 2 Advice Letter that a description of how the wireless provider's efforts to shall maintain a minimum level of service and coverage to preserve access to 9-1-1 and 2-1-1, maintain the ability to receive emergency notifications, and access to internet browsing for emergency notices for their customers in the event of a power outage. The Communications Resiliency Plan shall include, but is not limited to, the following information identified in Conclusion of Law 53 above.:

- ~~Discussion of their ability to maintain a sufficient level of service and coverage to maintain access to 9-1-1 and 2-1-1, maintain the ability to receive emergency notifications, and access to Internet browsing for emergency notices in the~~

- ~~event of a disaster or power outage, including identifying how they maintain the resiliency of their networks, as defined in Section 6.2 of this decision~~
- ~~• Detailed PSPS and grid outage response plans;~~
 - ~~• Detailed Clean Generation and Diesel Generation Near and Long Term Approaches, consistent with Section 6.7.2 of this Decision;~~
 - ~~• Facilities with and without battery backup, fixed-generation, and mobile generator hookups, their location, and the estimated length of time the facilities will operate during a grid outage with and without refueling at each site;~~
 - ~~• 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 titles of management and number of personnel dedicated to refueling and vendors including company and contract agreement;~~
 - ~~• Identify the ability to support reporting on system outages as required by CPUC rules, Cal OES regulations and California Government Code;~~
 - ~~• Detail how backup generators comply with CARB standards;~~
 - ~~• Provide refueling schedules;~~
 - ~~• Provide roaming agreements;~~
 - ~~• Provide cooperative agreements which are used to pool resources with other providers;~~
 - ~~• Identify facilities that do not need backup power, are unable to support backup power due to a safety risk, or that are objectively impossible or infeasible to deploy backup power pursuant to Section 6.6.2.; and~~

- ~~Identify investment plans to improve network resiliency pursuant to Section 6.6.2. (e.g., deployment of redundant backhaul and deployment of fixed generators).~~

We direct the Communications Division to work cooperatively with the wireless providers to develop and adopt standardized reporting templates as well as a submittal schedule for the Communications Resiliency Plans within 630 days from the adoption of this decision.

~~2. Facilities-based wireless providers shall, in their Communications Resiliency Plan pursuant to Section 6.5.2 of this decision, demonstrate their ability to meet the 72-hour backup power requirement, in Tier 2 and Tier 3 High Fire Threat Districts, consistent with Sections 6.4.2, 6.4.4, and 6.4.6 of this decision, as well as describe their ability to maintain a minimum level of service and their long-term investment plan to comply with the 72-hour backup power requirement of this decision.~~

3. Facilities-based wireless providers shall file emergency operations plans pursuant to Section 6.8.2 of this decision, on an annual basis, with the first due within 60 days of the effective date of this decision to the Director of the Communications Division, the California Governor's Office of Emergency Services, and local emergency response agencies, as an information only filing that contains the wireless provider's: (1) emergency operations plan; (2) emergency contact information; (3) emergency preparedness exercise attestation; and (4) public communications plans.

4. Upon the effective date of this decision, the wireless providers, when implementing the requirements of this decision, shall comply with the orders of the Governor's Executive Order N-33-20, the California State Public Health Officer, and the Director of the California Department of Public Health

shelter-in-place directives, social distancing directives, and/or other measures that may need to be taken in response to the COVID-19 pandemic.

5. Rulemaking 18-03-011 remains open.

This order is effective today.

Dated _____, at San Francisco, California

ATTACHMENT B

PUBLIC VERSION

**DECLARATION OF DAN PAUL
(W/O CONFIDENTIAL ATTACHMENTS)**

**DECLARATION OF DANIEL PAUL IN SUPPORT OF T-MOBILE WEST LLC,
METROPCS CALIFORNIA, LLC, SPRINT SPECTRUM, L.P. AND ASSURANCE
WIRELESS, L.P. JOINT COMMENTS ON COMMISSIONER BATJER'S PROPOSED
DECISION ADOPTING WIRELESS PROVIDER RESILIENCY STRATEGIES**

I, Daniel Paul, declare as follows:

1. I am the Senior Director, Engineering Operations for the West Region for T-Mobile USA, Inc., the parent company of T-Mobile West LLC and MetroPCS California, LLC.
2. In that role, I am intimately familiar with the design and operation of the T-Mobile network including the various strategies we employ to provide the most reliable and resilient network feasible.
3. In California, essentially all of T-Mobile's macro sites have battery backup and T-Mobile is continuously working to enhance those capabilities.
4. As a general matter, the only places where T-Mobile does not have battery backup on its macro cell sites are where local authorities restrict the provision of battery backup or there are physical limitations at the site that prevent the backup power source.
5. Battery backup, however, is not a feasible source of power where there are extended power outages.
6. T-Mobile has permanent generator backup power at all of its California mobile switching centers and data centers as well as in numerous strategic cell sites including sites located in rural areas.
7. T-Mobile also retains a variety of tools to expedite restoration of service when outages occur (for whatever reason) including but not limited to Cells on Light Trucks ("COLTs"), Cells on Wheels ("COWs"), portable generators, and alternate backhaul options via microwave or satellite.
8. T-Mobile is in the midst of a multi-year network enhancement program to install hundreds of permanent generators on additional cell sites throughout the state where local regulations, negotiations with landlords, strategic concerns, and site characteristics make deployment feasible.
9. For a variety of historical and technological reasons, T-Mobile has numerous cell sites that are used primarily to provide additional capacity on the network or to address specific and localized challenges presented by terrain or other obstructions.
10. In the event some cell sites are no longer functional because of an interruption to commercial power, or other disruptions, T-Mobile generally has the ability to establish what we refer to as an overlay network to provide connectivity that enables consumers in those areas to

make voice calls, send or receive text messages, receive Wireless Emergency Alerts, and access the internet for web alerts.

11. The overlay network is created using various tools and capabilities including adjusting antennas and radio power on operational sites and utilizing low-band spectrum (which has greater propagation characteristics so that it provides coverage to a wider area).

12. T-Mobile also has the ability to redirect traffic to adjacent sites where appropriate and to deploy generators strategically to best ensure continued service to the extent possible.

13. In the late October 2019 Public Safety Power Shutoff (“PSPS”) event initiated by PG&E, and based on the information provided by PG&E and our managers familiarity with their markets, T-Mobile deployed, and pre-deployed, hundreds of portable generators to key cell sites in the San Francisco and Sacramento markets which cover Northern California.

14. Nonetheless, various cell sites in the counties impacted by the PSPS event experienced outages primarily as result of losing commercial power. I am attaching a copy of the T-Mobile DIRS reports submitted to the FCC during the late October PSPS event. See Confidential Exhibit 1.

15. My understanding is that the DIRS reports were also provided to the Commission.

16. Despite the cell site outages, T-Mobile was able to establish an overlay network in almost all areas impacted by the late October PSPS event using a variety of tools including (i) adjusting antennas and radio power on operational sites, (ii) using its low-band spectrum, (iii) redirecting traffic to adjacent sites where appropriate and/or (iv) deploying portable generators strategically.

17. Based on my review of the total traffic during the October PSPS events for the San Francisco and Sacramento markets, and the traffic for the comparable days of the weeks both immediately before and after the events, service to T-Mobile customers does not seem to have been materially impacted during the October PSPS events even though certain cells sites went down in most of those counties. Indeed, as a general rule, the traffic trends – as measured by data, voice calls (successfully sent or received) or texts (successfully sent or received) – remained consistent during the PSPS events when compared to corresponding non-emergency time frames. See Confidential Exhibit 2.

18. During the late October PSPS event, T-Mobile was unable to establish an overlay network along highways in two remote areas of National Forests where space/terrain and access issues made installation of generators unfeasible at the time, and in one area south of Eureka where fire related access and safety issues, generator failures, and terrain challenges prevented T-Mobile from using other sites for overlay.

CONFIDENTIAL EXHIBIT 1

**PUBLIC VERSION – NO DOCUMENTS
ATTACHED**

**T-MOBILE DIRS REPORTS
(OCTOBER 25, 2019 – NOVEMBER 1, 2019)**

CONFIDENTIAL EXHIBIT 2

**PUBLIC VERSION – NO DOCUMENTS
ATTACHED**

**T-MOBILE NETWORK METRICS
SAN FRANCISCO AND SACRAMENTO
MARKETS
(OCTOBER 2019 PSPS EVENTS)**

ATTACHMENT C

NORS REPORT TEMPLATE

NORS Outage Report

Company:		Outage Number:	
Type of Reporting Entity:	Wireless Carrier	Report Type:	Notification
Reason for Withdrawal:			
Reopened Submitted:			
	false		
Previous Report Type:			
Reopen Submitted Comments:			

Incident Information

Incident Date and Time:		Time Zone:	
Date and Time Determined Reportable:		Reason Reportable:	Wireless - 900,000 user-minutes
Incident Date and Time:		Failure in Other Company?:	
Date and Time Determined Reportable:			
Outage Duration (Hours):			
Outage Duration (Minutes):			
Explanation of Outage Duration:			
Inside Building Indicator:			
E911 Outage:			

Services Affected

Cable Telephone:	
	false
Wireless (not paging):	
	false
VoIP:	
	false
E911 :	
	false
Paging:	
	false
Satellite:	
	false
Signaling (SS7):	
	false
Wireline:	
	false
Special Facilities:	
	false
Other Service:	
	false
Other Service Description:	

Number of Potentially Affected

Wireline Users Affected:	Paging Users Affected:
Wireless Users Affected:	Cable Telephone Users Affected:
VoIP Users Affected:	Satellite Users Affected:
OC3s Affected:	
Number of Blocked Calls:	Blocked Calls Realtime:
	Blocked Calls Historic:
Number of Lost SS7 MTP Messages:	Lost SS7 Messages Realtime:
	Lost SS7 Messages Historic:
Mobile Switching Center (MSC) Failed:	
State Affected:	
CALIFORNIA	
City Affected:	
More Complete Description of Geographic Area Affected:	
Description of Incident	
Description of the Cause(s) of the Outage:	
Direct Cause:	
Root Cause:	
Contributing Factor 1:	
Contributing Factor 2:	
Lack of Diversity:	
Malicious Activity:	
If yes - please explain Malicious Activity:	
Name and Type of Failed Equipment:	
Specific Part of Network Involved:	
Method(s) Used to Restore Service:	
Was Telecommunications Service Priority involved in Service Restoration?:	
Steps Taken to Prevent Recurrence:	
Applicable Best Practices that might've prevented Outage or reduced effects:	
Best Practices used to mitigate effects of Outage:	
Analysis of Best Practice:	
Remarks:	

Assignments

Assignment Reason Assigned #1:	Assignment Reason Assigned #2:
Assignment Person Assigned #1:	Assignment Person Assigned #2:
Assignment Other Assigned Reason #1:	Assignment Other Assigned Reason #2:
Assignment Group Number:	

Primary Contact Information

Select a User:	
Name:	
Phone Number:	Extension:
	7

Email Address:

Address Line 1:

Address Line 2:

Address Line 3:

Secondary Contact Information

Select a User:

Name:

Phone Number:

Extension:

Email Address:

Address Line 1:

Address Line 2:

Address Line 3: