BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Petition to adopt, amend, or repeal a regulation pursuant to Pub. Util. Code § 1708.5.	Petition _____

PETITION OF THE PUBLIC ADVOCATES OFFICE FOR RULEMAKING TO AMEND GENERAL ORDER 133-D TO ESTABLISH MINIMUM SERVICE QUALITY STANDARDS FOR ALL ESSENTIAL COMMUNICATIONS SERVICES

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I. INTRODUCTION

Pursuant to Rule 6.3 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure and Public Utilities Code (Pub. Util. Code) section 1708.5, the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) petitions the Commission to open a rulemaking to establish the minimum service quality standards that customers can expect from providers of essential communications services by amending and updating General Order (GO) 133-D, Rules Governing Telecommunications Service (Service Quality).[1]

Californians rely on communications services such as broadband, wireless (voice, texting, and data), Voice-over-Internet Protocol (VoIP) and traditional Plain Old Telephone Service (POTS)[2] (collectively "Essential Services") for alerts and assistance during emergencies, to obtain information, to attend online classes, to work from home, to visit doctors remotely, to schedule vaccine appointments during a pandemic, to participate in the political process, to engage with community and society, and to keep in touch with family, friends, and loved ones. Yet, the Commission's current service quality standards in Section 3 of GO 133-D apply to only traditional POTS, thereby excluding most of the Essential Services. Since the majority of Californians rely on Essential Services to communicate, the Commission should modernize its service quality standards to include standards for all Essential Services.[3] Californians need a baseline level of service quality they can expect from Communications Service Providers to deliver in order to improve service reliability, support public safety, and protect

[1] See also Public Utilities Code § 451.

[2] GO 133-D § 3. General Order 133-D Standards cover telephone services provided using Time-Division Multiplexing. These services are most commonly provided over copper wire.

[3] *Safety Principles for Communications Providers,* CPUC Report, Apr. 2, 2019, note 3, p. 6. Available at https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/communications_-_telecommunications_and_broadband/reports_and_presentations/principles-for-comm-providers-final-3-29-19-003-.pdf.

customers while enabling them s to make informed choices among available providers.[4] Furthermore, GO 133-D's existing penalty structure does not ensure compliance with the minimum standards for the POTS provided by California's two largest Incumbent Local Exchange Carriers (ILECs), Pacific Bell Telephone Company d/b/a AT&T California (AT&T) and Frontier California Inc. (Frontier California).

For these reasons, the Commission should open a rulemaking to establish service quality standards for most Essential Services. The rulemaking should proceed in two phases. During Phase one the Commission should:

- Modernize the Commission's service quality standards by implementing new standards that measure the performance and reliability of the Essential Services that are currently not subject to service quality standards Appended to this petition as Attachment A is a straw proposal containing service quality metrics and standards for Essential Services.
- Revise GO 133-D's existing POTS standards to apply to Essential Services, consistent with modern consumer needs and recommendations made in Commission reports.[5]

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[4] Communications Service Providers as used in this petition refers to broadband service providers, as well as the providers identified in Decision (D.) 19-08-025, *Adopting an Emergency Disaster Relief Program,* August 23, 2019, p. 4, which include:

> (1) facilities-based and non-facilities based landline providers including 9-1-1/E9-1-1 providers, LifeLine providers, providers of Voice-Over-Internet Protocol [VoIP], Carriers of Last Resort [COLRs], and other landline providers that do not fall into the aforementioned groups;
>
> (2) wireless providers include those that provide access to E9-1-1 and/or LifeLine services),
>
> (2A) facilities-based wireless providers, and
>
> (2B) non-facilities-based wireless providers, include[ing] resellers and mobile virtual network operators [MVNOs].

[5] *Examination of the Local Telecommunications Networks and Related Policies and Practices of AT&T California and Frontier California,* Economics and Technology, Inc, April 2019. (Network Exam), Chapter 11, available at https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/network-exam-documents/network-exam-report-april-2019-compressed.pdf The Network Exam covers AT&T California and Frontier California's GO 133 POTS service quality, along with the provider's broadband and VoIP investment. The Network Exam recommends expanding financial penalties in GO 133-D, lowering the Customer Trouble Reports Standard rates, and applying the minimum GO 133-D standards uniformly for all wire centers.

After the Commission has completed Phase one to modernize its service quality standards, in Phase two it should:

- Examine GO 133-D's penalty and enforcement mechanisms to determine how the penalty structure can more effectively facilitate service quality improvements.
- Revise the penalty mechanism in accordance with the findings and previous Commission reports and resolutions to effectively incentivize Communications Service Providers to meet the standards and provide a baseline of high quality and reliable service that customers need.[6]

II. BACKGROUND

The Commission's primary vehicle for monitoring and enforcing communications service quality is GO 133, which outlines the rules and minimum standards of service for a small subset of the providers of communications service operating in the state of California. GO 133-D is the current iteration of the Commission's service quality standards, which are designed for, and apply only to POTS providers. GO 133-D does not include service quality standards for most Essential Services, meaning California customers do not have a baseline expectation of service quality for broadband, wireless, and interconnected VoIP services.

The Commission first adopted GO 133 in 1972 and has revised the GO three times. Most recently, Decision (D.) 16-08-021[7] (Service Quality Decision) revised the

The California Wireline Telephone Service Quality Report Pursuant to General Orders 133-C and 133-D for 2014-2016, published May 8, 2018, recommends that the Commission revise GO 133-D to modify the service quality measures to include all types of voice platforms, lower the minimum 10,000-line threshold for reporting Answer Time data, and lower the over-all minimum number of lines required for reporting, pp. 30 and 31.

[6] The Network Exam, Chapter 11, recommends expanding financial penalties in GO 133-D. Commission Resolution T-17721 *Approving AT&T California Advice Letter 48205A*, setting forth General Order 133-D fines for failing to meet service quality performance standards in 2019, notes that "Staff recommends that the Commission initiate an Order Instituting Rulemaking (OIR) to review GO 133-D, particularly with regards to the *Out of Service Repair Interval* standard, as well as the fine and alternative re-investment mechanisms. A potential OIR should … consider adopting new or modify existing standards and increased or other penalty mechanisms..." Resolution T-17721, p. 9; see also Finding 10, p. 11.

[7] *See* D.16-08-021, *Decision Adopting General Order 133*, August 29, 2016.

five service quality metrics for POTS to include minimum performance standards that POTS providers must meet. These metrics include installation interval, installation commitments, customer trouble report, out of service repair interval, and answer time.[8] The Service Quality Decision also revised GO 133-D to impose penalties, or allow for alternate investments in lieu of penalties, on POTS providers for noncompliance with three of the five service quality rules. Finally, the Service Quality Decision changed reporting requirements for POTS providers and extended some of the outage reporting requirements to wireless and interconnected VoIP service providers.

However, the Commission chose not to apply service quality requirements to all communications services, such as broadband, wireless, and interconnected VoIP.[9] The Service Quality Decision acknowledged comments that urged the Commission to impose minimum service quality standards on wireless and VoIP services,[10] but declined to do so. Later, the Commission explained that it was not required to impose such standards and that Pub. Util. Code §710 supported its decision.[11] Pub. Util. Code §710 has sunset and is no longer the law.

The Commission has a statutory duty to ensure that telephone corporations provide customer service that meets "reasonable statewide service quality standards."[12] The Commission has previously determined that wireless and interconnected VoIP service providers are telephone corporations and subject to the Commission's

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[8] As noted in D. 16-08-021 at page 2, the Commission adopted the five service quality metrics in D.09-07-019, which implemented GO-133-C.

[9] *See e.g.*, D. 16-08-021, p. 31 ("We are not persuaded by the jurisdictional arguments of the wireless carriers; we nevertheless decline to open another phase of this proceeding to address wireless service quality.")

[10] D.16-08-021, pp. 30-31.

[11] D.18-10-058, *Decision Denying Rehearing of D. 16-08-021*, October 30, 2018, pp. 18-22.

[12] Cal. Pub. Util. Code § 2896 (c). *See also Order Instituting Rulemaking (R.) 11-12-001, to Evaluate Telecommunications Corporations Service Quality Performance and Consider Modification to Service Quality Rules,* December. 12, 2011. (2011 Service Quality Rulemaking) p; 2; CPUC Strategic Directive 03, Reliability and Resiliency, which states the Commission will "assure the quality of products and services provided by regulated entities." Available at https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/about_us/mission_and_values/strategic-directives-and-governance-policies.pdf.

jurisdiction, including customer protections.[13] As explained below, given the increasing prevalence and reliance on Essential Services it is critical that the Commission revise its service quality rules to cover all Essential Services, not just POTS.

III. THE COMMISSION HAS JURISDICTION TO IMPLEMENT SERVICE QUALITY STANDARDS FOR ESSENTIAL SERVICES.

The Commission may implement service quality standards on broadband service providers, wireless service providers, and interconnected VoIP providers. The Commission has broad authority under the California Constitution to regulate public utilities, including telephone corporations.[14] Pub. Util. Code §2896 specifically requires the Commission to ensure all telephone corporations meet reasonable service quality standards. The Legislature has also conferred additional authority and jurisdiction upon the Commission to regulate broadband access services. Recognizing the importance of access to affordable communications services to all Californians,[15] the state enacted Pub. Util. Code §§ 275.6, 280, and 281, delegating to the Commission the goal of supporting access to high quality and reliable communications services, including broadband access services. Universal access to broadband should include the expectation that the services will work when needed, which the Commission should facilitate by implementing service quality standards.

Furthermore, the California Constitution and state statutes bestow on the Commission the responsibility of exercising the state's police power regarding essential utility network services. Pub. Util. Code § 451 directs that "[e]very public utility shall furnish and maintain such adequate, efficient, just, and reasonable service,

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[13] D.19-08-025, *Decision Adopting an Emergency Disaster Relief Program for Communications Service Provider Customers*, August 23, 2019, pp. 11-12, Conclusion of Law (COL) 12-14.

[14] Cal. Const., art. XII, § 3, stating, "Private corporations and persons that own, operate, control, or manage a line, plant, or system for the transportation of people or property, the transmission of telephone and telegraph messages, or the production, generation, transmission, or furnishing of heat, light, water, power, storage, or wharfage directly or indirectly to or for the public, and common carriers, are public utilities subject to control by the Legislature. The Legislature may prescribe that additional classes of private corporations or other persons are public utilities."

[15] See e.g. Pub. Util. Code §709.

instrumentalities, equipment, and facilities,…, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public." The Commission has broad authority to enforce this requirement.[16] Most recently, the Commission recognized broadband access as essential,[17] particularly considering the Coronavirus Disease 2019 (COVID-19) pandemic and persistent wildfires. Ensuring that broadband is available and working for everyone during these ongoing emergencies is essential in carrying out its policing role.

The Commission also has federal jurisdictional authority to place service quality standards on broadband. Both the D.C. Circuit court and the U.S. District Court for the Eastern District of California have determined that the Federal Communications Commission's (FCC) Restoring Internet Freedom Order[18] does not preempt state action on broadband Internet access services. In *Mozilla v. FCC* the D.C. Circuit court reiterated that Congress intended that states have a role in broadband regulation, noting that the FCC's "effort to kick the States out of intrastate broadband regulation also overlooks the Communication Act's vision of dual federal-state authority and cooperation in this area specifically".[19] Thus, the court determined that the FCC, in relinquishing authority over broadband in its Restoring Internet Freedom Order, could not simultaneously invoke a blanket preemption of all state regulation. Indeed, Congress envisioned that states would have direct authority over matters such as "encouraging [s]tate initiatives to improve broadband."[20]

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[16] Pub. Util. Code § 701, directing the Commission to "do all things whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction."

[17] D.20-07-032, *Decision Adopting Metrics and Methodologies for Assessing the Relative Affordability of Utility Service*, July 16, 2020, pp. 24-35, while also noting "no law or state or federal regulation forbids the Commission from accessing and analyzing broadband service prices."

[18] *In the Matter of Restoring Internet Freedom* (2018) 33 F.C.C. Rcd. 311.

[19] *Mozilla Corporation v. Federal Communications Commission* (D.C. Cir. 2019) 940 F.3d 1, 81.

[20] 47 USC § 1304.

The Commission has since acknowledged the *Mozilla* decision and used it to do exactly what Congress asked of the states. In D.21-04-005, a case imputing broadband revenue for California High-Cost Fund A, the Commission ruled that following *Mozilla* "[w]e accordingly find no impediment to this Commission's legal authority to adopt and implement broadband imputation rules."[21] This was concluded despite legal arguments against the Commission's authority on the grounds of preemption. The Commission rightfully concluded that when the FCC placed broadband outside of Title II jurisdiction,[22] it also placed it outside the FCC's ability to preempt states.[23] As noted in *Mozilla,* "[w]here the [FCC] lacks authority to regulate, it equally lacks the power to preempt state law."[24] The same rationale applies to the Commission's authority to regulate broadband service quality standards in order to ensure the health and safety of California residents.

Additionally, on February 23, 2021, the U.S. District Court of the Eastern District of California denied a petition for a preliminary injunction[25] filed by a group of Internet Service Providers (ISPs) challenging California's jurisdiction over a net neutrality law, Senate Bill (SB) 822.[26] In doing so, the court considered whether the petitioners were

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[21] D.21-04-005, *Decision Adopting Broadband Imputation in the General Rate Cases of the Small Independent Local Exchange Carriers*, April 15, 2021, p.14.

[22] *Mozilla* briefly summarized the distinction between Title I and Title II of the 1996 Telecommunications Act for purposes of jurisdiction:

> "[t]he 1996 Telecommunications Act creates two potential classifications for broadband Internet: 'telecommunications services' under Title II of the Act and 'information services' under Title I. These similar-sounding terms carry considerable significance: Title II entails common carrier status,…, and triggers an array of statutory restrictions and requirements…By contrast, 'information services' are exempted from common carriage status and, hence, Title II regulation." *Mozilla Corporation v. Federal Communications Commission* (D.C. Cir. 2019) 940 F.3d 1, 17.

[23] D.21-04-005, p. 14.

[24] *Mozilla Corporation* 940 F.3d at 123.

[25] *American Cable Association, et. al. v. Becerra*, February 23, 2021, Hearing Transcript, pp. 67, available at https://www.pacermonitor.com/public/case/25819595/American_Cable_Association_et_al_v_Becerra.

[26] Senate Bill (SB) 822, Stats. 2018, Ch. 976 (Weiner), codified as Civil Code §§ 3100-3104. The Ninth Circuit Court of Appeals granted review and heard oral arguments on September 14, 2021.

likely to succeed on the merits of the case.[27] The court ruled against the petitioners, finding that federal law did not preempt California's authority to enact laws that protect its own consumers.[28] As with California's net neutrality law, service quality standards would protect California consumers and are not preempted by federal law.

The Commission has authority over wireless service providers as "telephone corporations."[29] Telephone corporations are defined as any corporation or person "owning, controlling, operating, or managing any telephone line for compensation within this state" and are subject to the jurisdiction and control of the Commission.[30] Pub. Util. Code §233 defines "telephone line" as including "all conduits, ducts, poles, wires, cables, instruments, and appliances, and all other real estate, fixtures, and personal property owned, 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." Because wireless service providers are telephone corporations, Pub. Util. Code §2896 requires the Commission to ensure that wireless service providers meet reasonable statewide service quality standards. Although the Service Quality Decision declined to establish service quality standards for wireless service providers, nothing in that decision[31] or the Commission's decision on rehearing of the Service Quality Decision suggested that the Commission lacked the authority to do so.[32] Finally, Congress left to the states the ability to regulate the terms and conditions of wireless service in order to protect customers. Indeed, the Commission relied on this authority to

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[27] *American Cable Association, et. al. v. Becerra*, February 23, 2021, Hearing Transcript, pp. 62-67.

[28] *American Cable Association, et. al. v. Becerr*a, February 23, 2021, Hearing Transcript, pp. 62-67.

[29] Pub. Util. Code §216(a).

[30] Pub. Util. Code §§ 234(a); 216(a).

[31] *See e.g*., D. 16-08-021, p. 31 ("We are not persuaded by the jurisdictional arguments of the wireless carriers; we nevertheless decline to open another phase of this proceeding to address wireless service quality.")

[32] While the Commission did state that issues of federal preemption and prohibitions under Pub. Util. Code §710 resulted in the Service Quality Decision's more limited regulatory approach to wireless and VoIP technologies, those barriers no longer exist (D.18-10-058, p. 20).

adopt rules for an emergency disaster relief program for customers of communications service providers.[33]

Interconnected VoIP providers also meet the definition of telephone corporation. Pub. Util. Code §239 defines VoIP as "voice communications service that uses Internet Protocol or a successor protocol to enable real-time, two-way voice communication that originates from, or terminates at, the user's location in Internet Protocol or a successor protocol." The plain language of Pub. Util. Code §239 states that VoIP service utilizes "conduits, ducts, poles, wires, cables, instruments, or appliances" to facilitate communication by telephone. Accordingly, any corporation or person providing VoIP service for profit in California meets the definition of a "telephone corporation" in Pub. Util. Code § 234(a). In D.19-08-025 the Commission analyzed the categorization of interconnected VoIP and reached the same conclusion.[34] The Service Quality Decision imposed several reporting requirements on interconnected VoIP providers based on the reasoning that it had the authority to do so.[35]

Lastly, Pub. Util. Code §§ 2101, 2107, 2108, and 2111 permit the Commission to issue penalties on both public utilities and persons or corporations that are not public utilities. Based on this authority and using the principles adopted in D.98-12-075, the Commission adopted automatic fines for certain Uniform Regulatory Framework (URF) carriers that fail to meet the GO 133 service quality standards for customer trouble reports, out of service repair, or answer time.[36] The Commission can similarly impose automatic fines for any existing or proposed service quality metrics.

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[33] D.19-08-025, pp. 11-12; COL 12-14.

[34] D.19-08-025, COL 17, 20.

[35] Indeed, parties arguing that the Commission did not have authority over interconnected VoIP providers only relied on Pub. Util. Code §710 to make their argument. As explained in Section IV(C) (2) of this petition, Pub. Util. Code §710 is no longer the law. D.16-08-021, pp. 24-26; COL 11, 12.

[36] D.16-08-021, pp. 9-10; COL 4-6.

IV. DISCUSSION

A. Californians Now Rely More on Essential Services Other than POTS.

The communications services that California customers use have changed over time. Where once customers had only POTS to meet their communications needs, customers now rely on many more communications services. POTS has been supplanted by video conversations over broadband, wireless texting, calls or video,[37] and VoIP services.[38] Over the past two decades, these additional options have significantly increased the percentage of wireline POTS users that have migrated to wireless or VoIP services.

Currently, the majority of Californians access emergency services through wireless phones. In 2018, 81 percent of calls to 9-1-1 were made from mobile phones, and 28,014 texts were sent to 9-1-1.[39] As shown in the Commission's 2019 whitepaper, *Safety Principles for Communications Providers*, the vast majority of telephone subscriptions in California are wireless telephone subscriptions.[40] Californians use their cell phones for emergencies, work, school, healthcare, and to talk with their families. The Commission has recently acknowledged "the central role that these devices now play in almost every

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[37] The court reviewing the proposed merger of T-Mobile and Sprint acknowledged that the significance of mobile wireless services has

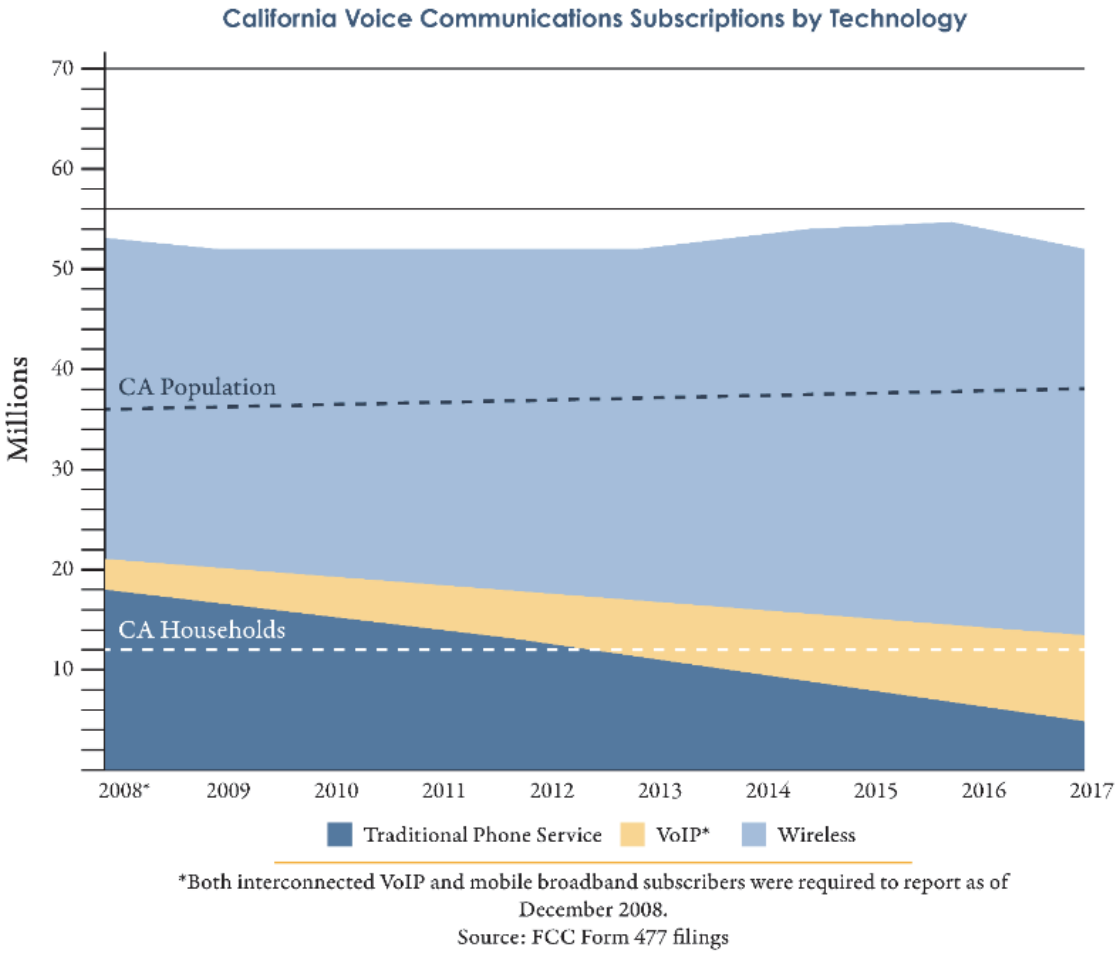
> increased greatly since their inception roughly four decades ago, transforming from solely a method of voice communication to a critical means for consumers to manage countless facets of their daily lives. Among the variety of consumer uses enabled by these services are transportation applications ..., applications enabling mobile banking and transactions with various retail outlets, and personal entertainment uses ..... As mobile wireless telecommunications services now also enable consumers to communicate with each other through voice, video, and text in various ways, the importance of such services is hard to overstate. *New York v. Deutsche Telekom AG*, 439 F. Supp. 3d 179 (S.D.N.Y 2020) p. 89.

[38] *See* Commission Office of Governmental Affairs *Memorandum on Assembly Bill 1366 – Voice over Internet Protocol and Internet Protocol enabled communications services*, June 24, 2019, p. 1.

[39] https://www.caloes.ca.gov/PublicSafetyCommunicationsSite/Documents/2018OfficialCallTotalswithNGandText.pdf.

[40] *Safety Principles for Communications Providers,* p. 6, available at the link in footnote 4.

aspect of modern life."[41]



Even customers who still have wireline service are now using VoIP service more than POTS. In 2008, roughly 10 percent of wireline subscribers in California subscribed to VoIP rather than POTS, yet by December 2018, 62 percent of wireline users were subscribed to a VoIP service.[42] While wireless subscriptions exceed wireline voice service in many parts of the state, as discussed further below, some customers still depend on wireline service because wireless service is either unreliable or nonexistent in their neighborhood.

[41] D.20-04-008, *Granting Application 18-07-011 and Approving Wireless Transfer Subject to Conditions,* April 27, 2020, p. 8.

[42] FCC Form 477 Data, available at https://www.fcc.gov/sites/default/files/vts_december18_hist.zip.

While a significant portion of Californians previously relied on POTS, customers are now relying on broadband, wireless, and VoIP service for communication. California's service quality standards should reflect this shift in the services customers use and provide a baseline level of service quality for the Essential Services on which customers rely.

B. Californians Urgently Need Reliable Communications Services, Regardless of the Service Type.

As recent wildfires and related public safety power shutoffs (PSPS) have demonstrated, "[l]ack of communications service is not a mere inconvenience—it endangers lives. Californians rely on their phones and the internet, whether wired or wireless, to receive emergency notifications, to contact family and friends, and to reach first responders."[43] Widespread communications outages during these events demonstrate that the Commission's current standards, largely limited to POTS, are insufficient to ensure that all Californians have access safe and reliable service.[44] Wireless customers also endure service quality issues, including long service outages due to the increasing fire threat in California. On October 27, 2019, almost half of all cell sites in Marin County were inoperable due to power outages.[45]

In D.20-07-011, the Commission recognized that wireless service is transforming how people do business, communicate, and access essential services like health care.[46]

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[43] Prepared remarks of California Public Utilities Commission President Marybel Batjer, Telecommunications Service Outages: Ensuring a Reliable Lifeline for Californians, prepared for Senate Energy, Utilities and Communications Committee, Jan. 8, 2020, available at https://seuc.senate.ca.gov/sites/seuc.senate.ca.gov/files/01-08-20_cpuc_testimony.pdf.

[44] "The state's oversight of communications providers cannot ensure safe, reliable, and affordable service, nor does the state require communications providers to take steps that can protect the public during an emergency." *Safety Principles for Communications Providers* 5, CPUC Report, Apr. 2, 2019, available at link shown in footnote in 4. "The state can no longer ensure a reliable and resilient communications grid by limiting its authority to this service [traditional copper telephone service] alone." *Id*. at 9.

[45] California Power Shutoff Communications Status Report for Oct. 27, 2019, p. 3, available at CA Power Shutoff Communications Status Report for Oct. 27, 2019 | Federal Communications Commission (fcc.gov).

[46] D.20-07-011, p. 5.

Both first responders and the public depend on data and wireless services.[47] For example, the Commission found that without access to 9-1-1 and the ability to reach first responders, Californians cannot "access needed services, be safe, or even function in an emergency."[48] As discussed above, the majority of Californians use wireless services to contact 9-1-1. CalOES is currently updating the 9-1-1 system to support more of the Essential Services Californians are using. In 2020, Atos, one of the four contractors upgrading Californian's 9-1-1 system, entered a partnership to enable text messages to 9-1-1.[49] In addition to noting the reliance of first responders on wireless service, the Commission also found that California's utilities rely on wireless networks to ensure reliability and resiliency.[50]

The recent COVID-19 pandemic also illustrates the importance of reliable communications services in the everyday lives of Californians. Due to COVID-19 many people are now working from home, using telehealth services, and accessing distance learning.[51] From March 15 to April 20, 2020 a Gallup poll found that the number of U.S. workers that worked from home doubled from 31 percent to 62 percent.[52] In December 2020, the California Legislative Analyst's Office found that roughly 40 percent of all California workers can likely perform their work remotely.[53] The U.S. Census Bureau reported in August 2020 that nearly 93 percent of people in households with school-age children stated that their children were using some form of distance learning.[54] However, an April 2020 Public Policy Institute of California (PPIC) survey found that 26 percent of

[47] D.20-07-011, p. 123, FoF 4.

[48] D.20-07-011, p. 123, FoF 9.

[49] Govtech reports on Text-to-911 in California https://www.govtech.com/em/preparedness/Text-to-911-Improves-California-Emergency-Response-During-a-Crisis.html

[50] D.20-07-011, p. 128-129, FoFs 43-46.

[51] D.20-07-011, pp. 43-44.

[52] *See* https://news.gallup.com/poll/311375/reviewing-remote-work-covid.aspx.

[53] *See* https://lao.ca.gov/LAOEconTax/Article/Detail/593, 7.6 million potential remote California workers of 19.2 million total California workers.

[54] *See* Schooling During the COVID-19 Pandemic (census.gov).

school-age students and nearly 40 percent of low-income students, did not have reliable broadband access for fall of 2020.[55] As of July 2020, 73 percent of U.S. college students had virtual-only instruction during summer with an additional 20 percent in hybrid models combining in-person and virtual instruction.[56] Even before the COVID-19 pandemic, the Digital Learning Compass organization found that nearly 30 percent of students in higher education had at least one online class.[57] The Center for Disease Control noted a 154 percent increase in telehealth visits during the last week of March 2020, compared to the same week in 2019.[58] In many cases, reliance on these Essential Services will continue even after the COVID-19 pandemic has concluded. These events underscore why the Commission must ensure that Californians can expect a baseline level of service quality for Essential Services.

As noted above, recent events including wildfires and the shelter-in-place order due to the COVID-19 pandemic, demonstrate how necessary a reliable, high quality communications network is for our health, safety, and well-being.[59] The Commission has an obligation to ensure that Communications Service Providers deliver adequate, efficient, just and reasonable service, equipment, and facilities as are necessary to promote the safety, health, comfort, and convenience of the utility's subscribers and of the public.[60]

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[55] PPIC on California's Digital Divide https://www.ppic.org/publication/californias-digital-divide/

[56] Institute of International Education COVID-19 Effects on US Higher Education Campuses, Report 3: https://www.iie.org/Research-and-Insights/Publications/COVID-19-Effects-on-US-Higher-Education-Campuses-Report-3

[57] https://onlinelearningconsortium.org/news_item/new-study-six-million-students-now-enrolled-distance-education/

[58] https://www.cdc.gov/mmwr/volumes/69/wr/mm6943a3.htm

[59] As the California Broadband Council's *2020 Broadband Action Plan* notes on page 11, communities with low quality or no broadband service face public safety risks from their lack of adequate service. The lack of broadband or cell services in rural communities makes it difficult to communicate clear emergency notices to residents.

[60] Public Utilities Code § 451.

C. The Commission Can and Should Adopt Service Quality Standards to Ensure Reliable Wireless and VoIP Service.

Despite the widespread adoption of advanced telecommunications technologies and their use by customers to satisfy "basic service" requirements,[61] the Commission's service quality framework has not kept pace with the evolution of communication services that most customers use. Since at least 1993, the California Legislature has tasked the Commission with requiring providers of communications service to deliver customer service that includes "[r]easonable statewide service quality standards, including, but not limited to, standards regarding network technical quality, customer service, installation, repair, and billing."[62] However, the Commission has yet to adopt minimum service quality standards that apply to the Essential Services other than POTS, even though those services are used by the majority of Californians.[63]

In its Service Quality Decision adopting updated service quality standards in GO 133-D, the Commission declined to require wireless and VoIP carriers to meet service quality metrics.[64] The Service Quality Decision did not discuss this choice, despite the

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[61] *See* D.12-12-038 *Adopting Basic Telephone Service Requirements,* December 24, 2012, pp. 18-22, discussing the Commission's adoption of a technologically neutral definition for "basic service."

[62] Public Utilities Code § 2896 (c).

[63] Most recently, *see* D.18-10-058 at page. 20. Confusingly, this is despite the number of Commission decisions and rulings that reiterated the need for the Commission itself to adopt such standards. For example, D.12-12-038 states at page 45:

> Consistent with our universal service obligations to ensure that all Californians have access to essential telecommunications services necessary for them to interact and participate in modern society, we conclude that further proceedings are warranted to identify, adopt, and enforce appropriate service quality standards applicable to any carrier, including wireless or VoIP, that serves in the capacity of COLR in a high-cost area.

See also D.14-01-036, *Adopting Revisions to Modernize and Expand the California LifeLine Program*, January 27, 2014, p. C3. "Almost 100% of customers use cell phones. We need flexibility, wireless for safety is extremely important."

[64] *See generally* D.16-08-021, pp. 30-31; *see also Application for Rehearing of D.16-08-021*, *Adopting General Order 133-D*, of the Office of Ratepayer Advocates [now Public Advocates Office], Center for Accessible Technology, The Greenlining Institute, and The Utility Reform Network pp. 8-18 (Sept. 28, 2016).

issue being of ongoing concern throughout the proceeding.[65] In September 2016, Cal Advocates, The Utility Reform Network (TURN), the Greenlining Institute, (Greenlining), and the Center for Accessible Technology (CforAT) filed a joint application for rehearing of the Service Quality Decision (Application for Rehearing of Decision 16-08-021*)*, based in part on the Commission's failure to adopt standards for wireless and VoIP service.[66] In October 2018, the Commission affirmed its original decision because "from a regulatory standpoint, non-traditional services such as wireless and VoIP have always been treated differently from wireline services."[67] The Commission's reasons for doing so are listed below:

- "First, the Commission has taken a more hands-off approach for non-traditional services, with reliance on competition to ensure reasonable rates and services. This began when these non-traditional services were emerging."[68]
- "Second, issues of federal preemption and state prohibitions under [Pub. Util. Code] section 710 have resulted in the Commission taking a more limited regulatory approach to these technologies. [The Commission does] not think that Pub. Util. Code section 2896 requires the Commission to apply the same type of regulation to wireless and VoIP that it applies to traditional wireline."[69]
- "[Section 2896] does not explicitly require the Commission to develop regulations. Rather the section articulates 'policies' which the Commission

[65] Order Instituting Rulemaking (OIR) 11-12-001, *Order Instituting Rulemaking to Evaluate Telecommunications Corporations Service Quality Performance and Consider Modification to Service Quality Rule,* December 1, 2011, p. 14: "13. Should the Commission adopt service quality reporting standards for wireless carriers?," *see also* R.11-12-001, Assigned Commissioner's Amended Scoping Memo and Ruling (September 24, 2014), Attachment A, Staff Report, California Wireline Telephone Service Quality, Pursuant to General Order 133-C, Calendar Years 2010-2013 p. 21, recommending that the Commission consider adopting service quality rules for wireless and interconnected VoIP services.

[66] *Application for Rehearing of Decision 16-08-021, Adopting General Order 133-D,* of the Office of Ratepayer Advocates, Center for Accessible Technology, The Greenlining Institute, and The Utility Reform Network, p. 1 (September 28, 2016).

[67] D.18-10-058, p. 20.

[68] D.18-10-058, p. 20.

[69] D.18-10-058, p. 20.

'shall apply to all telecommunications services in California.' (See Pub. Util. Code § 2897.)"[70]

As addressed below, the law on which the Commission relied when it came to these conclusions no longer applies. All the while current events underscore the need to adopt service quality standards for these services.

1. Broadband, Wireless, and VoIP Services Are Now Dominant Services.

Broadband, wireless, and VoIP services are no longer just emerging services. *Safety Principles for Communications Providers* demonstrates that most Californians use wireless service and in 2018 VoIP subscription rates were roughly equivalent to POTS subscription rates.[71] Broadband, wireless, and VoIP are dominant services that most Californians rely on for their communications needs. As such, the service quality standards outlined in GO 133-D apply to only a subset of California customers, leaving many without a baseline expectation of service quality.

Safety Principles for Communications Providers notes there were 8.2 million VoIP customers in California by the end of 2017, compared to 5.8 million POTS lines.[72] FCC Form 477 data shows that in December of 2018, there were approximately 12 million broadband subscriptions,[73] the number of VoIP customers grew to 8.3 million, and the number of POTS customers fell to 5.1 million.[74] As of June 2020, the Commission's Communications Division reported that there are 4.5 million POTS lines in California.[75] California customers rely on Essential Services for their communications

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[70] D.18-10-058, p. 20.

[71] *Safety Principles for Communications Providers,* p. 6.

[72] *Safety Principles for Communications Providers,* p. 6. CPUC Report, April 2, 2019.

[73] See FCC Report Internet Access Services: Status as of December 31, 2018, September 2020, p. 31. https://docs.fcc.gov/public/attachments/DOC-366980A1.pdf

[74] *See* FCC Form 477 data for California at https://www.fcc.gov/voice-telephone-services-report. State specific data: https://www.fcc.gov/sites/default/files/vts_state_table_1_1.xlsx See switched access lines for POTS subscriptions.

[75] Total Number of Access Lines in California for June 2020 from Carriers Reporting Under G.O. 133-D, hosted at: ftp://ftp.cpuc.ca.gov/Telco/ServiceQualityReports/2020/The%20Total%20Number%20of%20Access%20

needs, and they require high quality reliable broadband and wireless service to work and learn from home. The Commission should modernize GO 133-D's service quality standards to cover the communications services most Californians are using.

2. With the Sunset of Pub. Util. Code §710 the Commissions' Basis for Not Considering Service Quality Standards for Essential Services No Longer Applies.

In the past, the Commission declined to regulate services such as wireless and VoIP. This hands-off approach began when these services were first emerging in 2012 following the legislature's passage of Senate Bill (SB) 1161, which prohibited the Commission from regulating VoIP or IP-enabled services until January 1, 2020. In response to the 2016 Application for Rehearing of Decision 16-08-021, the Commission stated that Pub. Util. Code §710 supported a more limited regulatory approach to VoIP services.[76] However, Pub. Util. Code §710 sunset on January 1, 2020, so this rationale no longer applies.

Even before the sunset of Pub. Util. Code §710, the Commission acknowledged that it had jurisdiction to implement consumer protection standards such as service quality standards for VoIP. Specifically, while SB 1161 precluded the Commission from exercising regulatory jurisdiction or control over VoIP and IP-enabled services, the prohibition did not apply to laws "of general applicability, including, but not limited to, consumer protection[.]"[77] Californians now rely on these Essential Services more than POTS. Therefore, the Commission must act to impose customer protections that are now many years overdue. As the Commission stated in 2012, "[a]ppropriate consumer

Lines%20in%20California%20for%20June%202020%20from%20Carriers%20Reporting%20Under%20G.O.%20133-D.pdf

[76] D.18-10-058, p. 20.

[77] Pub. Util. Code § 710(e) (*sunset).*

protection standards associated with basic telephone service quality must be in place and enforced, regardless of the service provider technology involved."[78]

D. The Commission Should Establish Service Quality Standards for Broadband, one of the Essential Services.

Broadband service is essential for Californians, as it enables telemedicine, educational opportunities, teleworking, job searching, applying for government benefits, and participating in the online economy.[79] In D.20-07-032, the Commission recognized the vital role that broadband plays by including broadband as an essential communications service and considering whether communications service is affordable.[80] The Commission's determination is important, but simply analyzing the affordability of broadband service is not enough to ensure that Californians are getting high quality, reliable broadband service. The Commission must also monitor and set standards for the service quality for broadband service.

In D.20-07-032, the Commission reiterated findings from the FCC's eighth Measuring Fixed Broadband Report (Report) that customers may experience actual broadband speeds that are slower than the speeds they subscribe to.[81] A survey within the Report found that only three of the 17 Internet providers studied provided at least 80 percent of their surveyed customers with median download speeds that matched the advertised download speed. Failure to provide advertised download speeds can occur for several reasons, including heavy Internet traffic that can slow down speeds for network users or service outages that can disrupt service entirely. The Commission concluded

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[78] D. 12-12-038, p. 41.

[79] D.20-07-032 *Adopting Metrics and Methodologies for Assessing the Relative Affordability of Utility Service*, July 22, 2020, p. 26. Commission Staff recognized facilitating these services as a key factor of considering broadband an essential service. See also http://www.benefitscal.org/ which permits applicants to apply online for Medi-Cal, County Medical Services Program, CalFresh, and California Work Opportunity and Responsibility to Kids.

[80] D.20-07-032, p. 91 COL 20 and 21.

[81] D.20-07-032, p. 27; FCC Measuring Fixed Broadband – Eighth Report, available at https://www.fcc.gov/reports-research/reports/measuring-broadband-america/measuring-fixed-broadband-eighth-report.

that the results of this survey indicate that providers cannot provide customers with advertised download speeds at all times and, as such, opted to set a minimum download speed for use in the affordability analysis.[82] D.20-07-032 also stated that the initial minimum benchmark of 25 Megabits per second (Mbps) download and 3 Mbps upload speeds may need to be adjusted in the future to account for advancement in communications technology. While the Commission acknowledged this potential future need to adjust the benchmark, D.20-07-032 did not specify how the Commission would collect the data needed to monitor advances and changes in communications services.

The Commission can track some of this information through subscriber data the Communications Division already collects and verifies, as well as the FCC's Form 477 data.[83] However, as demonstrated by the FCC survey summarized above, customers do not always receive the broadband speeds that are advertised as part of their subscription. As such, the Commission should collect delivered network speeds or data that shows the broadband speeds that customers receive on average and the frequency of broadband outages. This data will allow the Commission to make informed decisions on the state of broadband service in California and determine if the delivery of broadband services reflects adequate service quality. Furthermore, establishing standards and reporting requirements would allow Californians to monitor whether they are receiving adequate service quality from their broadband service provider.

V. A RULEMAKING IS NECESSARY TO MODERNIZE COMMUNICATIONS SERVICE QUALITY STANDARDS

Californians rely on broadband, wireless, and VoIP for alerts and assistance during emergencies and to perform a multitude of tasks for business, learning, health, and pleasure. Despite increased consumers' reliance on Essential Services, there are currently no rules to ensure reliable, high-quality service. Therefore, the Commission

[82] D.20-07-032, p. 28.

[83] FCC Form 477 fixed broadband subscription data, see https://transition.fcc.gov/form477/FBS/formatting_fbs.pdf

should open a rulemaking to implement service quality standards. The Commission should proceed with a two phased approach. For Phase 1 the Commission should:

- Modernize the Commission's service quality standards by implementing new standards that measure the performance and reliability of the Essential Services that currently are no subject to service quality standards.
- Revise GO 133-D's existing POTS financial penalty standards consistent with recommendations made in Commission reports and apply existing standards to Essential Services consistent with modern consumer needs.[84]

Following the resolution of the issues identified above for Phase 1, the Commission should address these issues in Phase 2.

- Examine GO 133-D's penalty and enforcement mechanisms to determine how to revise the penalty structure to facilitate service quality improvements.
- Revise the penalty mechanism in accordance with the findings and previous Commission reports and resolutions to incentivize Essential Services providers to meet service quality standards and deliver the level of service quality that customers expect and need.[85]

[84] Network Exam, Chapter 11. The Network Exam recommends expanding financial penalties in GO 133-D, lowering the Customer Trouble Reports Standard rates, and apply the minimum GO 133-D standards uniformly for all wire centers. *The California Wireline Telephone Service Quality Report Pursuant to General Orders 133-C and 133-D for 2014-2016*, published May 8, 2018, recommends on pages 30 and 31 that the Commission modify GO 133-D to modify the service quality measures to include all types of voice platforms, lower the minimum 10,000-line threshold for reporting Answer Time data, and lower the over-all minimum number of lines required for reporting.

[85] The Network Exam, Chapter 11, recommends expanding financial penalties in GO 133-D. See also Commission Resolution T-17721 *Approving AT&T California Advice Letter 48205A*, setting forth General Order 133-D fines for failing to meet service quality performance standards in 2019 notes that "Staff recommends that the Commission initiate an OIR to review GO 133-D, particularly with regards to the *Out of Service Repair Interval* standard, as well as the fine and alternative re-investment mechanisms. A potential OIR should … consider adopting new or modify existing standards and increased or other penalty mechanisms..." Resolution T-17721, p. 9; see also Finding 10, p. 11.

A. The Commission Should Apply Existing GO 133-D Metrics to Broadband, Wireless, and Interconnected VoIP Service Providers, Where Applicable.

The Commission requires wireless, VoIP, and POTS providers to provide Major Service Interruption reports that detail service outages,[86] but currently requires only POTS providers to meet the following service quality requirements:[87]

- Installation interval
- Installation commitments
- Customer trouble reports
- Out of service repair interval
- Answer time

Thus, the Essential Services on which most Californians rely are not subject to service quality standards guaranteeing customers a baseline level of service quality. The Commission should open a rulemaking to modernize its service quality standards to cover these essential services. Attachment B is a straw proposal for extending the existing service quality metrics to wireless and VoIP service.

B. The Commission Should Establish Additional Service Quality Reporting Metrics that Apply to Broadband, Wireless, and Interconnected VoIP Service Providers.

Currently, the Commission's service quality reporting metrics are tailored to measure the quality of telephone service. These metrics are not appropriate to determine the quality of broadband, wireless, and interconnected VoIP.[88] Therefore, the Commission should require reporting on the metrics described in Table 1 below, including latency, jitter, packet loss, call failure rate, call drop rate, call setup time, delivered network speeds, and chronic customer trouble reports. Attachment A has a

[86] GO 133-D, § 4.

[87] GO 133-D, §§ 2.1, 3.1 -3.5, 9.3 – 9.5.

[88] One of the Commission's roles in the California Broadband Council's 2020 Broadband Action Plan is to establish clear reliability standards for consumer protection and provisioning of equitable service, 2020 Action Plan p. 26, https://broadbandcouncil.ca.gov/action-plan/.

straw proposal with specific definitions, descriptions, and service quality benchmarks for these service quality metrics.

Table 1: Additional Service Quality Metrics for Interconnect VoIP, Wireless, and Broadband Service Providers

Metric	Definition
Latency[89]	Latency is the measure of time it takes in milliseconds, defined as either one-way or round trip, for a packet to travel from one point in a network to another. It typically increases as distance between points increases and congestion of the network increases. Latency decreases as distance between points decreases. Lower latency is one indicator of higher service quality, as providers should manage network traffic for minimal latency.
Jitter[90]	Jitter is the variance in end-to-end delay of information travelling on a network. Jitter is measured through the difference between actual time of arrival and expected time of arrival. Jitter is expressed in milliseconds and can be considered the difference in latency between different information packets. Lower jitter is one indicator of higher service quality, as providers should manage network traffic for minimal jitter.
Packet Loss[91]	Packet Loss is defined by the event where sent information is not acknowledged by the receiver or it is received with a round trip latency delay that is greater than 3 seconds. Packet loss is measured as a percentage of packets lost compared to packets sent. Small packet loss is one indicator of higher service quality, as providers should manage network traffic to ensure minimal or no packets are lost.

[89] FCC Measuring Fixed Broadband – Eighth Report, executive summary and FCC Second Report and Order on Technology Transitions 16-90, para. 95.

[90] International Telecommunications Union (ITU) Recommendation G.1050, 2007, Tables 5 and 6.

[91] FCC Measuring Fixed Broadband – Eighth Report, executive summary and FCC Second Report and Order on Technology Transitions 16-90, para 95. Packet Loss can apply to emulated TDM services carried over "pseudowords" on virtual networks, see https://tools.ietf.org/html/draft-stein-pwe3-tdm-packetloss-01.

Metric	Definition
Call Failure Rate[92]	Call Failure Rate is a measure of the number of calls that are unable to initiate due to adverse network conditions such as traffic and congestion. Measured by the number of calls that fail to initiate divided by the total number of calls attempted. Calls that are terminated before initiation due to actions of the customer are not considered failed calls. Lower percentages of call failure rate would be one indicator of higher quality service.
Call Drop Rate[93]	Call Drop Rate is a measure of the amount of prematurely terminated calls on a telephone network. A call is dropped when it is ended by the network, not either user. Lower percentages of call drop rates would be one indicator of higher quality service.
Call Setup Time[94]	Call Setup Time is the amount of time it takes a network to connect the calling device to the called device and produce a ringing tone. Lower call setup times would be one indicator of higher quality service.
Delivered Network Speeds[95]	Delivered Network Speeds refers to network speeds delivered to a customer's premises as a percentage of the average network speeds at a customer premises during peak hours divided by speeds a customer is subscribed to. Higher percentages of delivered network speeds would be one indicator of higher quality service.
Repeat Trouble Reports	Repeat Trouble Reports are service affecting and out of service trouble reports submitted by the same customer or user relating to dissatisfaction with communications service provider's services within 30 days after a previous trouble report was cleared. Fewer repeat trouble reports would be one indicator of higher quality service.

[92] ITU-T Recommendation E.807, February 2014, available *at* *E.807 : Definitions, associated measurement methods and guidance targets of user-centric parameters for call handling in cellular mobile voice service (itu.int)*, Parameters 2 and 3, p. 2.

[93] ITU-T Recommendation E.807, February 2014, Parameter 4, p. 3.

[94] ITU-T Recommendation E.807, February 2014, Parameter 1, p. 2.

[95] FCC Measuring Fixed Broadband – Eighth Report, executive summary; the FCC uses the 80/80 rule to measure delivered broadband speed.

The FCC, the Commission, and third-party performance-testing companies, such as Ookla and Rootmetrics, have used many of these metrics to measure the quality of these services. For example, in its 2016 copper retirement order, the FCC determined that it would use latency and packet loss as two metrics to evaluate whether a service is an adequate replacement for POTS.[96] Additionally, the Commission has conducted its own tests to measure the quality of mobile broadband, fixed wireless, and wireline connections using the CalSPEED measurement tool. CalSPEED uses latency, jitter, and packet loss, as well as download and upload speeds to measure wireless service performance.[97] Rootmetrics, a company that measures network reliability, accessibility, and speed performance on smartphones for both broadband data and voice services, uses both call failure rates and call drop rates in its analysis of mobile network performance.[98] The Commission can gather data using these metrics to get a clear picture of the service quality Californians are receiving from Communications Service Providers.

The Commission should establish standards for the above listed additional service quality metrics to measure whether Communications Service Providers are offering customers the baseline level of high quality, reliable service that they need. In many cases, the Commission can rely on standards established by the FCC's programs, standard setting bodies such as the International Telecommunications Union (ITU-T), or industry groups that measure service quality. As explained above, the FCC's technology transition program established a standard for Latency and Packet Loss.[99] Communications service providers participating in the FCC's technology transition program were expected to maintain round trip latencies of 100 milliseconds or less in 95

[96] FCC 16-90, para. 94, 95, pp. 33-34.

[97] Novarum Analysis Comparing Ookla, FCC, and CPUC's Mobile Speed Tests, ftp://ftp.cpuc.ca.gov/Telco/BB%20Mapping/2017/Spring%202017%20Mobile%20Speed%20Test%20Assessment%20%20Ken%20Biba%20-%20Novarum.pdf.

[98] Rootmetrics, Mobile Network Performance in the US, http://www.rootmetrics.com/us/blog/special-reports/2015-2h-national-us.

[99] *Declaratory Ruling, Second Report and Order, and Order on Reconsideration*, FCC, July 15, 2015 (FCC 16-90), para. 95, p. 34.

percent of measurements during peak use periods. The FCC notes that these standards are informed by the ITU-T recommendations for reasonable network management practices.[100] Applications that rely on real-time transmission of data, such as video teleconferencing or assistive devices used by people with disabilities, require low latencies to function effectively. Similarly, the remaining metrics proposed in Table 1 include standards and performance measurements to determine whether Communications Service Providers are providing customers with reliable, high-quality service.

Attachment A to this petition includes proposed standards for the additional service quality metrics identified in Table 1. These standards are expressed as "Minimum Standard Reporting Level" within Attachment A. The standards for measurements are based on ITU-T performance requirements as well as service performance standards used in various FCC programs. It is important that the Commission not only collect information on the service quality metrics Communications Service Providers achieve, but also implement standards for measuring that information. This way, Californians will be able to monitor the quality of the service they receive and make informed choices in the communications market.

Attachment A also refers to "Community Anchor Institutions". Some of these institutions, such as libraries, schools, and colleges, are places within a community that can facilitate the increased use of all Essential Services, especially amongst vulnerable populations. These institutions also provide critical services to their communities and rely on high-quality Essential Services. By focusing on service quality standards for these already established Institutions the Commission can use existing infrastructure to further its goal of expanding access to Essential Services.

[100] FCC 16-90, para. 95, p. 34.

C. The Commission Should Include a Phase II in this Rulemaking to Ensure that the Updated Service Quality Standards Contain Penalty Mechanisms that Result in Improved Service Quality.

The existing penalty mechanism that permits POTS providers invest in upgrades in lieu of a penalty is not measurably improving service quality. The Commission should audit the effectiveness of GO 133-D's penalty mechanism and revise the penalty mechanism to effectively incentivize communications service providers to meet baseline service quality standards to provide high quality, reliable service for customers. In 2011, Communications Division recommended that the Commission review service quality because of the service outages that occurred during severe flooding events in 2010 and 2011.[101] As a result of that review, in 2016, the Commission adopted the current version of the minimum service quality performance standards, as well as a penalty mechanism to encourage communications service providers to comply with the Commission's service quality standards.[102] The penalty mechanism included an option for POTS providers to request that the Commission suspend the fine and instead allow it to propose to invest in incremental investments to improve compliance with the service quality standard that led to the fine in an amount that is no less than two times the incurred fine.[103] However, GO 133-D reports submitted since 2016 do not demonstrate improvements in service quality.

In 2019, the Commission published the results of a thorough examination of the wireline networks owned by AT&T California and Verizon California/Frontier California, from 2010-2017.[104] In the Commission ordered *Examination of the Local Telecommunications Networks and Related Policies and Practices of AT&T California*

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[101] R.11-12-001, p. 2-3.

[102] D.16-08-021, p. 23, COL 2.

[103] GO 133-D § 9.7.

[104] The Network Exam was conducted as part of R.11-12-001, which considered service quality and updated GO 133 in 2016. http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M167/K737/167737477.PDF.

and Frontier California (Network Exam) the Commission's consultant Economics and Technology, Inc (ETI) noted several key findings and recommendations:[105]

- AT&T California and Verizon California/Frontier California's service quality deteriorated over 2010 through 2017, with the number of outages and the length of outages increasing each year.[106]
- There was a persistent disinvestment in local exchange networks.[107]
- Service quality is worse in low-income neighborhoods, where carriers do not compete to provide higher priced services.[108]
- Financial penalties should be expanded for carriers so that they are equivalent to the financial consequences of poor service quality in a competitive market.
- The Network Exam found that the existing GO 133-D Customer Trouble Report Rates of 6%, 8%, or 10% of switched access lines per month are far too generous and should be revised downward.[109]

The Commission stated that "[c]ompetition in the telecommunications market does not obviate the need for such service quality standards and reporting[.]"[110] In the ***absence*** of effective competition, the Commission must ensure that all Californians have access to the advanced communications services on which participation in society and our health and safety depend.

The Network Exam determined that both AT&T California and Verizon California/Frontier California failed to meet the Commission's out-of-service requirements in every month between 2010 and 2017. Indeed, as of December 2020,

[105] Network Exam, Chapter 1.

[106] Network Exam, Chapter 1, p. 1.

[107] Network Exam, Chapter 1, p. 1.

[108] Network Exam, Chapter 1, p. 2.

[109] Network Exam, Chapter 11, p. 515.

[110] D.15-08-041, *Affirming Commission Direction to Conduct the Network Evaluation Study Originally Ordered in Decision 13-02-023,* August 31, 2015, p. 3.

AT&T California continues to fail to meet its out-of-service requirements and Frontier California has met the standard only once.[111] These results show that little has changed since 2011 when Communications Division recommended that the Commission open an order instituting investigation or an order instituting rulemaking into service quality.[112] AT&T California and Verizon California/Frontier California's failures to meet Commission standards limiting service downtime are of continuing concern as larger and more frequent wildfires highlight the importance of telecommunications service quality and reliability, particularly in rural areas, where wildfire risks are more pronounced.[113] Further, as discussed earlier, the COVID-19 pandemic and following shelter-in-place orders have shifted many people to working from home and distance learning, which adds to the importance of providing high quality service.

Commission Staff (Staff) recently acknowledged that GO 133-D's penalty mechanism does not adequately promote compliance with GO 133-D's service quality standards. In Resolution T-17721 *Approving AT&T California Advice Letter 48205A* (Resolution T-17721) and T-17224 *Rejecting Frontier California (U-1002-C) Advice Letter 12828* (Resolution T-17724), Staff noted repeated problems with AT&T California and Frontier California meeting the Out of Service Repair Interval standard.[114] In response to Frontier's request for a corrective action plan and alternate investment in lieu of fines, Staff notes that "Frontier [California's] efforts have not resulted in sufficient and sustained progress in meeting the *Out of Service Repair Interval* standard." Staff recommended that "given that Frontier [California], one of California's two largest wireline carriers, consistently fails to improve its service quality performance in a

[111] The most recent GO 133-D reports are hosted on the Commission's website, Telecommunications Carriers' Service Quality Reports. As of 9/27/21, the most recent reports are for Q2 of 2021.

[112] Verizon met the requirement for a 2-month period in 2016, but only because doing so was a precondition for the Commission's approval of their $10.5 billion sale of their California wireline assets to Frontier. Network Exam, Chapter 1, p. 8.

[113] For additional information about service outages during wildfires, see the April 2018 report published by the NBNCBC, available here: http://www.mendocinobroadband.org/data-and-reports/.

[114] Resolution, T-17721, p. 9 and Resolution T-17724, p. 11.

measurable or sustained manner, ... the Commission [should] consider whether the current GO 133-D standards and penalty mechanisms should be revised to ensure better carrier compliance."[115] The Commission Staff's recommendations are consistent with the findings of the Network Exam.

Another solution the Commission should consider is including customer credits as a remedy to promote compliance with GO 133-D. Customers enter into contracts with service providers with the expectation that those services will be delivered as promised, especially in times of emergency. If those services are not provided, or not provided consistent with the terms of their contract, then the customer should be compensated for the communications service provider's failure to perform as promised. This type of remedy also creates a direct incentive for service providers to meet the required service standards.

Because of carriers' long-standing failure to meet the Commission's out of service standards and the above noted failure of GO 133-D penalty mechanisms to deliver sustained service quality improvements, the Network Exam recommended that the Commission expand the financial penalties for carriers that fail to meet minimum GO 133 service quality standards.[116] The Commission should initiate the rulemaking recommended by this petition and include a Phase II to audit the effectiveness of GO 133-D's penalty mechanism and revise GO 133-D's penalty structure so that it incentivizes carriers to provide high quality service to customers.

VI. CONCLUSION

The Commission already recognizes the essential nature of communications services. The impact of recent destructive wildfires, and the COVID-19 pandemic further illustrate how vital communications service is to the public health and safety of Californians. The Commission should implement and modernize the standards that Communications Service Providers must meet in delivering the Essential Services that

[115] Resolution T-17724, p. 11.

[116] Network Exam, Chapter 1, p. 4.

Californians use in their everyday life and proceed with the two phased approach described above.

Respectfully submitted,

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ATTACHMENT A

Proposed Service Quality Metrics and Standards Additions to General Order 133

1. General

1.3 Definitions.

aa. Service Area: A contiguous area where a facilities-based Carrier provides service to customers with lines from a central office, or functional equivalent. A service area can include multiple central offices, or functional equivalents, if the inter-office transport facilities that connect the two central offices, or functional equivalents, does not leave the contiguous area of where either central office serves customers.

ab. Switching Center: Analogous to a wire center. A Switching Center is composed of one or more switches that facilitates call set-up, release, and routing.

ac. Failed Call: A call that is unable to initiate due to adverse network conditions such as traffic and congestion.

ad. Dropped Call: A prematurely terminated call on a telephone network due to adverse network conditions, not the actions of an end user.

ae. Packet: A formatted unit of data carried by a packet-switched network to convey information.

af. Peak Hours: Between 7:00 PM and 11:00 PM Pacific Time.

ag. Ring back Tone: An audible ringing signal tone heard by the originator of a telephone call when attempting to call the receiver.

ah. Community Anchor Institution: Schools, libraries, health care institutions, public safety facilities, community colleges, and other institutions of higher education.

4. Major Service Interruption

e. Rural Outage Reporting. When a communication outage occurs in or affects a census tract designated as rural by the FCC, the reporting threshold for outages shall be 90,000 user minutes instead of the 900,000 user-minutes outlined in the FCC's Part 4 rules.

10. Minimum Network Service Quality Benchmarks

10.1 Latency – Applies to Interconnected VoIP services, and wireless services offered by GRC ILECs, facilities-based Carriers with 5,000 or more customers and to any facilities-based Carrier with fewer than 5,000 customers that is a COLR.

a. Description. Latency is the measure of time it takes in milliseconds, defined as either one-way or round trip, for a packet to travel from one point in a network to another. Latency applies to Community Anchor Institutions, residential, and small business customers.

b. Measurement. Latency will be measured from a customer premises to a measurement server or to an interconnection point for hand-off to the public Internet or another network. Carriers will select a random sample of 50 customer premises from each reporting unit.

c. Minimum Standard Reporting Level. Mean Latency of less than 100 milliseconds round trip for 90% of reporting locations. Carriers should report their mean Latency during Peak Hours of 7 pm to 11 pm averaged over a reporting month.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.2 Jitter – Applies to Interconnected VoIP services, and wireless services offered by GRC ILECs, facilities-based Carriers with 5,000 or more customers and to any facilities-based Carrier with fewer than 5,000 customers that is a COLR.

a. Description. Jitter is the variance in end-to-end delay of information travelling on a network. Jitter is measured through the difference between actual time of arrival and expected time of arrival. Jitter applies to Community Anchor Institutions, residential, and small business customers.

b. Measurement. Jitter will be measured from a customer premises to a measurement server or to an interconnection point for hand-off to the public Internet or another network. Carriers will select a random sample of 50 customer premises from each reporting unit.

c. Minimum Standard Reporting Level. Mean Jitter of less than 50 milliseconds round trip for 90% of reporting locations. Carriers should report their mean Jitter during Peak Hours+ of 7 pm to 11 pm averaged over a reporting month.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the

smal'lest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.3 Packet Loss – Applies to Interconnected VoIP services, and wireless services offered by GRC ILECs, facilities-based Carriers with 5,000 or more customers and to any Facilities-based Carrier with fewer than 5,000 customers that is a COLR.

a. Description. Packet Loss is defined by the event where sent information is not acknowledged by the receiver or it is received with a round trip latency delay that is greater than 3 seconds. Packet Loss applies to Community Anchor Institutions, residential, and small business customers.

b. Measurement. The number of packets sent over the network minus the number of requested packets received divided by the number of packets sent.

c. Minimum Standard Reporting Level. Fewer than 1% mean packet loss and averaged monthly.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.4 Call Failure Rate – Applies to TDM-based voice services, Interconnected VoIP services, and wireless services offered by facilities-based Carriers with 5,000 or more customers and to any Facilities-based Carrier with fewer than 5,000 customers that is a COLR.

a. Description. Call Failure Rate is a measure of the number of calls that are unable to initiate due to adverse network conditions such as traffic and congestion. Calls that are terminated before initiation due to actions of the customer are not considered failed calls. Call Failure Rate applies to residential and small business customers.

b. Measurement. Number of calls attempted by end users minus the number of calls successfully initiated by the network divided by the total number of calls attempted by end users.

c. Minimum Standard Reporting Level. Fewer than 1% failed calls averaged monthly.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.5 Call Drop Rate – Applies to TDM-based voice services, Interconnected VoIP services, and wireless services offered by facilities-based Carriers with 5,000 or more customers and to any Facilities-based Carrier with fewer than 5,000 customers that is a COLR.

a. Description. Call Drop Rate is a measure of the amount of prematurely terminated calls on a telephone network. A call is dropped when it is ended by the network, not either user. Call Drop Rate applies to residential and small business customers.

b. Measurement. Number of calls ended prematurely divided by total numbers of calls placed over the network.

c. Minimum Standard Reporting Level. Less than 1% dropped calls averaged monthly.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.6 Call Setup Time – Applies to TDM-based voice services, Interconnected VoIP services, and wireless services offered by facilities-based Carriers with 5,000 or more customers and to any Facilities-based Carrier with fewer than 5,000 customers that is a COLR.

a. Description. Call Setup Time is the amount of time it takes a network to connect the calling device to the called device and produce a ringing tone.

b. Measurement. The time in seconds from an end user initiating a call to the called device producing a ring back tone to the originating device compiled monthly.

c. Minimum Standard Reporting Level. Mean Call Setup times of less than ten seconds.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.7 Delivered Network Speeds – Applies to Broadband Access Services and Wholesale Broadband Access Services offered by GRC ILECs, and to any facilities-based Carriers with 5,000 or more customers.

a. Description. Delivered Network Speeds refers to network speeds delivered to a customer's premises as a percentage of the average network speeds at a customer premises during peak hours divided by speeds a customer is subscribed to. Delivered Network Speed applies to Community Anchor Institutions, residential, and small business customers.

b. Measurement. Mean Delivered Network Speeds during Peak Hours divided by Subscribed speeds at a customer premises.

c. Minimum Standard Reporting Level. 80 % Mean Delivered Network Speeds during Peak Hours of 7 pm to 11 pm averaged monthly.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.8 Repeat Trouble Reports – Applies to TDM-based voice services and Interconnected VoIP services, offered by GRC ILECs, facilities-based Carriers with 5,000 or more customers and to any Facilities-based Carrier with fewer than 5,000 customers that is a COLR.

a. Description. Repeat Trouble Reports are service affecting and out of service trouble reports submitted by the same customer or user relating to dissatisfaction with communication service provider's services within 30 days after a previous trouble report was cleared.

b. Measurement. Repeat Trouble Reports received by the carrier are counted monthly and related to the total working lines within a reporting unit.

c. Minimum Standard Reporting Level. Report number of repeat trouble reports per 100 working lines. Three repeat trouble reports per working lines for reporting units with 3,000 or more working lines, four repeat trouble reports per working lines for reporting units between 1,001 and 2,999 working lines, and five repeat trouble reports for reporting units with 1,000 or fewer working lines.

d. Reporting Unit. Service area, switching center, or central office, whichever is smaller. A switching center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit or node with fewer than 100 lines should also be added to its host switch. Carriers that do not have service areas, switching centers, or central offices shall report at the smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

ATTACHMENT B

Proposed Revisions to General Order 133

1. General

1.3 Definitions.

t. TDM – Time division multiplexing. For the purposes of the GO, TDM refers to traditional telephone service and traditional telephone service emulated on packet switched networks.

3. Minimum Telephone Service Measures

3.1 Customer Trouble Reports – Applies to TDM-based voice services and Interconnected VoIP services offered by GRC ILECs, facilities-based Carriers with 5,000 or more customers and to any facilities-based Carrier with fewer than 5,000 customers that is a COLR.

3.2 Out of Service Repair Intervals – Applies to TDM-based voice services and Interconnected VoIP services offered by GRC ILECs, facilities-based Carriers with 5,000 or more customers and to any Facilities-based Carrier with fewer than 5,000 customers that is a COLR.

3.3 Answer Time – Applies to TDM-based voice services, Interconnected VoIP services, and wireless services offered by GRC ILECS, facilities-based Carriers with 5,000 or more customers and to any Facilities-based Carrier with fewer than 5,000 customers that is a COLR.

Verification under Rule 1.11

I am an authorized employee of the Public Advocates Office, which submits the attached petition, and am authorized to make this verification on its behalf. The statements in the foregoing document are true of my own knowledge, except as to matters which are therein stated on information or belief, and as to those matters. I believe them to be true. I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 29, 2021 at Albany, California.

Chris Ungson

Chris Ungson,
Deputy Director
Public Advocates Office