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Order Instituting Rulemaking
Proceeding to Consider Service Quality
Rules for Wireless Carriers.

Rulemaking 26-02-017

**THE PUBLIC ADVOCATES OFFICE OPENING COMMENTS
ON THE ORDER INSTITUTING RULEMAKING**

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I. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

Pursuant to Rule 6.2 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure, the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these comments on the Order Instituting Rulemaking (OIR) to Consider Service Quality Rules for Wireless Carriers.¹

The OIR seeks responses to two questions: (1) What service quality metrics should be extended from General Order (GO) 133-E to wireless service providers? and (2) What new standards, metrics, or reports should be added for wireless service providers?²

The Customer Service Standards from GO 133-E should be extended to the wireless service providers. In this proceeding, the Commission should also adopt standards such as call failure rate, call drop rate, call set up time, mean opinion score,³ the Wireless Community Outage standard, and an automatic customer credit fine mechanism.

Additionally, the Commission should incorporate, by reference, the standards that were established in previous and ongoing resiliency proceedings Rulemaking (R.) 18-03-011⁴ and R.25-07-014.⁵ The network reliability requirements in those resiliency proceedings are also vital to wireless network service quality. The Commission should also revisit the issue of wireless service maps. The maps enable

¹ *Order Instituting Rulemaking Proceeding to Consider Service Quality Rules for Wireless Carriers*, Rulemaking (R.) 26-02-017, February 26, 2026 (OIR).

² OIR at 11. "1. Are there any existing service quality metrics that should be extended to wireless voice services? 2. Should the Commission modify any of the existing service quality metrics and standards or develop new service quality standards and reporting requirements applicable to wireless voice services? Are there reporting requirements or metrics that the Commission should not mandate?"

³ Mean Opinion Score is derived from several factors measuring performance of the digital network during call operation.

⁴ R.18-03-011, *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, March 22, 2018.

⁵ R.25-07-014, *Order Instituting Rulemaking to Update Communications Emergency Preparedness and Network Resiliency Program*, July 24, 2025.

California customers to learn where wireless service is available. The Commission should require wireless carriers to share their service availability data (existing information essential for the operation of their business) with the Commission and the public.

Finally, the Commission should consider broadening the term “facilities-based wireless carrier,” because an alternative to the traditional facilities-based wireless carrier has emerged in the wireless market. Facilities-based wireline service providers currently use their existing infrastructure to transmit voice calls, while also signing agreements with facilities-based wireless carriers to license the use of wireless networks and resell that service to customers creating a hybrid service offering. This service exists in a regulatory gap that must be addressed to ensure that service quality rules apply across all voice transmissions.

II. DISCUSSION

A. Existing service quality metrics that the Commission should extend to wireless voice services.

The Commission should extend GO 133-E’s Customer Service Standard to wireless customers. Doing so would create a uniform expectation for all providers of voice services and ensure California consumers are able to receive necessary support from wireless voice service providers.

B. Standards and metrics the Commission should add for wireless voice services.

1. For wireless carriers, the Commission should apply the same service quality metrics recommended by Cal Advocates in R.22-03-016.

The Commission should apply the same service quality metrics to wireless carriers as the metrics that Cal Advocates recommended in R.22-03-016 *Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133*. In R.22-03-016, the Commission updated GO 133’s rules and requirements to set minimum service quality standards and enforcement mechanisms for telecommunication services;

these updates established GO 133-E's rules for Plain Old Telephone Systems (POTS) voice service and Voice over Internet Protocol (VoIP) networks.⁶

The service quality metrics for wireless networks that should be included in the wireless service quality rules are:

- Mean Opinion Score;
- Packet reorder;
- Call failure rate;
- Call drop rate;
- Call set up time;
- Cell site outage (Wireless Community Isolation Outage);⁷
- Repeat trouble reports; and
- An automatic customer credit fine mechanism for disruptions in wireless service⁸

Appendices A through F include descriptions of the recommended service quality metrics for wireless carriers.⁹

⁶ OIR at 1.

⁷ The cell site outage metric is equivalent to wireless community isolation outages described in R.22-03-016, Proposed Decision of Commissioner Houck, *Decision Adopting General Order 133-E (PD)*, April 11, 2025.

⁸ The Commission should establish automatic customer credits of \$5 per day for disruptions in wireless service, except in disadvantaged communities, where the automatic customer credits for disruptions in wireless service should be \$10 per day. It should be noted that in R.22-03-016, the Staff Proposal released on June 27, 2024, included an automatic customer credit for disruptions in wireless services.

⁹ See generally R.22-03-016, *Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133*; R.22-03-016, *Opening Comments of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133*, May 9, 2022; R.22-03-016, *Reply Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Requesting Comments on Network Examination and Armis Reporting*, January 20, 2023 (public version); R.22-03-016, *Opening Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Requesting Comments on Information Presented in the Staff Report*, May 18, 2023; R.22-03-016, *Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Issuing Staff Proposal*, September 3, 2024; R.22-03-016, *Opening Comments of the Public Advocates Office on the Proposed Decision Adopting General Order 133-E* (public version), May 12, 2025; R.22-03-016, *Reply Comments of the Public Advocates Office on the Proposed Decision Adopting General Order 133-E*, May 27, 2025.

2. The Commission should incorporate resiliency requirements in the wireless service quality rules to harmonize public safety goals and outcomes.

Wireless service quality rules should be compatible with outcomes in the Commission's resiliency proceedings, R.18-03-011¹⁰ and R.25-07-014.¹¹ The first resiliency proceeding, R.18-03-011, assessed network resiliency during disasters and established Decision (D.) 20-07-011, *Decision Adopting Wireless Provider Resiliency Strategies*¹² which established comprehensive resiliency plans to support customers' access to service during disasters and emergencies. The requirements include 72-hours of backup power in Tier 2 and Tier 3 High Fire-Threat Districts (HFTD), access to 911 by emergency responders and customers, and the submittal of an annual resiliency plan by wireless providers.¹³ The new resiliency proceeding, R.25-07-014, was created to assess modifications to current resiliency rules for communication-service providers.¹⁴ Current recommendations in the proceeding include adopting enforcement mechanisms, improving access to resiliency data, and expanding resiliency requirements.¹⁵

The service quality rules should incorporate the requirements established in R.18-03-011 and R.25-07-014 because the resiliency of networks in emergencies complements the service quality rules. There is no service quality if the network fails, especially in emergencies. The service quality rules and the public safety rules should operate together to support network quality and resiliency. The service quality rules

¹⁰ R.18-03-011, *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, March 22, 2018.

¹¹ R.25-07-014, *Order Instituting Rulemaking to Update Communications Emergency Preparedness and Network Resiliency Program*, July 24, 2025.

¹² Decision (D.) 20-07-011, *Decision Adopting Wireless Provider Resiliency Strategies*, July 20, 2020.

¹³ D.20-07-011 at 143-145.

¹⁴ R.25-07-014, *Order Instituting Rulemaking to Update Communications Emergency Preparedness and Network Resiliency Program*, at 1.

¹⁵ R.25-07-014, *Opening Comments of the Public Advocates Office on the Order Instituting Rulemaking to Update Communications Emergency Preparedness and Network Resiliency Program*, September 30, 2025.

should therefore include a reference to the requirements that are currently in R.18-03-011 and all subsequent rules adopted in R.25-07-014. To maximize achievement of public safety in both proceedings, the resiliency programs proceeding should be concluded before the wireless service quality proceeding.

3. The Commission must develop new reporting standards for wireless-coverage maps that address consumers' service quality needs.

The Commission must establish new coverage-mapping requirements for wireless voice services. In D.25-09-031, the Commission excluded wireless-mapping requirements from GO 133-E to avoid collecting “inaccurate mapping data,” relying on carrier claims of “technological limitations.”¹⁶ However, there is sufficient evidence that carriers have the technical capability to produce high-granularity maps today.¹⁷ The Commission should not delay these requirements in anticipation of voluntary industry improvements. Instead, the Commission should adopt standardized reporting requirements that both address the service quality needs of Californians and reflect the true technical capabilities of wireless carriers.¹⁸

Previous filings have established that current coverage maps provided to the Federal Communications Commission (FCC) are inaccurate and therefore unreliable for determining wireless service quality.¹⁹ These coverage maps, along with consumer marketing maps, do not accurately reflect a customer's experience with either data or voice services. These deficiencies however are not due to “technical limitations” but a

¹⁶ D.25-09-031, *Decision Adopting General Order 133-E*, September 26, 2025, at 163-164.

¹⁷ See Appendix G at 13-25; Arcep (France) Decision No. 2024-1220, March 2020, as cited in “Mobile Coverage Maps: Publication of the first mobile coverage maps with the required 98% reliability,” December 8, 2020; Ofcom (UK), “Map Your Mobile coverage checker: methodology,” August 2025. Ofcom (UK), “Connected Nations 2025: Methodology Annex,” November 2025, at 11.

¹⁸ For the purposes of these comments, service quality is defined as the intersection of reliability, safety, and transparency, requiring a wireless network to provide dependable voice communications, including access to emergency 911 services from both indoor and outdoor locations.

¹⁹ D.25-09-031 at 163-164.

result of both carriers' reluctance to disclose their existing network capabilities and a significant gap in regulators' data reporting requirements.

Current maps on carrier websites use 4G and 5G technology availability as a false proxy for available voice and data service.²⁰ By showing technology types instead of actual performance metrics such as signal strength, these maps show only the category of network availability in an area—not whether the network is reliable enough to transmit voice calls.²¹ Even if availability of technology type was a reliable measure of data transmission, it is still problematic because 4G and 5G availability, the metric of the FCC National Broadband Map, is not a reliable proxy for wireless voice services.²² The ability to transmit data via a mobile device does not always equate to the ability to make a phone call. In addition, these maps are not granular enough to accurately predict available coverage in a given area, much less a specific address. Most importantly, these maps do not distinguish between indoor and outdoor coverage, as carriers are only required to report outdoor availability.²³ This requirement provides little practical utility to consumers, who require reliable information to make critical safety-related choices and service quality choices regarding service at their primary residence.

While carriers allege that insurmountable technical barriers bar the generating of maps that address the service quality needs of consumers, the evidence confirms that AT&T and other providers already possess the sophisticated modeling capabilities required to produce accurate, high-granularity maps. As demonstrated in Appendix G, carriers currently use topographically accurate engineering data to determine tower locations and validate signal strength. Furthermore, international carriers also

²⁰ See Appendix G at 13-25.

²¹ Signal strength is defined as the decibel-milliwatt (dBm) power level of the wireless signal at the consumer device, represented as Reference Signal Received Power (RSRP).

²² See Appendix G at 13-25.

²³ See Appendix G at 13-25.

consistently utilize and provide this high-resolution data to regulators, such as the United Kingdom’s Office of Communications (Ofcom) and France’s Arcep.²⁴

Given these capabilities, the Commission must require the submission of carrier’s raw engineering data to provide a granular determination of real-world voice coverage. As discussed below, that information would allow the creation of maps that enable consumers to make informed decisions regarding the service quality of their wireless voice services.

4. Similar to international regulators, the Commission should adopt a wireless mapping standard and require carriers to provide accurate coverage maps.

To ensure accuracy and transparency, the Commission should require wireless carriers to submit their raw engineering data that includes but is not limited to (i) equipment specifications and parameters; (ii) operational frequencies; (iii) transmission power levels; and (iv) environmental factors.²⁵

In addition, coverage maps must all use Reference Signal Received Power (RSRP) as the primary metric for wireless voice service, rather than 4G or 5G marketing labels that are only applicable broadband service. Using RSRP provides an objective measurement of the true signal strength reaching a consumer’s device. Reporting should also be standardized using a 100-meter resolution raster grid.²⁶ Using a standardized grid-based system is a best practice employed by top international regulators, such as Ofcom, Arcep, BNetzA (Germany) and the Canadian Radio-television and

²⁴ Arcep (France) Decision No. 2024-1220, March 2020; Ofcom (UK), “Map Your Mobile coverage checker: methodology,” August 2025; Ofcom (UK), “Connected Nations 2025: Methodology Annex,” November 2025, at 11.

²⁵ *Public Advocates Office Opening Comments on the Administrative Law Judge’s Ruling Issuing Staff Proposal for Comment*, R.24-06-012, January 30, 2026, at 19 (“These teams develop propagation maps, modeling the strength of wireless signal coverage based on the equipment they plan to install, or have already installed, the frequency that equipment may emit, or is already emitting, the parameters of how that equipment will be installed (height, tilt, azimuth), the transmission power that will be allocated, and the environmental conditions that may impact service.”).

²⁶ 100m x 100m pixels.

Telecommunications Commission (CRTC); Using a standard grid system allows data from all carriers to be directly compared and verified.²⁷ This high granularity would allow the Commission and the public to verify coverage at the address level, a requirement previously unobtainable only because of a lack of standardized formatting.

In D.25-09-031, the Commission cited CTIA’s claim that it is impossible to provide maps that “guarantee” service at an exact address “at all times” due to environmental variability, such as foliage and atmospheric conditions.²⁸ Although 100% reliability may be challenging, technical limitations should not serve as a loophole that exempts carriers from providing basic transparency. The Commission should adopt a 98% reliability threshold as a baseline to define coverage. Using such a threshold is a proven engineering best practice employed by Ofcom and Arcep given the existing compliance that occurs in these markets. Specifically, Ofcom defines coverage as a 98% probability of successfully initiating and maintaining a 90-second voice call.²⁹

The 98% reliability threshold is necessary to ensure that public-facing coverage maps accurately reflect service quality and protect public safety. The 98% reliability threshold exceeds the current FCC standard of 90% cell-edge probability for its broadband map, which was intended for data transmission rather than voice calling, a service that requires a higher level of consistency than data transmission.³⁰ A 98%

²⁷ Ofcom (UK), “Map Your Mobile coverage checker: methodology,” August 2025; Ofcom (UK), “Connected Nations 2025: Methodology Annex,” November 2025, at 11; BNetzA (Germany), “Bundesnetzagentur publishes new data on fixed and mobile coverage,” Press Release, December 5, 2024, available at https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/EN/2024/20241205_Giga.html; CRTC (Canada), “Recommendations on a new reporting standard for mobile coverage,” April 2025, available at <https://crtc.gc.ca/eng/publications/reports/farrpoint2025.htm>

²⁸ D.25-09-031 at 161-164.

²⁹ Ofcom (UK), “Connected Nations 2025: Methodology Annex,” November 2025, at 11; Arcep (France) Decision No. 2024-1220, March 2020, as cited in “Mobile Coverage Maps: Publication of the first mobile coverage maps with the required 98% reliability,” December 8, 2020; “Without Minutes To Spare: Call processing time should reflect nature of the crisis,” *The Journal of Emergency Dispatch*, Vol. 19, No. 5 (Sept/Oct 2007), at p. 13. (“In general, a 90 (to 100)-second time frame is a reasonable target for completing DELTA and ECHO [priority] cases[.]”).

³⁰ 47 C.F.R. § 1.7004(c)(3)(ii).

threshold would reflect dependable coverage and provide consumers with a realistic assessment of their ability to successfully call emergency services.

In addition to reflecting 98% dependability, maps must also clearly distinguish between indoor and outdoor coverage. Several international regulatory bodies mandate standardized signal deductions to reflect indoor and outdoor signal strength for wireless coverage maps. Instead of accepting basic outdoor projections, regulators require carriers to subtract a specific amount of signal strength to simulate how much signal is lost when passing through building walls.³¹ In the Carrier of Last Resort proceeding, Cal Advocates proposed a -6 dBm attenuation threshold to reflect the signal degradation users experience when moving from outdoor to indoor environments.³²

Wireless maps should include three standardized signal tiers that reflect both signal strength (RSRP) and indoor/outdoor availability as outlined:

- a. Tier 1 (High Reliability) Represents the ability to initiate and maintain a successful voice call both indoors and outdoors.
- b. Tier 2 (Outdoor/Basic Reliability) Represents the ability to make a call primarily in outdoor environments or near windows.
- c. Tier 3 (Variable/Non-Reliable) Identifies areas where a signal may be present but fails to meet the 98% reliability threshold. These areas should be clearly marked as unreliable for emergency communications.

Lastly, carriers should map networks against a single standard reference device. Parties like the carriers or CTIA argue that carriers can neither map for “hundreds of

³¹ Arcep (France) Decision No. 2024-1220, March 2020, as cited in “Mobile Coverage Maps: Publication of the first mobile coverage maps with the required 98% reliability,” December 8, 2020; Ofcom (UK), “Map Your Mobile coverage checker: methodology,” August 2025 at 5; Ofcom (UK), “Connected Nations 2025 Methodology Annex,” November 2025 at 12; International regulators deduct anywhere between -10 dBm and -20 dBm to distinguish between indoor and outdoor availability.

³² *Public Advocates Office Opening Comments on the Administrative Law Judge’s Ruling Issuing Staff Proposal for Comment*, R.24-06-012, January 30, 2026, at 21. This recommendation was based on residential signal penetration while international standards do not distinguish.

different handsets/devices”³³ nor account for “poorly-designed phone case[s].”³⁴ The Commission should reject these claims and require that carriers map their networks against one standard reference device with a baseline antenna sensitivity and power profile. This method allows maps to reflect a consistent baseline no matter what specific device the customer owns.

5. The Commission should use CalSPEED as an objective verification and enforcement tool for wireless coverage-mapping requirements.

The Commission should require carriers to support public map verification through CalSPEED for enforcement.³⁵ The Commission should require carriers to provide clear instructions on how customers can verify their wireless coverage, including guidance on accessing CalSPEED and performing network speed test. Though RSRP based maps would show signal strength, CalSPEED can provide the performance data—including throughput, latency, and packet loss—necessary to verify a signal’s actual usability for the end-user.³⁶ CalSPEED is an appropriate platform to check network performance because the test results are already transmitted to the Communications Division of the Commission. The test results would give the Communications Division the necessary information to monitor compliance. If CalSPEED data reflects a consistent failure to meet the 98% reliability standard within a specific area, the carrier should be required to update its public-facing map to reflect the lower service level in that area.

³³ Opening Comments of AT&T on Phase One Staff Proposal, R.22-03-016, September 3, 2024, at 39.

³⁴ CTIA Opening Comments, R.22-03-016, September 3, 2024, at 52-53.

³⁵ CalSPEED is a CPUC program that uses the open-source Surveyor app to collect real-world TCP/IP performance data across California, capturing over 300 metrics to measures the reliability, quality, and availability of mobile wireless services. See Ken Biba, *Accurately Measuring Mobile Internet*, Novarum, Inc., August 2020, at 1-4.

³⁶ Ken Biba, *Accurately Measuring Mobile Internet*, at 1-4 (August 2020).

6. The Commission should expand the scope of the proceeding beyond traditionally defined facilities-based wireless carriers to include Hybrid Mobile Virtual Network Operators.

Wireless service is currently provided through several different models. Traditional, facilities-based carriers, such as AT&T, T-Mobile, and Verizon, are those that the Commission has explicitly ordered information from in this proceeding.³⁷ A facilities-based carrier is a “telephone corporation that owns or controls facilities used to provide communications services for compensation”³⁸ A wireless carrier, or Commercial Mobile Radio Service provider “is a carrier or licensee whose wireless network is connected to the PSTN [public switched telephone network].”³⁹

In combination, these definitions mean that a company can be a wireless carrier without necessarily being a facilities-based carrier, because that company can lease the use of the network from a facilities-based carrier and that network can connect to the PSTN. This type of wireless carrier is called a Mobile Virtual Network Operator (MVNO). In the United States, there are more MVNOs operating than facilities-based carriers.⁴⁰ Additionally, there has been an emerging model that could be described as a Hybrid-MVNO.⁴¹

Hybrid-MVNOs are cable television and broadband companies, such as Comcast and Charter Communications (Charter), that have MVNO lease agreements with facilities-based wireless carriers⁴² but also own their wireline infrastructure. The

³⁷ *Order Instituting Rulemaking Proceeding to Consider Service Quality Rules for Wireless Carriers*. R.26-02-017, February 26, 2026, at 12.

³⁸ General Order (GO) 133-E, 1.3.k

³⁹ GO 133-E, 1.3.y.

⁴⁰ U.S. MVNO Comparison Table (2026), U.S. MVNO Comparison Table (2026) - Find My Phone Plan, available at <https://findmyphoneplan.com/mvno-comparison-table/>, while there are four facilities-based carriers.

⁴¹ See Appendix H.

⁴² Charter Communications Inc. (CHTR) Q4 2025 Earnings Call Transcript, January 30, 2026, available

(continued on next page)

ownership of wireline networks and the Wi-Fi hot spots connected to that network to create a low-powered cellular network using the unlicensed spectrum where Wi-Fi is present distinguishes Hybrid-MVNOs from simple MVNOs. During Charter's fourth quarter earnings call, company president Christopher Winfrey stated, "Nearly 90% of Spectrum Mobile⁴³ traffic goes over [Charter's] network already"⁴⁴ via the Wi-Fi access points that Charter leases to wireline customers.⁴⁵ Winfrey went on, "So we are a facilities-based provider of mobile services with 5G macro cell towers as backup."⁴⁶

When a Hybrid-MVNO uses its facilities-based wireline network to transport voice calls, the voice traffic no longer relies on its MVNO agreement or on the wireless carrier's facilities to manage the voice calling traffic. Instead, the Hybrid-MVNO is using its own network facilities to transport that traffic and connect to the PSTN. It is only when the mobile device is no longer in range of the available Wi-Fi network, be it the Wi-Fi access point that customers have in their own homes, or any Wi-Fi access point that provides the public access to the network,⁴⁷ that the call would then transfer to using the facilities-based wireless carrier network the MVNO has leased access to use.

at <https://seekingalpha.com/article/4864431-charter-communications-inc-chtr-q4-2025-earnings-call-transcript>. "In mobile, we have a structural and strategic mobile reselling agreement with Verizon for current and future services, and we'll launch an additional MVNO for business with T-Mobile in the next 6 months." Comcast (CMCSA) Q4 2025 Earnings Call Transcript. January 29, 2026, available at <https://www.fool.com/earnings/call-transcripts/2026/01/29/comcast-cmcsa-q4-2025-earnings-call-transcript/> ("Strategic Initiatives -- Simplified national broadband pricing, aggressive free mobile line campaigns, network modernization with 60% of footprint on mid-split spectrum, and upgraded MVNO terms with Verizon and future T-Mobile partnership for business customers.").

⁴³ Spectrum Mobile is the name of Charter's mobile service offering.

⁴⁴ Charter Communications Inc. (CHTR) Q4 2025 Earnings Call Transcript, January 30, 2026, available at <https://seekingalpha.com/article/4864431-charter-communications-inc-chtr-q4-2025-earnings-call-transcript>.

⁴⁵ See Appendix H. When clarification was requested as to what percentage of this data was wireless voice traffic, Charter was unable to provide specifics.

⁴⁶ Charter Communications Inc. (CHTR) Q4 2025 Earnings Call Transcript, January 30, 2026, available at <https://seekingalpha.com/article/4864431-charter-communications-inc-chtr-q4-2025-earnings-call-transcript>. The 5G macro cell towers that Christopher Winfrey is referring to are the cell towers owned by Verizon and used by Charter's Spectrum mobile service under the MVNO agreement.

⁴⁷ For further explanation, see Appendix H.

- a) **The Commission should establish that voice transmissions falling into the Hybrid-MVNO category are subject to wireless service quality rules.**

VoIP means voice communications service that does all of the following: (1) 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; (2) requires a broadband connection from the user's location; (3) permits a user generally to receive a call that originates on the public switched telephone network and to terminate a call to the public switched telephone network.⁴⁸ Under GO 133-E, an Interconnected VoIP provider, "is a company which provides service using Internet Protocol (IP) or a successor protocol to: (i) enable real-time, two-way voice communications; (ii) requires a broadband connection from the user's location; (iii) requires internet protocol compatible customer premises equipment; and (iv) permits users generally to receive calls that originate on the public switched telephone network (PSTN) and to terminate a call to the PTSN."⁴⁹ For that VoIP service to be a Fixed Interconnected VoIP, it must be tied to a physical address associated with the subscriber's primary place of use or registered location.⁵⁰ Alternatively, a Nomadic-Only Interconnected VoIP service is voice service not tied to a physical address associated with the subscriber's primary place of use or registered location.⁵¹

This combination of rules leaves the Hybrid-MVNO service in a narrow gap that does not fit neatly under any of these classifications. These mobile calls over fixed wireline infrastructure use an IP protocol to enable real-time, two-way voice communication originating or terminating at the user's location, and they enable the user to receive a call that originates or terminates on the PSTN. Although a Hybrid-MVNO

⁴⁸ California Public Utilities Code § 239.

⁴⁹ GO 133-E 1.3.p

⁵⁰ GO 133-E 1.3.p

⁵¹ GO 133-E 1.3.p

requires a broadband connection at a fixed address,⁵² which makes it similar to a VoIP service, voice calls can also be made by establishing a connection away from a fixed address, similar to wireless. These Hybrid-MVNO services are simultaneously tied to a physical address, capable of accessing a wider network of publicly available access points, and able to use the leased wireless network which results in this service being a hybrid of wireline and wireless services. Just as Hybrid-MVNOs are similar but different to Fixed Interconnected VoIP service providers, they are similar but different to Nomadic-Only Interconnected VoIP service providers which do not require a facilities-based wireline broadband service to a specific physical address. The Commission should incorporate specific service quality requirements for Hybrid-MVNOs in this proceeding. The existing GO 133-E service quality rules for VoIP are binary in their approach to the installation and restoration of service, which would not suit the functionality of a Hybrid-MVNO. Additionally, because a Hybrid-MVNO service incorporates the use of a facilities-based wireless network, it is reasonable that wireless service quality requirements established in this proceeding should apply to protect California consumers when the voice calls are being transmitted over Hybrid-MVNO's facilities-based wireless networks.

b) The Hybrid-MVNO market is growing and evolving.

Hybrid-MVNOs are growing their customer base and expanding their offerings to consumers. Spectrum Mobile has 11,800,000 subscribers in the United States while Xfinity Mobile has 9,300,000.⁵³ Combined, these two companies are already available in over 12 million households in California—over 50% of the total market for broadband

⁵² See FCC WC Docket No. 25-233, Exhibit 1 (Public Interest Statement), Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations, at 72, July 14, 2025 (“Because Spectrum Mobile and Cox Mobile only sell to the companies’ respective fixed broadband subscribers in their distinct geographic footprints, there are essentially no competitive overlaps between their mobile wireless offerings.” (footnote omitted)).

⁵³ *MVNOs Mobile Virtual Network Operators – Complete List of Carriers and Available Subscriber Counts*. Available at <https://bestmvno.com/mvnos/> (last visited March 13, 2026).

customers in the state. If Charter and Cox’s proposed merger is approved by the Commission, that number will increase by about 1.3 million households, nearly 6% of the total market.⁵⁴

These companies recognize that the wireless market is an area of potential growth. Comcast currently offers free wireless plans for a fixed time period to their broadband customers.⁵⁵ Charter, as a way of growing market share, is advertising that subscribing to their broadband service and two mobile service lines will result in a \$1,000 annual savings over AT&T, Verizon, and T-Mobile, but if such savings are not realized by the customer then Charter will credit the difference to the customer.⁵⁶

Additionally, these Hybrid-MVNO companies are investing heavily in expanding their network reach by being among top bidders in recent Citizens Broadband Radio Service (CBRS) spectrum auctions, allowing them to deploy base stations that are compatible with their high-speed broadband networks.⁵⁷ These actions mean that Hybrid-MVNO companies are working to build out their network beyond the Wi-Fi hotspots that they lease to broadband customers as a way of moving traffic off of their

⁵⁴ See Ex. Cal Adv-05, Direct Testimony of Lee L. Selwyn (Public), Application (A.) 25-07-016, February 11, 2026, at p. 14 of 103 (showing a table entitled “California Broadband Service Provider Household Service Availability and Shares”).

⁵⁵ Comcast (CMCSA) Q4 2025 Earnings Call Transcript. January 29, 2026, available at <https://www.fool.com/earnings/call-transcripts/2026/01/29/comcast-cmcsa-q4-2025-earnings-call-transcript/> (“[W]e remain encouraged by what we are seeing, including . . . continued uptake of free wireless lines.”; “That includes rate reinvestment through simplified broadband pricing and offering free wireless lines”; “[W]e will have a large base of free wireless customers moving into paying relationships with us.”; “We also strengthened our wireless approach with new offers tailored to different customer segments, from premium unlimited plans for higher-value households to a twelve-month free line promotion designed to increase mobile awareness and attachment.”).

⁵⁶ Charter Communications Inc. (CHTR) Q4 2025 Earnings Call Transcript, January 30, 2026, available at <https://seekingalpha.com/article/4864431-charter-communications-inc-chtr-q4-2025-earnings-call-transcript> (“In addition to backing our customer service guarantee with credits, beginning in February, we’ll now guarantee you \$1,000 of savings per year when you take Internet and 2 lines of mobile from Spectrum. If we can’t save you \$1,000 or more when compared to the big 3 telco carriers, we’ll credit the difference on your bill during the first year.”).

⁵⁷ *Cable’s Mobile Plans Are Winning Customers Over*, August 20, 2024, available at <https://www.ncta.com/news/cables-mobile-plans-are-winning-customers-over> (“They were among the top bidders in the CBRS auction and deployed base stations compatible with their high-speed broadband networks.”).

MVNO contract and onto their own networks. In fact, Charter even announced that it would be launching a new Wi-Fi product that integrates 5G cellular directly into the customer premises equipment.⁵⁸

7. The Commission should require MVNOs to file reports on community service outages and restoration times.

In the original proposed decision to update GO 133 service quality rules, the Commission proposed service quality rules for wireless service.⁵⁹ In this proposed decision, the Commission would limit the reporting and enforcement standards to Tier 1 (nationwide) wireless providers, such as AT&T, T-Mobile, and Verizon.⁶⁰ The apparent focus was on these wireless carriers specifically because of the control that they have over the operation of the network as facilities-based wireless carriers.

Cal Advocates agrees with the Commission's focus of reports and penalties for the facilities-based wireless carriers. However, the Commission should not limit its attention to only these three wireless carriers. Not all California consumers receive wireless service directly from AT&T, Verizon, or T-Mobile. Many consumers receive service from an MVNO that is leasing the use of the networks owned and controlled by the facilities-based carriers. Based on data published by the Commission, none of the three Tier 1 service providers are reported as having any approved wireless Lifeline Subscribers for the entirety of 2025, yet over 1.7 million wireless subscribers were

⁵⁸ Charter Communications Inc. (CHTR) Q4 2025 Earnings Call Transcript, January 30, 2026, available at <https://seekingalpha.com/article/4864431-charter-communications-inc-chtr-q4-2025-earnings-call-transcript> (“In early 2026, Spectrum will launch its Invincible [WiFi] product, a tri-band advanced WiFi 7 router that integrates 5G cellular and battery backup to keep customers seamlessly and fully connected during service disruption or a power outage.”).

⁵⁹ *Proposed Decision of Commissioner Houck Adopting General Order 133-E*, R.22-03-016, April 11, 2025, at 2,89; *Proposed Decision of Commissioner Houck Adopting General Order 133-E*, R.22-03-016, April 11, 2025, Appendix A. In D.25-09-031, *Decision Adopting General Order 133-E*, September 18, 2025, the Commission had removed the proposed rules for Wireless Outage Reporting and Enforcement, deferring them to Phase 2.

⁶⁰ *Proposed Decision of Commissioner Houck Adopting General Order 133-E*, R.22-03-016, April 11, 2025, at 140-142.

enrolled in the program by the end of 2025.⁶¹ This fact means that even though the Tier 1 facilities-based carriers will be subject to reporting requirements from the Commission as to how they are managing their networks, network outages, and service restoration, the Commission will not have information regarding how the facilities-based carriers may differentiate the treatment of service provided to direct subscribers versus service provided to the MVNOs leasing the use of the network.

The Commission should require full transparency in the services offered and the maintenance of those services, particularly when those services are provided under a state subsidy program such as Lifeline. For example, if there is a community isolation outage on a network, can the Commission currently, or under the previously proposed reporting mechanisms, determine if the facilities-based carrier is prioritizing getting their own customers connected to the network before getting the MVNO customers reconnected?

An MVNO does not have separate equipment co-located at the facility that is managed by the Tier 1 provider. The MVNO is merely leasing the use of the Tier 1 provider's network and reselling that service to consumers. Where there is a community outage, when the Tier 1 provider works on restoring service, both its customers and the customers of any MVNO leasing the use of the network should receive restored service at the same time. However, there may be digital discrimination by recognizing the phone numbers or customer devices and which carrier serves that number or device.

It is likely that the MVNO will have a service level agreement with the facilities-based provider from which the MVNO leases the network use. The Commission should have a right to incorporate any service level agreements into the reporting requirements for the Tier 1 providers, or from the MVNOs themselves, as a baseline for establishing if the MVNO customers are receiving an inferior service based on the choices of the facilities-based carriers.

⁶¹ Appendix I.

The Commission should require reports from the MVNOs on community outages and the amount of time to restore service for customers. Comparing that information to the promises made in the service level agreements would allow the Commission to determine if discrimination is occurring. A customer that does not directly subscribe to a facilities-based carrier should not be penalized merely because a limited choice of Tier 1 service providers exists in the marketplace. All customers should have a reasonable expectation that their service should be restored in the same amount of time by the facilities-based carrier—no matter what company name is on their bill.

8. Workshops are necessary to craft thoughtful rules to address wireless maps, Hybrid-MVNOs, and MVNO reporting.

The Commission should include a minimum of three workshops in this proceeding so that it can seek answers from experts on how to best protect California consumers. The Commission can use one workshop to speak with international regulators regarding the methods they have used to successfully create transparent wireless coverage maps. A second workshop can be used to speak to Hybrid-MVNO carriers and industry experts to better understand the unique business model and how to ensure that consumers that subscribe to a Hybrid-MVNO service do not fall outside the protections of wireless service quality rules. The third workshop can be used specifically for facilities-based wireless carriers, MVNOs, and industry experts to discuss what information is available and how best to monitor service outages and the restoration of service timeframes so that California Lifeline subscribers are properly protected.

III. CONCLUSION

Treating the provision of wireless service as the exact same as POTS and VoIP is not a viable path forward to protect California consumers and ensure that proper wireless service quality rules are established. The technological variables inherent to wireless service quality require a level of flexibility and nimbleness to provide useful information to consumers and to enhance compliance. Cal Advocates' recommendations focus on providing clarity and a workable path towards compliance by industry.

California consumers deserve to be assured that their wireless service is actually serving them. Such assurance begins with transparency in wireless maps and signal coverage to ensure consumers know where to expect wireless service. The Commission should not wait for wireless companies to provide granular and transparent maps of their wireless service availability own maps before setting rules. The Commission should mandate that consumers receive better maps to make better informed decisions. Carriers already have the sophisticated engineering data and modeling tools necessary to produce accurate, street-level maps, but have thus far failed to be transparent with the Commission and the public.

The metrics Cal Advocates recommends (mean opinion score, call failure rate, call drop rate, call connect time) would address whether the wireless carrier networks are living up to the needs of California consumers.

Finally, addressing the potential harms associated with the expanding service provided by the Hybrid-MVNO market and requiring reporting for MVNOs will close the regulatory loopholes and protect California consumers—regardless of which company or business model is used to provide wireless service to the consumers.

Respectfully submitted,

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April 1, 2026

APPENDIX A

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

Opening Comments of the Public Advocates Office
on the Order Instituting Rulemaking Proceeding to
Consider Amendments to General Order 133

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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Order Instituting Rulemaking Proceeding
to Consider Amendments to General
Order 133.

Rulemaking 22-03-016

**OPENING COMMENTS OF THE PUBLIC ADVOCATES OFFICE
ON THE ORDER INSTITUTING RULEMAKING PROCEEDING
TO CONSIDER AMENDMENTS TO GENERAL ORDER 133**

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May 9, 2022

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I. INTRODUCTION

Pursuant to Rule 6.2 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure and Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133 (OIR), the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these opening comments in response to the questions in Section 3 of the OIR.

Broadband and voice services such as wireless and interconnected Voice over Internet Protocol (VoIP) are essential communications services necessary to participate in today's economy and society. Data shows that the public increasingly rely on broadband and wireless services as their main communications method to reach emergency services participate in the economy, learn of current events, and communicate with each other,¹ Applying for jobs, paying taxes, finding shelter, navigating transportation, communicating with health care providers, and obtaining critical information about health and safety emergencies are all now done using broadband and wireless services. It is a matter of public health and safety to establish minimum service quality standards for today's essential communications services to protect customers in times of emergency when they need these services the most.² Individuals who pay for these communications services expect that they work in moments of greatest need. By opening this Rulemaking, the Commission has acknowledged the importance of service quality for the safety of customers in California.

In addition to adopting new service quality standards for broadband, wireless, and interconnected VoIP service, the Commission should expand the existing General Order 133-D (GO 133-D) service quality metrics to broadband and interconnected VoIP

¹ Federal Communications Commission (FCC)'s reports on Internet Access Service found here: <https://www.fcc.gov/internet-access-services-reports> and Voice Telephone Service Reports found here: <https://www.fcc.gov/voice-telephone-services-report> (Reports Released March 9, 2022). California has almost 3 times the number of Broadband subscribers compared to circuit switched landline telephone subscribers.

² There are many recent examples of the need for entities to communicate to the public during emergencies including; wildfires, Public Safety Power Shutoffs, and active shooter notifications.

service, and expand the Customer Trouble Report standard and the Answer Time standard to wireless service.³ The Commission should also update the Customer Trouble Report standard to reduce the target number of Trouble Reports and the Answer Time standard and to increase the number of communications service providers subject to the standard by removing the 10,000 access line requirement. The Commission should update its enforcement mechanisms to hold communications service providers accountable for keeping people connected and providing reliable service. The Commission should adopt new network service quality metrics for wireless service measuring cell site outages and wireless voice quality.

Finally, the Commission should consider customer service quality metrics to wireline broadband service, service quality metrics for network technical quality, and explore appropriate benchmarks to measure wireless network technical quality by examining what metrics wireless service providers track to determine the performance of wireless networks. These updates and additions to GO 133-D will help California customers get the baseline level of service they expect, pay for, and deserve from communications service providers.

II. Discussion

A. The Commission Should Apply the Existing Service Quality Standards to Wireless and Interconnected VoIP Services as well as to Broadband Services.

The OIR asks if there are any existing service quality metrics that should be extended to wireless and interconnected VoIP services.⁴ The Commission should apply the existing service quality standards to wireless and interconnected VoIP services as outlined in Table 1 below. As the OIR notes, the *Examination of the Local Telecommunications Networks and Related Policies and Practices of AT&T California and Frontier California* (Network Exam) Phase 2 report recommends that GO 133-D

³ Interconnected VoIP service and Wireless Carriers are defined in GO 133-D. The Commission needs to add a new definition to GO 133-D that defines broadband service and broadband service providers.

⁴ OIR, p. 16.

apply to all wireline voice services regardless of the underlying technology.⁵ The Commission should go further and extend Answer Time and Customer Trouble Reporting customer service standards to wireless service providers. As explained in Figure 1 and 3 below, customers are largely dissatisfied with the service quality of communications service providers' call centers. Customers of all services deserve timely resolution of their issues and timely installation of their services. Table 1 summarizes existing GO 133-D standards that should apply to Plain Old Telephone Service (POTS), interconnected VoIP, and wireless service.

Table 1: GO 133-D Standards and Recommended Applicable Services

Standard	Recommended Applicable Services⁶
3.1 Installation Interval	POTS, Interconnected VoIP, and Broadband Services ⁷
3.2 Installation Commitment	POTS, Interconnected VoIP, and Broadband Services
3.3 Customer Trouble Reports	POTS, Interconnected VoIP, Wireless, and Broadband Services
3.4 Out of Service Repair Interval	POTS, Interconnected VoIP, and Broadband Services
3.5 Answer Time	POTS, Interconnected VoIP, Wireless, and Broadband Services

B. The Commission Should Modify the Customer Trouble Report and Answer Time Standards.

The OIR asks whether the Commission should modify any existing service quality standards.⁸ As discussed in more detail below, the Commission should reduce the rate of

⁵ OIR, p. 8.

⁶ As wireless service does not involve customer premise equipment, and customers can bring their own phones to a wireless service provider, the existing service quality metrics of Installation Interval, Installation Commitment, and Out of Service Repair interval need not apply to wireless service providers.

⁷ Extending these existing standards to broadband service should be addressed in Phase 2 of this proceeding.

⁸ OIR, Section 3.1 Question 2, pp. 16-17.

maximum allowable Customer Trouble Reports and expand the number of companies that are required to comply with the Answer Time standard.

1. The Customer Trouble Report Standard Should Be 3 Reports per 100 Lines and Be Measured for Each Wire Center.

The Customer Trouble Reports standard currently measures dissatisfaction from POTS customers relating to service affecting, and out of service, trouble reports.⁹ The GO 133-D Customer Trouble Report Standard varies based on wire center size. Wire centers with 3,000 or more working lines must meet a 6% standard, wire centers with between 1,000 and 3,000 working lines must meet an 8% standard, and those 1,000 or fewer working lines must meet a 10% standard.¹⁰ The standard for smaller wire centers is more lenient, and the result is that one in ten customers can have issues with their service before small wire centers are out of compliance with the Customer Trouble Report Standard. One in ten customers having an issue with service is too high an allowance. In addition to expanding the Customer Trouble Reports as outlined in Table 1, the Commission should also decrease the threshold for not meeting the Customer Trouble Report standard.

The Network Exam recommended in both the Phase I and Phase II reports that the Commission reduce the Customer Trouble Report standard rates because the 6%, 8%, and 10% trouble rates based on wire center size are too high.¹¹ The Phase 2 Network Exam further recommends that GO 133-D standards apply uniformly to each individual wire center.¹² The Commission should apply both of these recommendations by reducing the Customer Trouble Report standard by half to 3% and applying the percentage uniformly

⁹ General Order 133-D Section 3.3 (a).

¹⁰ General Order 133-D Section 3.3 (c).

¹¹ Phase 2 Network Examination, recommendation 5, p. 9.

¹² Phase 2 Network Examination, recommendation 7, p. 9.

to all wire centers or wire center equivalent (such as a headend)¹³ for Interconnected VoIP Providers regardless of the lines served by the wire center.¹⁴

Wireless service providers should report compliance with the standard on a statewide basis because wireless customers use multiple cell towers and can move between switching centers during the normal course of their day. The portable nature of wireless service means that a customer's call expressing dissatisfaction might relate to service from a mobile switching center or a cell tower that does not serve their billing address. This means the geographic information of a customer reporting trouble and the infrastructure which caused that trouble will not always link. As such, the Commission should measure Customer Trouble Reports for wireless service providers on a statewide basis and adopt additional standards, as outlined in table 2 below, to improve wireless service quality.

2. The Commission Should Revise the Answer Time Standard Reporting Threshold to Apply to More Communications Service Providers.

The Answer Time standard measures the average time for an operator or customer service representative to answer customer calls on billing and non-billing inquiries and for trouble reports within 60 seconds.¹⁵ The GO 133-D Answer Time standard does not apply to communications service providers with less than 10,000 lines.¹⁶ The Communication Division (CD)'s report on California Wireline Telephone Service Quality Pursuant to General Order 133-C and 133-D Calendar Years 2014 through 2016, published May 8, 2018 (2018 GO 133 Report), noted that the Answer Time data received for Uniform Regulatory Framework (URF) carriers and General Rate Case (GRC) Incumbent Local Exchange Carriers (ILECs) is incomplete because many carriers did not

¹³ Headends are the control centers in a cable television or cable broadband system where signals and connections are aggregated.

¹⁴ Extending the Customer Trouble Report standard to broadband service should be addressed in Phase 2 of this proceeding.

¹⁵ GO 133-D Section 3.5 (a).

¹⁶ GO 133-D Section 3.5 (d).

report for the entire time period.¹⁷ CD staff ‘s 2018 GO 133 Report recommended reducing the minimum 10,000 line reporting threshold because many communications service providers currently fall below that reporting threshold , so a reduced threshold would require more communications service providers to report their Answer Time data.¹⁸ The Commission should remove the 10,000 line threshold from the requirements of GO 133-D Section 3.5(d) and instead apply the standard to all GRC ILECs and facilities-based communications service providers with 5,000 or more customers statewide.¹⁹

C. The Commission Should Adopt New Metrics for Voice Services.

The OIR asks whether the Commission should develop new service quality standards applicable to wireless and interconnected VoIP services.²⁰ Because many of GO 133-D’s existing service quality standards were designed for wireline service, the Commission should adopt new service quality standards designed to measure and improve the technical quality of wireless networks. Customers are dissatisfied with the call reliability and call center performance of wireless providers.²¹ The American Customer Satisfaction Index (ACSI) is a national cross-industry measure of customer satisfaction, measuring satisfaction with the quality of products and services offered within the US. The ACSI analyzes the telecommunications industry, including Internet Service Providers (ISPs), landline providers, and wireless providers.

As shown in Figure 1, customers gave the wireless industry an average “C” grade based on 2020 and 2021 data. Figure 1 shows that among the various Customer

¹⁷ 2018 GO 133 Report, p. 3.

¹⁸ 2018 GO 133 Report, p. 30.

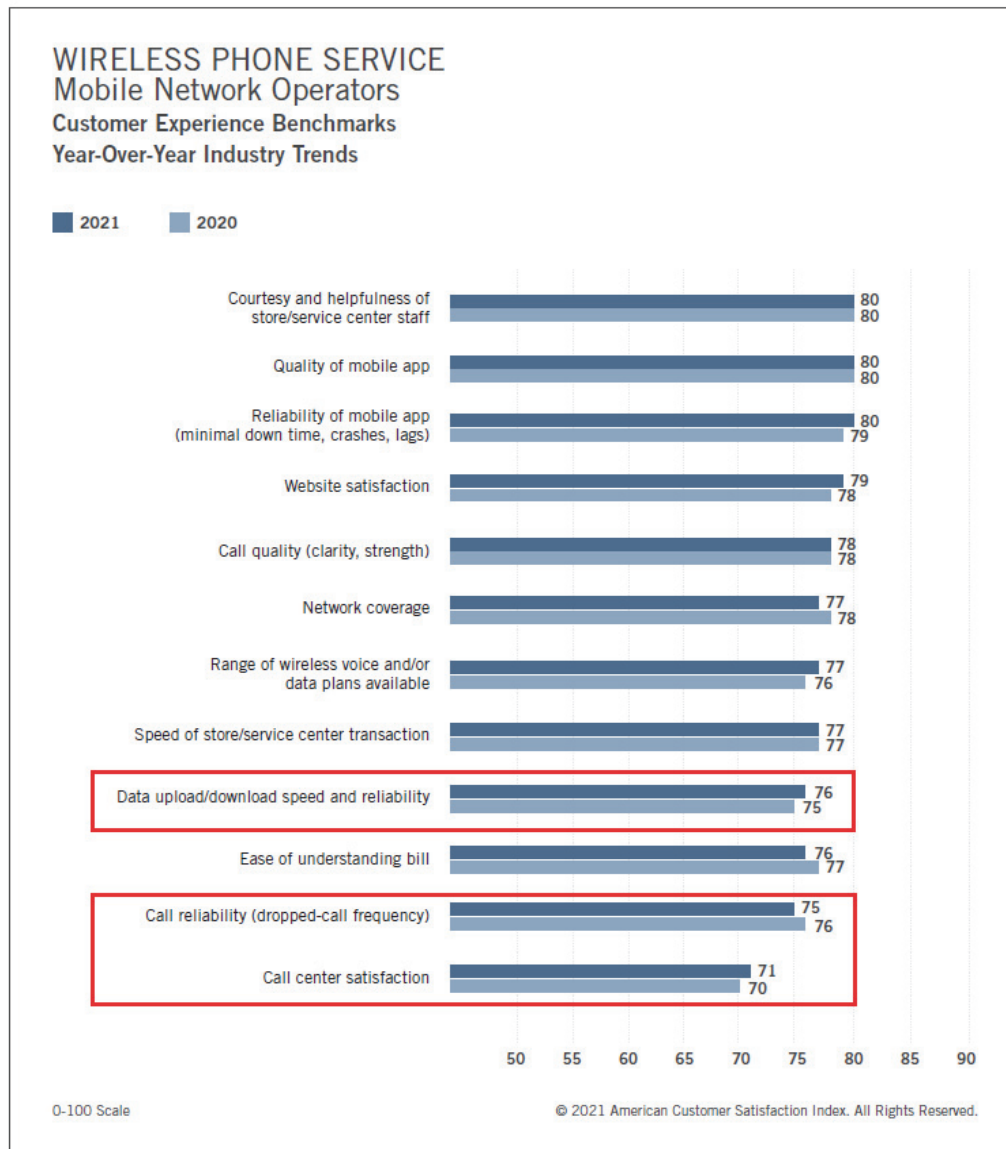
¹⁹ Extending the Answer Time standard to broadband service should be addressed in Phase 2 of this proceeding.

²⁰ OIR, pp. 16-17.

²¹ *Reply of the Public Advocates Office to Parties Responses on the Petition for Rulemaking to Amend General Order 133-D to Modernize Minimum Service Quality Standards*, filed November 15, 2021 in P 21-10-003, p. 14.

Experience Benchmarks (CEBs), customers are more dissatisfied with the quality and reliability of their service.

Figure 1: ACSI CEBs for Wireless Phone Service 2020-2021 (Red Outline Added)²²



Furthermore, wireless subscriptions continue to increase as POTS continues to decline. The Federal Communications Commission (FCC) reported that the number of

²² ACSI Wireless Phone Service and Cell Phone Study, [21jun_acsi-cell-wireless-STUDY.pdf \(theacsi.org\)](#).

wireless customers in California increased from 43.83 million in December 2018 to 44.45 million in December 2019 and that the number of POTS customers decreased from 4.75 million in December 2018 to 4.47 million in December 2019.²³ As the FCC’s data shows, the number of wireless subscriptions in California is significantly larger than the number of POTS subscriptions. The Commission should update the existing service quality standards to reflect this reality. The Commission should adopt the Call Failure Rate, Call Drop Rate, Call Setup Time, and Cell Site Outages metrics as summarized in Table 2 below, with additional detail in Attachment A to these comments.

Table 2: Summary of Wireless Network Technical Standards

Wireless Network Technical Standard	Definition
Call Failure Rate	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. Measured by Mobile Switching Center.
Call Drop Rate	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. Measured by Mobile Switching Center.
Call Setup Time	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. Measured by Mobile Switching Center.
Cell Site Outage	An outage that limits a communication’s service provider’s end user’s ability to make calls, receive emergency notifications, or access basic Internet functionality (as defined by Decision 20-07-011) that lasts for at least 30 minutes and affects at least 25% of a communication service providers’ coverage in a single zip code.

²³ FCC Voice Telephone Services Report, state-level subscriptions for California released March 9, 2022 Available at: <https://www.fcc.gov/voice-telephone-services-report> (Last accessed May 6, 2022).

The wireless network technical standards seek to measure the reliability of voice calls. Call Failure Rate and Call Drop Rate, or similar analogs, are used by industry groups²⁴ and service quality testers²⁵ to measure the reliability and quality of mobile phone calls.²⁶ These metrics will serve as a measure of the reliability of mobile voice networks.

Furthermore, because wireless service is delivered by cell towers to multiple customers, and customers do not have customer premises equipment, the Commission needs a metric other than GO 133-D's Out of Service Repair Interval to track small wireless outages. The California Office of Emergency Services (CalOES) regulation on community isolation outages is a good model for devising a metric to track small wireless outages. CalOES defines community isolation outages for mobile phone providers as an outage that lasts for 30 minutes and affects at least 50% of a providers' users in a single zip code.²⁷ On April 1, 2022, CalOES issued a Notice of Proposed Rulemaking to reduce the threshold for community isolations outages to 25%.²⁸ As such, the proposed Cell Site Outage metric, as defined in Table 2 above, matches this proposal.

The Commission adopted the Major Service Interruption framework, which required POTS, interconnected VoIP, and wireless communications service providers to submit a copy of FCC Network Outage Reporting System (NORS) information to the

²⁴ Qualcomm, a company that creates equipment and services related to wireless technology, notes that failed mobile calls often lead to customer complaints and that network operators can improve the mobile experience for customers by reducing failed calls. Last Accessed May 6, 2022 at <https://www.qualcomm.com/media/documents/files/white-paper-understanding-mobile-terminated-call-failures.pdf>

²⁵ Voxco, a software company with produces analytical tools and data collection platforms, notes Call Setup Success Rate (CSSR), the inverse of Call Failure Rate, as a key performance indicator which directly influences and measures customer satisfaction with service and evaluate the performance of networks. Last Accessed May 6, 2022 at: <https://www.voxco.com/call-setup-success-rate/>

²⁶ Rootmetrics Mobile Network Performance in the US: A Special Report (August 2016). Last accessed May 6, 2022 at <https://rootmetrics.com/en-US/content/mobile-network-performance-in-the-us-a-special-report>

²⁷ 19 California Code of Regulation (CCR) § 2480.2 (a)(3).

²⁸ California Governor's Office of Emergency Services Proposed Amendments to Community Isolation Outage Regulations Title 19, Division 2, Chapter 1.5, publish April 1, 2022.

Commission. The Commission can use a similar process here, requiring wireless service providers to send already prepared information regarding more localized cell tower outages to the Commission.

In addition to these network technical quality standards, the Commission should adopt a new customer service standard for wireless, interconnected VoIP, POTS, and broadband service measuring Repeat Trouble Reports.²⁹ This standard would measure whether customers' issues were adequately addressed by the provider with long-term solutions rather than quick fixes that lead to repeated issues.

Customer Quality Standards	Definition
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 for the same issue. Fewer repeat trouble reports would be one indicator of higher quality service. This standard would be measured by wire center, mobile switching center, headend, or other wire center equivalent.

D. The Commission Should Update General Order 133-D's Enforcement Framework and Penalty Mechanism.

The OIR asks if GO 133-D's enforcement framework and penalty mechanism serve the public interest and, if not, how the framework should be modified to do so.³⁰ The current enforcement framework³¹ includes fine calculations and alternative proposals for mandatory corrective action (alternative proposal)³² that are not functioning as an effective deterrent against future violations, thereby harming the public rather than serving the public interest. The Commission should revise the fine tabulations to increase the fines and adjust them to scale and should eliminate the alternative proposal.

²⁹ While broadband is addressed in Phase 2, we encourage network technical quality standards be included as an issue to be considered.

³⁰ OIR, p. 17.

³¹ GO 133-D Section 9.

³² GO 133-D Section 9.7.

Furthermore, the Commission should implement customer credits to compensate customers for substandard service quality. These modifications would allow the enforcement of GO 133-D to be automatic and would serve as a consistent deterrent against violations.

1. The Current Enforcement Framework Does Not Serve the Public Interest.

The current penalty mechanism has proven to be an ineffective deterrent to violations. Utilizing the Commission's Enforcement Policy and Penalty Assessment Methodology,³³ GO 133-D's enforcement framework does not further public interest because the penalties have not deterred unlawful conduct for years. The communications service providers have submitted reports that demonstrate consistent acts of noncompliance that negatively impact the public.

GO 133-D introduced an enforcement framework, consisting of fines for three out of the five standards: Out of Service (OOS) repair interval reports, Customer Trouble Reports, and answer time reports. Communications service providers that fail to meet the service quality minimum standard enter chronic failure status in the third month and are fined annually for each month³⁴ that they fail to meet the standard. Fines are assessed based on the size of the communications service provider relative to the number of access lines in California. The communications service provider submits the fine calculation to the Commission annually via Tier 2 advice letter, with a declaration of intent to pay or an alternative proposal to invest double the fine amount back into its network. Since implementation of GO 133-D, communications service providers have generally met the Customer Trouble Report and answer time report standards, despite occasional lapses in compliance.³⁵

³³Resolution M-4846, Attachment 1, Appendix I, p. 19. *Commission Enforcement Policy and Penalty Assessment Methodology*. Last Accessed May 6, 2022 at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M348/K036/348036813.pdf>.

³⁴ GO 133-D Section 9.1.

³⁵ AT&T missed the standard three times in a twelve-month period in 2019. Resolution T-17721

However, widespread noncompliance with the out-of-service interval standard existed well before the Commission implemented GO 133-D. The Network Exam Phase 1 Report revealed that AT&T's service outage performance deteriorated over the 2010-2017 period, when the GO 133-C and eventually GO 133-D standards were in effect.³⁶ Verizon California/Frontier California has failed to meet the minimum standard reporting levels since 2012.³⁷ The Network Exam Phase 1 Report found that communities with the lowest household incomes tend to exhibit the highest trouble report rates, the longest out of service durations, and the lowest percentage of outages cleared in 24 hours.³⁸ This poor service quality directly harms customers. Therefore, the Commission must consider an overhaul of the enforcement framework to better serve the public interest. In particular the alternative proposal in lieu of fines has proven to be ineffective in holding communications service providers accountable.

2. The Commission Should Modify GO 133-D's Fines to Scale to the Maximum Penalty.

As recommended by the Network Exam Report, the Commission should increase the penalties for noncompliance.³⁹ The current table limits the fine amount to \$25,000 per day of violation, which results in a \$750,000 maximum fine amount per month. The Commission has authority to impose larger penalties. Pursuant to Public Utilities Code (PU Code) Section 2107, the Commission may impose a fine of "not less than five hundred dollars (\$500), nor more than one hundred thousand dollars (\$100,000), for each offense. In cases of a continued violation, each day's continuance thereof shall be a

Approving AT&T California (U-1001-C) Advice Letter 48205A, setting forth General Order 133-D fines for failing to meet service quality performance standards in Year 2019, p.8.

³⁶ Network Exam Report, p. 522. Available as of May 6, 2022 at <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/service-quality-and-etc/network-exam-of-att-and-frontier-verizon>

³⁷ Performance in Out of Service Repair Interval Measure from 2012 – 2018 AT&T and Frontier. Available as of May 6, 2022 at https://files.cpuc.ca.gov/Telco/ServiceQualityReports/2019/GR1_AT&T%20and%20Frontier_%202012-2018%20OOS.pdf.

³⁸ Network Exam Report, p. 527

³⁹ Network Exam Report, p. 524

separate and distinct offense.⁴⁰ Limiting the penalty amount in GO 133-D has proven to be ineffective in steering the communications service providers to correct the deficiencies in their networks.

The Commission should modify the fine calculation in GO 133-D so that fines are measured in accordance with the severity of the offense and issued timely to deter further violations. First, the fine should be the maximum amount allowable under the PU Code Section 2107. Second, the fine amount should scale over time in consideration of the increasing harms violations of GO 133-D has on customers and the Commission's regulatory process. Increasing and scaling the fine amounts would incentivize communications service providers to prioritize correcting the violations before the fine amount scales to the next tier. Lastly, the fine amount should be calculated at the tier of the longest continued violation, allowable under the PU Code Section 2108. For example, if a violation occurred continuously for four months, the provider shall be fined four months total at tier of \$100,000 per day, for the number of days that total four months. Each separate and distinct day contributes to poor service quality, and considering the totality of the offense, each day should be measured equally as the same fine amount tier up to the last day of violation occurred.

Table 3 below shows proposed tabulations for the OOS repair interval report fine, which is the service quality standard that some communications service providers have repeatedly failed to meet. These amounts should be a baseline and can be modified by staff in relation to the Commission's penalty assessment methodology under GO 133-D Section 7 regarding staff investigations, and in partnership with other enforcement tools such as customer credit refunds.

⁴⁰ Public Utilities Code Section 2108. Available as of May 6, 2022 at https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PUC§ionNum=2108.

Table 3: Proposed Modifications to Out of Service Repair Interval Level Fine

Duration Tier	1st Consecutive Month	2nd Consecutive Month	3rd+ Consecutive Months
Fine Per Day	\$25,000 per day	\$50,000 per day	\$100,000 per day
Days in a Month (for all months)	30 days	30 days	30 days
Base Fine per Month	\$750,000	\$1.5 Million	\$3 million

The fine structure outlined should apply to the different type of reports and to all communications services that will be considered under GO 133-D. The other two GO 133-D standards associated with a penalty table, Customer Trouble Reporting and answer time reporting, already have a table of scaling penalties. However, the Commission should enforce all three offenses with the same fine tabulation.

3. The Commission Should Remove the Alternative Proposal for Investment in Lieu of Fines from the GO 133-D Enforcement Framework.

Another characteristic of GO 133-D's enforcement framework is the alternative proposal for mandatory corrective action (alternative proposal). In lieu of fines, GO 133-D Section 9.7 allows chronically failing communications service providers⁴¹ to request to substitute a network investment instead of a fine, of twice the fine amount. The communications service provider must support the alternative proposal with financial documents that demonstrate that the investment project is designed to address a service quality deficiency and improve the service quality in a measurable way within two years.⁴² This option has undermined GO 133-D's penalty mechanism. For example, the

⁴¹ GO 133-D Section 9.1: "chronic failure status" is failure to meet the minimum standard for three consecutive months.

⁴² GO 133-D Section 9.7.

Commission fined AT&T \$3,222,000⁴³ for failure to meet out-of-service repair interval standards in 2019. AT&T proposed to invest \$6,444,000 in projects to improve infrastructure, particularly in existing copper facilities; however, Staff denied the proposal, citing concerns that the AT&T's proposal to spend \$11,800,000 over the past two years had improved the network.⁴⁴

This option has not been effective in promoting compliance with GO 133-D. The alternative proposal lacks metrics for success, a timeline for results, and sufficient oversight.⁴⁵ Communications service providers choosing this alternative have neither improved service quality nor met the service quality metrics going forward.⁴⁶ Some communications service providers have even failed to demonstrate that the alternative investment is incremental to their normal operating and capital costs. Overall, these investments have not moved the communications service providers out of chronic failure status. The AT&T case above shows that for some providers, network deterioration so severe that the investment amount calculated pursuant to the alternative proposal is insufficient to improve service quality. To significantly improve service quality will require an investment amount beyond the alternative proposal, or through other incentives, to incentivize providers to improve its network.

4. The Commission Should Require Customer Credit Refunds in the Enforcement Framework.

The Commission should require customer refunds as a corrective measure to incentivize compliance for communications service providers in chronic failure status, coupled with the fine amounts above. The Commission has used customer refunds as an enforcement tool as a way to “to return funds to the victim which were unlawfully

⁴³ Resolution T-17721, p. 12.

⁴⁴ Resolution T-17721, p. 4.

⁴⁵ Decision 18-10-058, p. 26. *Order Modifying Decision (D.)16-08-021 on Issue of Fines for CLECs and Denying Rehearing of Decision as Modified*. Available as of May 6, 2022 at <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M234/K300/234300754.PDF>

⁴⁶ P.21-10-003, p. 29.

collected by the public utility for unreasonable, excessive or discriminatory amount.”⁴⁷ Currently, GO 133-D mandates that URF carriers and GRC ILECs utilize their existing tariff or customer guidebook provisions for customer refunds.⁴⁸ However, it is crucial to implement an automatic refund mechanism within GO 133-D to standardize enforcement and reporting across communications service providers. Standardized enforcement would better protect all customers and begin to provide relief for customers of communications service providers in chronic failure status.

The Commission’s enforcement policy calls for meaningful deterrents that are adequate remedies.⁴⁹ The first method is “1. Refunding or depriving the economic benefit gained by the noncompliance.”⁵⁰ This enforcement mechanism should be used as a tool for progressive enforcement, in addition to fines. For example, after six months, if a communications service provider has not corrected its violation(s), the communications service provider will implement refunds. The refund policy would require communications service providers in chronic failure status to refund customers a percentage of their bill or a set dollar amount equal to the number of days that failed to meet service standards. Issuing refunds proportion to the harm would require the service providers to alleviate some of the harm that customers experienced due to the poor service offered by the service providers.

Lastly, that the Commission should recognize that enforcing service quality for wireless communications service providers will differ from enforcement of POTS communications service providers, because wireless customers are more mobile in nature and don’t have customer premises equipment. However, wireless customers also face harm from poor service quality, such as dropped calls, and should receive customer

⁴⁷ Public Utilities Code Section 734. Available at https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PUC§ionNum=734.

⁴⁸ GO 133-D, Section 8.

⁴⁹ Resolution M-4846, Attachment 1, p. 3. Available at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M348/K036/348036813.pdf>

⁵⁰ Resolution M-4846, Attachment 1, p. 3. Available as of May 6, 2022 at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M348/K036/348036813.pdf>

credits during periods of egregious service quality outages. Measuring harm to wireless customers due to poor service quality is complex because they are not served from a single wire center, so determining how to distribute customer credits would be more complicated. If the Commission develops service quality standards for wireless communications service providers, it should consider an enforcement mechanism similar to customer credits for wireless customers as well. To determine how to implement this mechanism, the Commission should hold a workshop to examine how wireless service providers identify their customers and if it is possible to identify customer accounts that have issues with call failure or dropped calls.

E. The Commission Should Consider Service Quality Metrics for Broadband and Wireless Data Services ⁵¹

The OIR asks if the Commission should adopt service quality metrics and standards for broadband service.⁵² Customers are not satisfied with broadband service quality.⁵³ ACSI data notes that ISPs are rated at 65, an average “D” grade.⁵⁴ Since 2013, ISPs have ranked last, or tied for last with television service, in customer satisfaction in each year except 2020 as shown by Figures 2 and 3 below. Since the ACSI has been gathering customer satisfaction data, ISPs have never improved, and in 2021, ISPs were rated nine points lower than wireless service providers and six points lower than landline phone service providers.⁵⁵

⁵¹ The Commission has assigned this as a Phase 2 issue.

⁵² OIR Section 3.2, p. 17.

⁵³ *Reply of the Public Advocates Office to Parties Responses on the Petition for Rulemaking to Amend General Order 133-D to Modernize Minimum Service Quality Standards* filed November 15, 2021 in P. 21-10-003, p. 11.

⁵⁴ ACSI Benchmarks ISPs.

https://www.theacsi.org/index.php?option=com_content&view=article&id=147&catid=&Itemid=212&i=Internet+Service+Providers.

⁵⁵ ACSI Benchmarks for all industries. [Benchmarks By Industry \(theacsi.org\)](https://www.theacsi.org/benchmarks-by-industry).

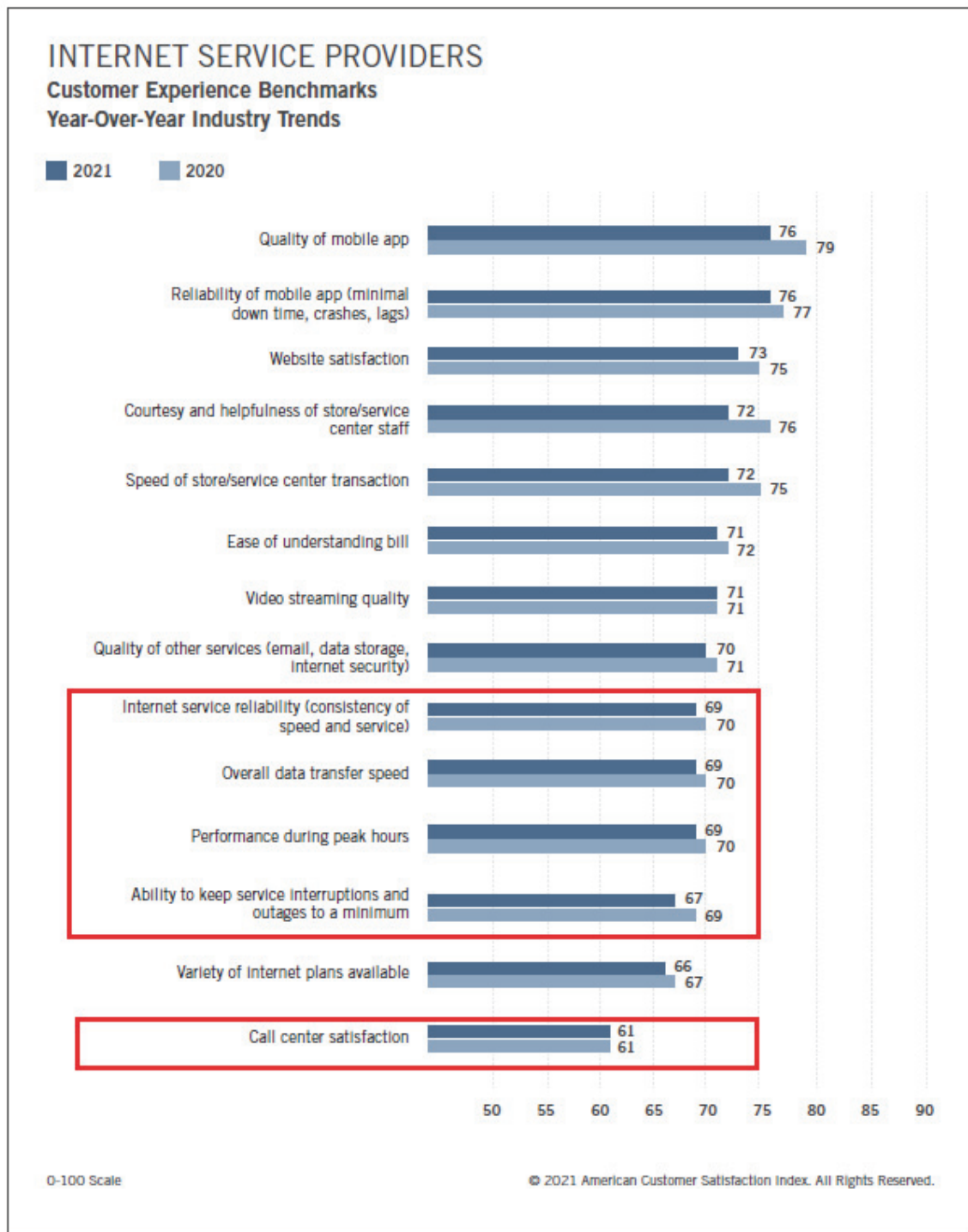
**Figure 2: Excerpt from ACSI Benchmarks by Industry 2007-2021
(Red Outline Added)**

Industry Name	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21
Cell Phones	70	71	72	76	75	74	76	78	78	79	79	79	79	80	79
Personal Computers	75	74	75	78	78	80	79	78	77	78	77	77	78	78	79
Wireless Phone Service	68	68	69	72	71	70	72	72	70	71	73	74	75	74	74
Investor-Owned Energy Utilities					74	76	77	75	74	72	75	75	73	72	72
<u>Municipal Energy Utilities</u>					73	76	76	76	73	68	72	75	73	72	71
Landline Phone Service	70	73	72	75	73	70	74	73	69	70	70	70	71	70	71
Subscription Television Service	62	64	63	66	66	66	68	65	63	65	64	62	62	64	65
Internet Service Providers							65	63	63	64	64	62	62	65	65

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As demonstrated by the ACSI data, ISPs are rated at the bottom of the ACSI's customer satisfaction rankings. Furthermore, as Figure 3 shows, ISP customers are most dissatisfied with call centers, outages, broadband speeds, reliability, and peak hour performance of their broadband service.

**Figure 3: ACSI Customer Experience Benchmarks for ISPs 2020-2021
(Red Outline Added)⁵⁶**



⁵⁶ ACSI Telecom Industry Study, [21jun_acsi-telecom-STUDY.pdf](https://theacsi.org/wp-content/uploads/2021/06/21jun_acsi-telecom-STUDY.pdf) (theacsi.org).

Furthermore, rural areas are heavily affected by service quality shortfalls. Communications Division's *Report of the Communications Division Pursuant to Ordering Paragraph 3 of Decision 16-12-025 Analyzing the California Telecommunications Market, December 2018* (CD Communications Report) found a significant difference between rural and urban areas. Some rural areas typically have slower broadband speeds available to residential customers, with 46% of rural households lacking access to broadband speeds of at least 25/3 Mbps.⁵⁷ For 58% of rural Americans access to high-speed Internet is a problem.⁵⁸ The *2017 CalSPEED: Mobile Broadband, An Assessment* report found a persistent mobile digital divide, with rural areas having roughly 33% poorer wireless broadband service than urban areas in terms of speeds, latency, jitter, and packet loss and that "[r]ural and tribal VoIP quality remains degraded".⁵⁹ Rural areas suffer from a lack of investment and poor maintenance, which leads to deteriorated service quality.⁶⁰

As such, the Commission should consider extending the existing wireline service quality standards to broadband service as specified in Attachment B to these comments, create new service quality standards to measure broadband network quality, and explore standards for measuring and standardizing wireless data network service quality as specified in Attachment A to these comments.⁶¹ These standards are necessary to help customers in rural areas receive good service quality.

⁵⁷ CD Communications Report, p. 19.

⁵⁸ Pew Research Center, Quarter of Rural Americans say access to high-speed Internet is a problem. <https://www.pewresearch.org/fact-tank/2018/09/10/about-a-quarter-of-rural-americans-say-access-to-high-speed-internet-is-a-major-problem/> and Washington Post, talking about how lack of connectivity has hurt rural first responders and tribal communities. <https://www.washingtonpost.com/technology/2021/08/11/infrastructure-bill-cellular-spending/>

⁵⁹ Commission *CalSPEED: California Mobile broadband - An Assessment - Spring 2017*, by Novarum, Inc. pp. 1-2, which can be found here: [Mobile broadband Testing \(ca.gov\)](https://www.calspeed.ca.gov/mobile-broadband-testing)

⁶⁰ Examination of the Local Telecommunications Networks and Related Policies and Practices of AT&T California and Frontier California, Chapter 1, p. 2. Communications service providers focused investment on higher income communities, there was persistent disinvestment elsewhere. Unstable and non-existent connections is a problem in rural areas across the country as CNN notes: <https://www.cnn.com/2020/04/29/us/rural-broadband-access-coronavirus-trnd/index.html>

⁶¹ While broadband is addressed in Phase 2, we encourage these issue be considered as part of the OIR.

1. GO 133-D's Existing Standards Should Apply to Wireline Broadband Service.⁶²

The OIR asks whether the Commission should adopt service quality metrics and standards for broadband service.⁶³ The Commission should consider extending the existing service quality standards to wireline broadband service consistent with Table 1 above and specified in Attachment A and B to these comments. These standards should use the same enforcement mechanisms implemented in Phase 1 of this proceeding, with customer refunds and scaling penalties. Generally, broadband service quality metrics should be reported and submitted similarly to existing GO 133-D requirements at the wire center, or wire center equivalent such as a headend and mobile switching center. The Commission will need to adapt the reporting definitions to include cable service providers and wireless service providers. Attachment B has a definition which incorporates broadband service providers and wireless service providers into the term “facilities-based carrier” to apply the existing service quality standards to these service providers.

2. The Commission Should Consider New Service Quality Metrics for Broadband Service.

The specific broadband and wireless data standards that the Commission should consider are latency, broadband speeds, jitter, packet loss, packet reordering, and community service outage standards, as specified in Attachment A to these comments. These standards are well-established metrics used in the telecommunications industry to assess the quality of telecommunications networks. Further, these standards are based on technical benchmarks required for smooth video communications and voice communications over Internet Protocol based networks. As an example, Microsoft has established network performance targets, shown in Figure 4, below. Reliable broadband connections are critical for distance learning, telehealth, and teleworking, and the

⁶² We acknowledge that the Commission has assigned this issue to Phase 2 of the proceeding but encourage it remain for consideration as part of the OIR.

⁶³ OIR, p. 17.

standards that the Commission implements should be based on ensuring such connections.

Figure 4: Microsoft Performance Requirements from a Skype for Business Client to Microsoft Network Edge⁶⁴

Metric	Target
Latency (one way)	< 50ms
Latency (RTT or Round-trip Time)	< 100ms
Burst packet loss	<10% during any 200ms interval
Packet loss	<1% during any 15s interval
Packet inter-arrival Jitter	<30ms during any 15s interval
Packet reorder	<0.05% out-of-order packets

The Commission should consider standards for the above listed additional service quality metrics to measure whether communications service providers are offering customers a baseline level of high-quality, reliable service. These standards have been used in FCC programs,⁶⁵ and many were established by standard-setting bodies such as the International Telecommunications Union (ITU-T)⁶⁶ or industry groups⁶⁷ that measure service quality.

⁶⁴ Media Quality and Network Connectivity Performance in Microsoft Teams: [Media Quality and Network Connectivity Performance - Skype for Business Online | Microsoft Docs](#)

⁶⁵ *Declaratory Ruling, Second Report and Order, and Order on Reconsideration*, FCC, July 15, 2015 (FCC 16-90), para. 95, p. 34.

⁶⁶ ITU-T Recommendation E.807, February 2014, *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 available at <https://www.itu.int/rec/T-REC-E.807-201402-I> and International Telecommunications Union Recommendation G.1050, 2007, Tables 5 and 6.

⁶⁷ Rootmetrics, Mobile Network Performance in the US, <https://rootmetrics.com/en-US/content/us-state-of-the-mobile-union-2H> and Ookla Speedtests Global Index found at <https://www.speedtest.net/global-index/united-states>.

The FCC’s technology transition program set a standard for Latency and Packet Loss.⁶⁸ 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 percent of measurements during peak use periods.⁶⁹ The FCC notes that these standards are informed by the ITU-T recommendations for reasonable network management practices.⁷⁰ People using applications reliant on real-time transmission of data, such as video teleconferencing for work or telehealth purposes as well as people with disabilities using assistive devices, need low latencies to function well. Similarly, the Commission should consider the metrics proposed in Tables 4 and 5 below for Phase 2 which include standards and performance measurements to determine whether communications service providers are providing customers with reliable, high-quality service.

Table 4: Applicability of New Technical Service Quality Metrics

Standard	Applicable Services
Delivered Network Speeds	Broadband Services
Latency	Broadband Services, Wireless Data Services
Jitter	Broadband Services, Wireless Data Services
Packet Loss	Broadband Services, Wireless Data Services
Packet Reorder	Broadband Services
Community Outage	POTS, Interconnected VoIP, and Broadband Services

⁶⁸ FCC 16-90, para. 94, 95, pp. 33-34

⁶⁹ FCC 16-90, para. 94, 95, pp. 33-34.

⁷⁰ FCC 16-90, para. 95, p. 34.

Table 5: Summary of New Technical Service Quality Metrics

Broadband Network Technical Metric	Definition
Delivered Network Speeds	Delivered Network Speeds refers to network speeds delivered to a customer's premises. It is measured as a percentage of the average network speeds at a customer's premises during divided by speeds a customer is subscribed to. Higher percentages of delivered network speeds would indicate higher quality service. This standard would be measured by wire center, mobile switching center, headend, or other wire center equivalent.
Latency	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 the distance between points increases and congestion of the network increases. Latency decreases as the distance between points decreases. Lower latency is one indicator of higher service quality, as providers should manage network traffic for minimal latency. This standard would be measured by wire center, mobile switching center, headend, or other wire center equivalent.
Jitter	Jitter is the variance in the end-to-end delay of information traveling on a network. Jitter is measured through the difference between the actual time of arrival and the 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. This standard would be measured by wire center, mobile switching center, headend, or other wire center equivalent.
Packet Loss	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. This standard would be measured by wire center, mobile switching center, headend, or other wire center equivalent.
Packet Reordering	Packet Reordering happens when packets arrive at their destination in the wrong order. Packets which arrive in the wrong order can lead to words in a video call sounding scrambled or out of order. This standard would be measured by wire center, mobile switching center, headend, or other wire center equivalent.
Community Outage	An outage that limits a telecommunication service provider's end user's ability to make calls, receive emergency notifications, or access basic internet functionality (as defined by Decision 20-07-011) that lasts for at least 30 minutes and affects at least 1) 100 end users served by a single wire center or headend or 2) at least 25% of end users served by a wire center or headend with fewer than 100 end users.

F. The Commission Should Consider Service Quality Standards for Wireless Data Services.

In addition to considering broadband service quality standards, the Commission should explore ways to measure and track the service quality of wireless data. The Commission has used CalSPEED information to measure wireless service quality data on latency, jitter, and packet loss.⁷¹ The Commission should consider those standards for wireless data quality as outlined in Table 4 above during Phase 2 of this proceeding. In addition, the Commission should investigate what metrics and key performance indicators wireless communications service providers keep track of. Understanding how wireless service providers determine where to invest in new cell infrastructure would inform what standards are needed to ensure reliable service in underinvested rural and tribal areas.

III. CONCLUSION

It is a matter of public health and safety to establish minimum service quality standards for today's essential communications services to protect customers. The Commission should adopt the standards outlined in Attachments A and B to these comments, and apply service quality standards to broadband, wireless, and interconnected VoIP services.

⁷¹ CPUC CalSPEED App on the AppStore found at: <https://apps.apple.com/us/app/calspeed/id1063788456>

Respectfully submitted,

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Attachment A: Proposed Service Quality Metrics and Standards Additions to General Order 133-D

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 including but not limited to mobile switching center and headend. 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.
- ai. Customer Premises: The location or locations occupied by the Customer to which a facilities-based carrier delivers service.

4. Major Service Interruption

- e. Cell Site Outage. An outage that limits a facilities-based carriers' end user's ability to make calls, received emergency notifications, or access basic internet functionality (as defined by Decision 20-07-011) that lasts for at least 30 minutes and affects at least 25% of a carrier's coverage in a single zip code.
- f. Community Outage. An outage that limits a facilities-based carriers' end user's ability to make calls, receive emergency notifications, or

access basic internet functionality (as defined by Decision 20-07-011) that lasts for at least 30 minutes and affects at least 1) 100 end users served by a single wire center or headend or 2) at least 25% of end users served by a wire center or headend with fewer than 100 end users.

10. Minimum Network Service Quality Benchmarks

10.1 Call Failure Rate – Applies to Time Division Multiplex (TDM)-based¹ voice services, Interconnected Voice over Internet Protocol (VoIP) services,² 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 Carrier of Last Resort (COLR).³

- 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.

¹ TDM is defined in GO 133-D Section 1.3 (t.) as referring to traditional telephone service.

² VoIP Provider is defined in GO 133-D Section 1.3 (m.).

³ COLR is defined in GO 133-D Section 1.3 (d.) as a carrier required to serve upon request all customers within its designated service areas.

- 10.2 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 communications 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.
- 10.3 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. Carriers will select a random sample of 100 calls from each reporting unit.
 - 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.

10.4 Repeat Trouble Reports – Applies to TDM-based voice services, Interconnected VoIP services, Wireless services, and Broadband services offered by General Rate Case Incumbent Local Exchange Carriers (GRC ILECs),⁴ 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 for the same issue.

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. 1 repeat trouble reports per 100 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.

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

⁴ GRC ILECs is defined in GO 133-D Section 1.3 (j.) as a General Rate Case Incumbent Local Exchange Carrier. A GRC ILEC is a designated COLR in its franchise territories and is regulated through cost-of-service reviews by the Commission.

- 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. Average Delivered Network Speeds during Peak Hours divided by Subscribed speeds at a customer premises. Carriers will select a random sample of 50 customer premises from each reporting unit.
 - 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.
- 10.6 Latency – Applies to Interconnected VoIP services, Wireless services, and Broadband 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.

10.7 Jitter – Applies to Interconnected VoIP services, Wireless services, and Broadband 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 customers 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 smallest reporting unit. All reporting carriers shall submit the raw data included in the report.

e. Reporting Frequency. Compiled monthly, reported quarterly.

10.8 Packet Loss – Applies to Interconnected VoIP services, Wireless services, and Broadband 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. Carriers will select a random sample of 50 customer premises from each reporting unit.
 - 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.
- 10.9 Packet Reordering – Applies to Interconnected VoIP services, Wireless services, and Broadband 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 Reordering is defined by the event where sent information arrives at the receiver in the incorrect order. Packet Reordering applies to Community Anchor Institutions, residential, and small business customers.
 - b. Measurement. The number of packets arrived out of order minus the number of requested packets received divided by the number of packets sent. Carriers will select a random sample of 50 customer premises from each reporting unit.
 - c. Minimum Standard Reporting Level. Fewer than 0.1% mean packet arriving out of order, 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.

Attachment B: Proposed Revisions to General Order (GO)133-D

1. General

1.3 Definitions.

- i. Facilities-based Carriers: A telephone corporation, broadband service provider, wireless carrier, or interconnected Voice over Internet Protocol (VoIP) provider that owns or controls facilities used to provide communications for compensation, including the line to the end-user's location. A local exchange carrier providing service solely by resale of the Incumbent Local Exchange Carrier (ILEC)'s local exchange services is not a facilities-based carrier. By Commission Decision (D.) 95-12-057, facilities-based carriers must file an environmental assessment report and undertake mitigation efforts addressing any adverse environmental impacts associated with their construction activities under their Certificate of Public Convenience and Necessity.
- 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 Installation Interval - Applies to TDM-based voice services, Interconnected VoIP services, and Broadband services offered by General Rate Case (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 Carrier of Last Resort (COLR).
- 3.2 Installation Commitments - Applies to TDM-based voice services, Interconnected VoIP services, and Broadband 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 Customer Trouble Reports – Applies to TDM-based voice services, Interconnected VoIP services, Wireless services, and Broadband 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.
- 3.4 Out of Service Repair Intervals – Applies to TDM-based voice services, Interconnected VoIP services, and Broadband 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.
- 3.5 Answer Time – Applies to TDM-based voice services, Interconnected VoIP services, Wireless services, and Broadband 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.

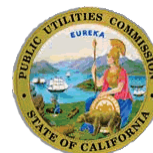
APPENDIX B

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

Reply Comments of the Public Advocates Office
on the Administrative Law Judge's Ruling Requesting
Comments on Network Examination and Armis Reporting

Public Version



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R2203016

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Proceeding
to Consider Amendments to General Order
133.

Rulemaking 22-03-016

**REPLY COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE
ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING COMMENTS ON
NETWORK EXAMINATION AND ARMIS REPORTING**

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January 20, 2023

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I. INTRODUCTION

Pursuant to the *Administrative Law Judge's Ruling Requesting Comments on Network Examination [(Network Exam)] and [Automated Reporting Management Information System] ARMIS Reporting (Ruling)*,¹ and the December 13, 2022, *E-Mail Ruling Granting Extension Request*, the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these reply comments.

On August 31, 2022, Administrative Law Judge (ALJ) Glegola issued the Ruling seeking comments on the implementation of recommendations from the Network Exam and the related findings. Some communications service providers submitted comments on December 21, 2022 contesting the relevance of the Network Exam in the instant proceeding and claiming that there are no service quality issues in their industry.

Disputing the Network Exam now, as AT&T and Frontier have tried to,² is untimely and not constructive. The Commission accepted the Network Exam and entered it into the record of Rulemaking R.11-12-001 in August of 2019.³ The data underlying the study was submitted by communications service providers themselves, and the Network Exam contains detailed supported analysis. Moreover, the need to establish minimum service quality standards for communications services is not based solely on the Network Exam. The need for the Commission to establish minimum service quality standards for wireless, Voice over Internet Protocol (VoIP) and broadband is based on the record of consumer complaints detailing service quality issues⁴ and the continued underperformance of communications service providers as it relates to these services.⁵

¹ *Administrative Law Judge's Ruling Requesting Comments on Network Examination and Armis Reporting*, August 31, 2022.

² See *E-Mail Ruling Extending Comment and Reply Comment Deadlines by 7 Days*, September 14, 2022

³ Rulemaking (R.)11-12-001, *Assigned Commissioner's Ruling Addressing Confidentiality Issues Relayed to the Examination of Telecommunications Network Infrastructure, Facilities, Policies, and Practices Ordered in Decision 13-02-023 (as affirmed in Decision 15-08-041); and Entering the Network Examination Report Into the Record Under Seal*, August 16, 2019.

⁴ Consumer comments on the proceeding are available at:
<https://apps.cpuc.ca.gov/apex/f?p=401:65:0::NO::>.

⁵ AT&T has continuously failed to meet existing service quality standards in telephone service:
<https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/reports/quarterly-service-quality-reports/2022-quarterly-service-quality-reports/3rd-quarter-2022/att-ca-2022-3rd-quarter.pdf>.

Comments from communications service providers contended that competition is robust and sufficient to maintain high service quality. That is not the case. California customers lack a choice of whom their communications service provider is, especially as it relates to broadband services at higher speeds as further discussed below. Given the substantial evidence of service quality issues, the Commission should:

- Prioritize Phase 2 to address critical needs for minimum service quality standards in broadband service;
- Adopt minimum service quality standards for wireless services and VoIP services;
- Revise General Order 133-D enforcement mechanisms; and
- Reject arguments that communications services markets are competitive.

II. DISCUSSION

A. **The Commission should establish minimum service quality standards for all essential communications services, including wireless, VoIP, and broadband.**

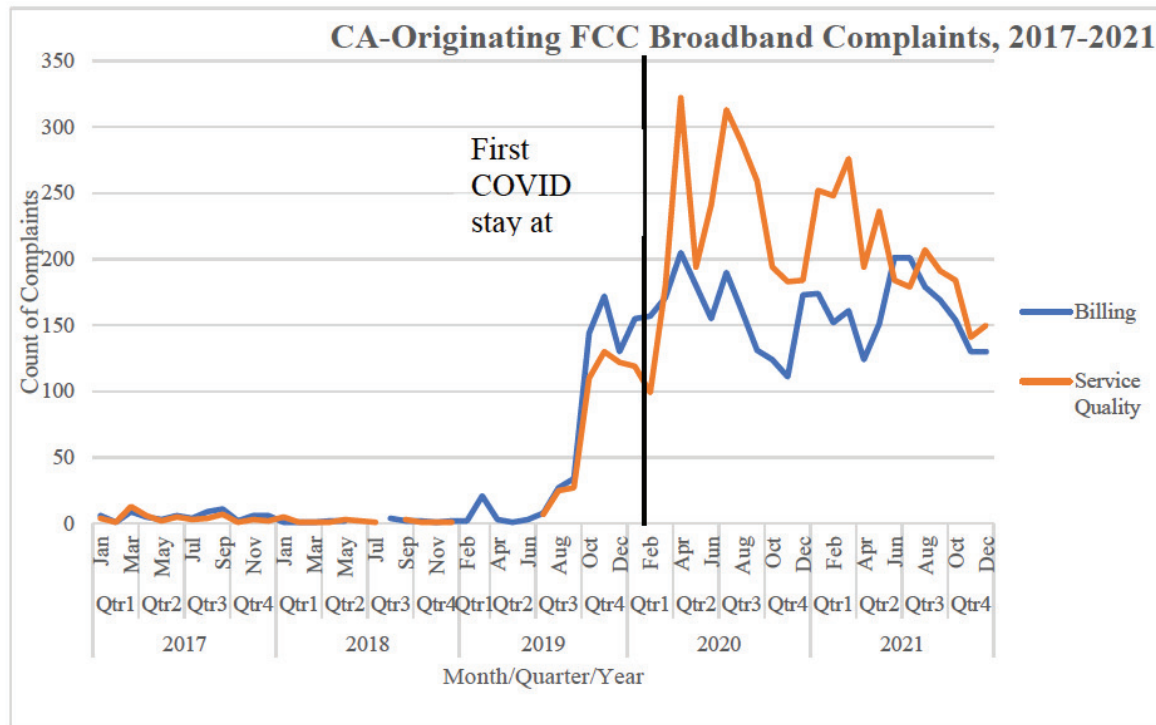
Market forces have not resulted in customers receiving good service quality for essential communications services that include wireless, VoIP, and broadband service. Californians pay for these services but do not receive them at the level commensurate with what they pay.⁶ The Commission has received multiple complaints/comments on the public docket of customers who are concerned with wireless, VoIP, and broadband service quality. The concerns include frequency and duration of outages for all services as well as customer service issues and quality issues with voice calling.

As it relates to broadband service, the Commission should prioritize Phase 2 and promptly act to ensure Californians receive high quality broadband service from their communications service provider. Broadband customers are increasingly dissatisfied with the quality of their broadband service. This is demonstrated in the graph below, which shows that California-customer complaints to the Federal Communications Commission (FCC) relating to

⁶ See e.g. “it is the only provider in my rural neighborhood” submitted in Public Comments for R.22-03-016 dec 4, 2022 by Ann Campbell; “AT&T is the only provider in my area” submitted in Public Comment for R.22-03-016 Nov 15 2022 by Monica Beachell; “Comcast Xfinity is the only provider of internet service where I live” Submitted in Public comments for R.22-03-016 Nov 15 2022 by Jaime Moldowan.

broadband service quality have skyrocketed since the start of the pandemic. Since VoIP service relies on a broadband connection⁷ the Commission cannot adequately address VoIP service quality without also addressing broadband service quality. Given these facts, the Commission should move to expeditiously initiate Phase 2, and adopt the baseline standards proposed in the Petition for Rulemaking.⁸

Figure 1: “CGB – Consumer Complaints Data: California-Originated Complaints.”
Federal Communications Commission. December 12, 2022.



⁷ See e.g. *Opening Comments of Sonic Telecom, LLC (U-7002-C) in Response to Administrative Law Judge’s Ruling Requesting Comments on Network Examination and Armis Reporting*, December 21, 2022 (Sonic Opening Comments).

⁸ *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: Attachment A.* \ October 7, 2021.

B. The Commission should adopt minimum service quality standards for wireless service.

The Commission should reject wireless service providers' claims regarding the absence of service quality issues, and in turn, address the lack of service quality standards.² Contrary to the providers' claims, considerable evidence points to systemic issues with wireless service quality, based on customer complaints and quantitative data from the FCC, American Customer Satisfactory Index (ASCI),¹⁰ public Comments to the docket card of this proceeding, the Commission-sponsored Cal SPEED-study, and wireless companies' own data, as discussed below.

1. Wireless Complaint Data Demonstrates Persistent Service Quality Issues for Customers.

Both quantitative and qualitative data demonstrate persistent wireless service quality issues for California customers. On the quantitative side, the FCC data reflects a rise in customer dissatisfaction with wireless service quality since 2014. The FCC has compiled multiple individual informal consumer complaints data detailing complaints filed with the Consumer Help Center.

Figure 2 below reflects the number of service quality complaints for “wireless”, or “wireless (cell phone/other mobile device)” service extracted for the state of California as of January 4, 2023.¹¹ The FCC received 164 wireless service quality complaints in the 2014, the year that the agency started collecting complaint data. However, during 2015, the number increased to 1,834, more than 11 times the number of wireless service quality complaints in the previous year. In 2020, when the COVID-19 pandemic started, the FCC received 1,341

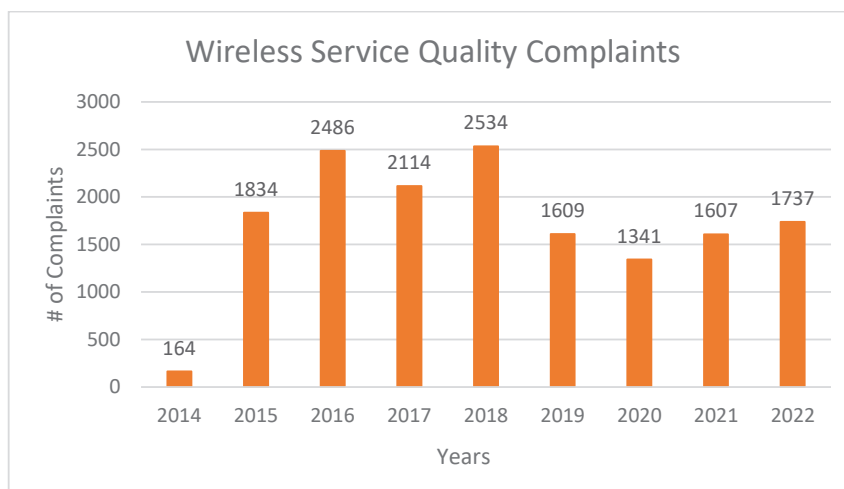
² *Comments of CTIA on Ruling Requesting Comments on Network Examination and ARMIS Reporting*, December 21, 2022 (CTIA Opening Comments) at 4-5.; *Opening Comments of Cellco Partnership (U 3001 C) D/B/A Verizon Wireless and MCI Metro Access Transmission Services LLC (U 5253 C) to Administrative Law Judge's Ruling Requesting Comments on Network Examination and Armis Reporting*, December 21, 2022 (Version Opening Comments) at 13-14.; *AT&T's Opening Comments on Administrative Law Judge's Ruling Requesting Comments on Network Examination and Armis Reporting*, December 21, 2022 (AT&T Opening Comments) at 28, 47.

¹⁰ The American Customer Satisfaction Index is a national cross-industry measure of customer satisfaction, measuring satisfaction with the quality of products and services offered within the US.

¹¹ FCC CGB - consumer complaints data: *Data: Federal Communications Commission*, *opendata.fcc.gov*. Available at: <https://opendata.fcc.gov/Consumer/CGB-Consumer-Complaints-Data/3xyp-aqkj/data>.

customer complaints, which is a significant increase of more than eight times compared to 2014. In 2021, the FCC received 1,607 wireless customer complaints and in 2022, the number increased to 1,737. When comparing the number of customer complaints for 2021 and 2022 to 2020, the FCC received an increase of 19.8% and 22.7%, respectively. These complaints demonstrate the increasing prevalence of wireless service quality issues that warrant immediate action.

Figure 2: *Federal Communications Commission Wireless Service Quality Complaints.*



The ACSI released its most recent annual “satisfaction benchmarks by company” report in 2022.¹² The ACSI analyzes the telecommunications industry, including broadband service providers, landline providers, and wireless providers. For wireless service, the ACSI review includes five major companies, plus an aggregate of smaller service providers.¹³ Table 1 shows that wireless phone service satisfactory has decreased from 2021 to 2022. In addition, ACSI included multiple benchmarks that display service quality. Table 2 shows that reliability of mobile app (minimal down time, crashes, lags) and website satisfaction decreased. The customer experience benchmark for data upload/download speeds and reliability also decreased. Table 3

¹² American Customer Satisfaction Index, “American Customer Satisfaction Index”, 2022, <https://www.theacsi.org/industries/telecommunications-and-information/wireless-phone-service/>.

¹³ The five major companies included in this index are AT&T, T-Mobile, Verizon, U.S. Cellular, and TracFone Wireless (Verizon). ACSI compiled all the smaller service providers and benchmarked as one entity.

shows full-service mobile virtual network operator benchmarks (MVNOs)¹⁴ with call reliability (dropped-call frequency), network coverage, and data upload/download speed and reliability decreased.

Table 1: Wireless Phone Service Satisfaction Benchmark¹⁵

Satisfaction Benchmarks by Company

Wireless Phone Service

Company	2021	2022	% Change
Wireless Phone Service	74	73	-1.4%
TracFone Wireless (Verizon)	75	75	0%
AT&T	74	74	0%
All Others	73	73	0%
T-Mobile	73	73	0%
Verizon	74	73	-1%
U.S. Cellular	69	71	3%

¹⁴ Full-Service MVNO Benchmarks. Available at: <https://www.theacsi.org/industries/telecommunications-and-information/wireless-phone-service/>.

¹⁵ The five major companies included in this index are AT&T, T-Mobile, Verizon, U.S. Cellular, TracFone Wireless (Verizon), and others. Available at: <https://www.theacsi.org/industries/telecommunications-and-information/wireless-phone-service/>.

Table 2: Customer Experience Benchmarks¹⁶

Wireless Phone Service Benchmarks

Customer Experience Benchmarks Year-Over-Year Industry Trends

Benchmarks	2021	2022
Quality of mobile app	80	80
Courtesy and helpfulness of store/service center staff	79	79
Ease of understanding bill	78	79
Reliability of mobile app (minimal down time, crashes, lags)	80	79
Call quality (clarity, strength)	78	78
Website satisfaction	79	78
Network coverage	77	77
Range of wireless voice and/or data plans available	77	77
Speed of store/service center transaction	77	77
Call reliability (dropped-call frequency)	75	75
Data upload/download speed and reliability	76	75
Call center satisfaction	71	71

Industry averages are weighted by companies' market shares.

¹⁶ Customer Experience Benchmarks Year-Over-Year Industry Trends. Available at: <https://www.theacsi.org/industries/telecommunications-and-information/wireless-phone-service/>.

Table 3: Full-Service MVNO Benchmarks¹⁷

Full-Service MVNO Benchmarks

Customer Experience Benchmarks Year-Over-Year Trends

Benchmarks	2021	2022
Ease of understanding bill	80	80
Quality of mobile app	80	80
Courtesy and helpfulness of store/service center staff	77	78
Reliability of mobile app (minimal down time, crashes, lags)	78	78
Website satisfaction	78	78
Call quality (clarity, strength)	77	77
Speed of store/service center transaction	77	77
Range of wireless voice and/or data plans available	76	76
Network coverage	76	75
Call reliability (dropped-call frequency)	74	73
Data upload/download speed and reliability	74	73
Call center satisfaction	70	70

On the qualitative side, customers have shared hundreds of public comment complaints with the Commission regarding the presence of wireless service quality issues in California.¹⁸

First example is Richard Powers from Sebastopol who states;

The Verizon cell phone coverage in my area is AWFUL when not going through the internet. With WiFi and internet, coverage is somewhat better. Without WiFi, the calls are routinely dropped. Moving a few inches, the service goes from one or two bars to zero. AT&T coverage is worse here.¹⁹

¹⁷ Full-Service MVNO Benchmarks. Available at: <https://www.theacsi.org/industries/telecommunications-and-information/wireless-phone-service/>.

¹⁸ See Public Comments on R2203016 docket card.

¹⁹ Public Comments in R.22-03-016, submitted by Richard Powers. Dec 25, 2022.

Theo Lovejoy from Boulder Creek who is a Verizon customer wrote in saying;

“I live in a semi-rural mountainous region, population 4000+ but close to the town center. Verizon cellular service in my area has significantly degraded in the last couple years, and at times is completely non-functional for voice, SMS, or internet data. This is simply unacceptable, especially since landlines are essentially discontinued. When the power goes out, which is common from PGE public safety power shutoffs and storm activity, the cell network is completely unavailable (no signal bars) for inbound or outbound voice/sms/data. Are telecommunications providers not required to provide battery backup to their towers when the power goes out? Service was adequate for many years here, so it's obviously not an out-of-range or basic coverage issue. Performance has degraded dramatically even when power is on. I've spent countless hours with support agents on the issue, even managing to secure two 'escalated' service tickets, with no improvements, feedback, or other responses. When I attempt to followup on these tickets, I'm inexplicably cutoff during the conversation, leaving me essentially at a dead end. I've heard many similar stories from neighbors in my area. PLEASE, we implore you to apply regulatory pressure to our public utility providers.²⁰

Heather Edwall, a Verizon customer from Bishop who adds to the complaints;

Re: VERIZON MOBILE service - In general coverage is not as good as advertised (dropped calls, dead spots, etc). In addition they shut the service off completely with some regularity, then it does not work all day. This problem is bad enough that one of the managers at the local hospital track who has Verizon vs. AT&T so that when Verizon is down, they can reach critical employees via a neighbor or call in another provider who has working service. I am very disappointed but AT&T has its problems here too (just made major technological changes that caused my original phone not to work, too bad I'd paid them up front for a year and they did not disclose 6 months in advance that that was going to happen!), and nothing else works at all, so we are stuck.

2. Publicly Available Data Sources and the Wireless Companies' Own Data Demonstrates Service Quality Issues

CTIA asserts that the Commission already has ‘abundant’ data regarding all aspects of wireless service,²¹ citing CalSPEED and industry-review information, but this limited substantive public data further demonstrates systemic wireless service quality issues. The most

²⁰ Public comment in R.22-03-016, submitted by Theo Lovejoy. Dec 08, 2022.

²¹ CTIA Opening Comments at 12.

recent CalSPEED Mobile Broadband data (from Summer 2020, hereinafter CalSPEED) indicates that even *within* the boundaries of AT&T, T-Mobile (including Sprint), and Verizon’s coverage areas, a notable percentage of CalSPEED’s test results show “no effective service”: Table 4 below shows this percentage by company.

Table 4: Percentage of CalSPEED Tests Recording “no effective service” by Company, Within and Outside 4G LTE Coverage Areas²²

4G LTE Coverage 2019	Provider	Test Result	Count	% of Tests Without Service
YES (within coverage area)	AT&T	Service	3,026	7.1%
		No Service	230	
	Sprint	Service	2,359	5.5%
		No Service	137	
	T-Mobile	Service	2,818	15.6%
		No Service	519	
	Verizon	Service	3,187	11.0%
		No Service	393	
NO (outside coverage area)	AT&T	Service	185	74.1%
		No Service	528	
	Sprint	Service	723	50.9%
		No Service	750	
	T-Mobile	Service	93	85.3%
		No Service	539	
	Verizon	Service	49	87.4%
		No Service	340	

Not only does CalSPEED data reveal issues with wireless 4G LTE coverage reliability, but actual latency delivered by the wireless networks is much higher than what is advertised and reported to customers.²³ Table 5 compares speed and latency values advertised by the major facilities-based wireless companies AT&T, Verizon, and T-Mobile (which includes Sprint’s legacy network) to what the most recent CalSPEED data reports.²⁴

²² CalSPEED data available at: <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/broadband-mapping-program/mobile-broadband-testing>, latency estimated by dividing “Round Trip Time” by two. Last accessed January 10, 2023.

²³ CalSPEED measures latency both to a west coast and east coast server – even the measurements to the west coast server are significantly higher than what the wireless providers report.

²⁴ Note that the CalSPEED data has been filtered to only display tests within each company’s LTE
(continued on next page)

Table 5: CalSPEED 2020 Speeds and Latency²⁵ vs. Wireless Carriers' 4G Advertised Speed and Latency²⁶

4G LTE Carrier	CalSPEED 2020 Results		Advertised
	Latency, east coast server (ms)	Latency, west coast server (ms)	Latency (ms)
AT&T	108	67	28 to 44
Sprint	112	82.5	24 to 40
T-Mobile	106	72.5	
Verizon	110.5	83	20

The findings from CalSPEED outlined in Table 4 and Table 5 point to a fundamental problem with wireless providers' service quality: the wireless providers publish wireless coverage maps that indicate where they provide service, however these maps include disclaimers stating that *coverage is not guaranteed*. Indeed, each coverage map or associated terms and conditions for each major wireless provider contains a disclaimer that being within a coverage map's boundaries does not guarantee that the customer will receive adequate coverage to complete wireless voice calls, use mobile data, or other essential wireless functions.²⁷ As such,

coverage area with service strong enough to generate results – the tests that yielded in “no effective service” were not considered in this calculation of latency. 4,076 out of 19,607 total CalSPEED tests (20.8%) yielded “no effective service.” For more information about CalSPEED's methodology see reports available the following weblinks: <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/broadband-mapping-program/mobile-broadband-testing>, https://www.researchgate.net/publication/330715458_CALSpeed-Comparing_California%27s_Mobile_Broadband_Assessment_Methodology-Spring_2014, last accessed January 10, 2023.

²⁵ CalSPEED data available at: <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/broadband-mapping-program/mobile-broadband-testing>, latency estimated by dividing “Round Trip Time” by two. Last accessed January 10, 2023.

²⁶ AT&T (see “4G LTE”): <https://about.att.com/sites/broadband/performance>. Sprint/T-Mobile (see “4G LTE Network”): <https://www.t-mobile.com/responsibility/consumer-info/policies/internet-service>. Verizon speeds (see “4G LTE”): <https://www.verizon.com/about/our-company/network-performance>, Verizon latency (only available latency information was for enterprise service): <https://www.verizon.com/business/terms/latency/>. All links last accessed January 10, 2023.

²⁷ See AT&T Terms and Conditions: “There are gaps in coverage maps, which, by their nature, **are only approximations of actual coverage**. Please be aware that even within your coverage area many things can affect the availability and quality of your Wireless Service, including, but not limited to, network capacity, your Device, your rate plan, terrain, buildings, foliage and weather. Wireless Service or particular wireless technologies (such as 5G) will not be available in all areas at all times (emphasis added).” Available at: <https://www.att.com/legal/terms.consumerServiceAgreement.html>, last accessed (continued on next page)

while CTIA argues that wireless coverage maps provide the Commission with reliable data on service quality,²⁸ these maps are unreliable, which has been substantiated by a 2019 Federal Communications Commission Staff Report Investigation.²⁹

In addition to publicly available data sources, providers' own data on service outage trends exacerbates concerns about wireless service reliability. Wireless outages reported through

January 10, 2023.

See T-Mobile Coverage Map Disclaimer (by clicking on "Map and Service Info"): "Map approximates anticipated coverage outdoors (including 600Mhz 4G LTE) based on a variety of factors, which may include limited or no coverage areas, and **does not guarantee service availability**; some data-intensive uses may have decreased functionality in low-bandwidth areas, especially indoors or on the exterior edges of the approximated coverage area. Within coverage areas, network changes, traffic volume, outages, technical limitations, signal strength, your equipment, obstructions, weather and other conditions may interfere with service quality and availability (emphasis added)." Available at: <https://www.t-mobile.com/coverage/coverage-map>, last accessed January 10, 2023.

See Verizon Coverage Map Disclaimer (by clicking on "Disclaimer"): "This map applies to voice and data plans and is a general prediction of where we expect to deliver outdoor service at the cell edge based on typical human walking speeds, without factoring in loading (i.e., the number of people simultaneously using the service in an area) or throughput. **This map is not a guarantee of coverage**, contains areas of no service, and may not reflect actual customer performance. Actual coverage may vary. Many things can affect the availability and quality of your service, including, but not limited to, network capacity, your device, terrain, buildings, foliage, weather, topography, and other environmental considerations associated with radio technology. Your service may vary significantly within buildings. Coverage areas may include networks run by other carriers; some of the coverage depicted is based on their information and public sources, and we cannot guarantee its accuracy. Some devices may not be compatible with extended coverage areas depicted in the map (emphasis added)." Available at: <https://www.verizon.com/coverage-map/>, last accessed January 10, 2023.

²⁸ CTIA Opening Comments at 12.

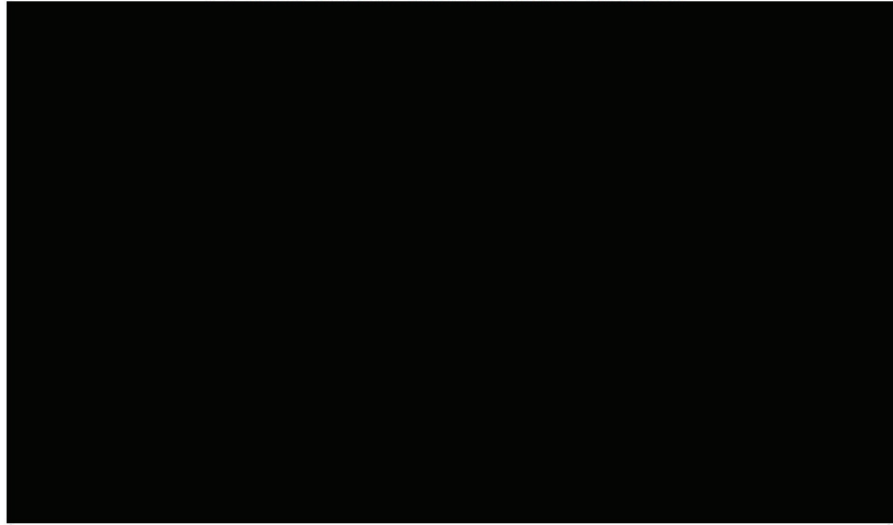
²⁹ See Federal Communications GN Docket No. 19-367, Mobility Fund Phase II Coverage Maps Investigation Staff Report, at paragraph 4, p. 2. "**Through the investigation, staff discovered that the MF-II coverage maps submitted by Verizon, U.S. Cellular, and T-Mobile likely overstated each provider's actual coverage and did not reflect on-the-ground performance in many instances.** Only 62.3% of staff drive tests achieved at least the minimum download speed predicted by the coverage maps—with U.S. Cellular achieving that speed in only 45.0% of such tests, T-Mobile in 63.2% of tests, and Verizon in 64.3% of tests. Similarly, staff stationary tests showed that each provider achieved sufficient download speeds meeting the minimum cell edge probability in fewer than half of all test locations (20 of 42 locations). In addition, staff was unable to obtain any 4G LTE signal for 38% of drive tests on U.S. Cellular's network, 21.3% of drive tests on T-Mobile's network, and 16.2% of drive tests on Verizon's network, despite each provider reporting coverage in the relevant area (emphasis added)." Download available at: <https://docs.fcc.gov/public/attachments/DOC-361165A1.pdf>, last accessed 1/10/2023.

See same report at paragraph 71, p.49. "The numerous stationary test locations that fall within the provider's 4G LTE coverage maps where staff recorded success rates well below 80%, which appear consistent with the results from nearby staff drive tests, **bolsters our conclusion that the coverage maps do not accurately represent the areas where consumers can expect to receive 4G LTE download speeds of at least 5 Mbps** (emphasis added)."

the Network Outage Reporting System (NORS)³⁰ have been <<BEGIN VERIZON
CONFIDENTIAL>> [REDACTED] <<END VERIZON
CONFIDENTIAL>> and <<BEGIN T-MOBILE CONFIDENTIAL>> [REDACTED]
[REDACTED] <<END T-MOBILE CONFIDENTIAL>> from 2017-2022. Figure 3 displays these
outage trends for each company.

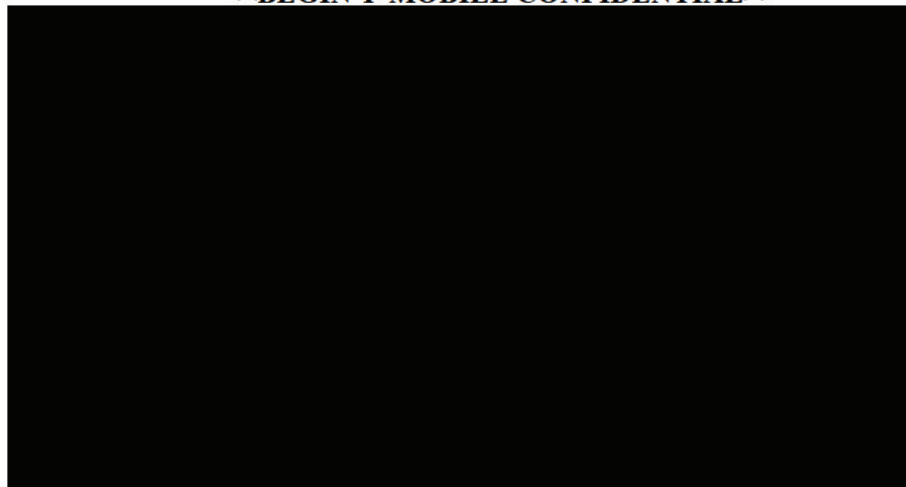
Figure 3: Wireless NORS Report Trends from 2017 – 2022

<<BEGIN VERIZON CONFIDENTIAL>>



<<END VERIZON CONFIDENTIAL>>

<<BEGIN T-MOBILE CONFIDENTIAL>>



<<END T-MOBILE CONFIDENTIAL>>

³⁰ See Responses to Cal Advocates Wireless Data Request 1-8.

Based on customer complaints and expectations, as well as quantitative evidence of systemic service quality issues in California’s wireless industry, the Commission should reject wireless carriers’ arguments that service quality standards are unnecessary. The Commission should establish minimum service quality standards as outlined in Cal Advocates’ Petition for Rulemaking.³¹

3. The Commission has the jurisdiction to establish minimum service quality standards for wireless, VoIP, and broadband services.

As outlined in Cal Advocates’ reply comments to the Order Instituting Rulemaking (OIR)³² and its reply comments in the Petition for Rulemaking,³³ the Commission has the jurisdiction to establish minimum service quality standards for wireless, VoIP, and broadband service. Yet, several communications service providers continue to make the same outdated arguments regarding federal preemption of the Commission’s authority to regulate VoIP, broadband, and wireless services.³⁴ AT&T³⁵ and CTIA³⁶ argue that the Commission is preempted from regulating wireless because it is a form of rate regulation. The Commission has considered this argument from AT&T and rightfully rejected it as a misinterpretation of the Telecommunications Act of 1996, Section 332(c)(3)(A) and a misconstruction of the court case

³¹ See (P.) 21-10-003 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, filed October 7, 2021 (Petition for Rulemaking), Attachment A. Available at: [https://www.publicadvocates.cpuc.ca.gov/uploadedFiles/Content/Press_Room/Petition%20of%20the%20Public%20Advocates%20Office%20for%20Rulemaking%20Service%20Quality\(1\).pdf](https://www.publicadvocates.cpuc.ca.gov/uploadedFiles/Content/Press_Room/Petition%20of%20the%20Public%20Advocates%20Office%20for%20Rulemaking%20Service%20Quality(1).pdf), last accessed January 13, 2023.

³² *Reply Comments of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133*, May 13, 2022 at 3-6.

³³ P.21-10-003, *Reply Comments of the Public Advocates Office to Parties’ Responses on the Petition for Rulemaking to Amend General Order 133-d to Modernize Minimum Service Quality Standards*, November 15, 2021 at 3-6.

³⁴ Verizon Opening Comments at 6. AT&T Opening Comments at 47-51. CTIA Opening Comments at 9-11. *Comments of Consolidated Communications of California Company (U 1015 C) on Administrative Law Judge’s Ruling Requesting Comments on Network Examination and Armis Reporting*, December 21, 2022 at 3. *Comments of Small LECs on Administrative Law Judge’s Ruling Requesting Comments on Network Examination and Armis Reporting*, December 21, 2022 at 4-8.

³⁵ AT&T Opening Comments at 47-51.

³⁶ CTIA Opening Comments at 9-11.

that AT&T relies on.³⁷ AT&T again argues that the Commission is preempted from regulating mobile broadband.³⁸ Section 253 of the Communications Act of 1996 directly gives the State of California this authority.³⁹ AT&T again tries to argue that the FCC has preempted the Commission in regulating VoIP services.⁴⁰ This argument relies on a ruling from the 8th Circuit Court of Appeals.⁴¹ But, again omitted from AT&T comments, previous Commission precedent has ruled that this case “does not prevent the Commission from exerting its authority over VoIP carriers under California Law, as this Commission, located in the 9th Circuit, is not bound by the 8th Circuit’s Decision.”⁴² Simply put, the Commission should again reject AT&T’s continued distortion of the legal landscape.

4. The Commission should revise General Order (GO) 133-D’s current enforcement mechanism to remove Section 9.7’s alternative investment proposal in, expand financial penalties, and include a customer credit mechanism.

Fronter’s and Sonic’s comments disparage the Network Exam Phase 1 Recommendation⁴³, and other such recommendations, that call for the expansion of financial penalties.^{44 45} Sonic’s Opening Comments also state that the Commission should not adopt

³⁷ D.21-10-015, *Order Instituting Rulemaking Regarding Emergency Disaster Relief Program*, October 7, 2021; issued in Rulemaking (R.) 18-03-011. “Wireless Carriers continue to erroneously rely on the *Bastein* case to support their position. Wireless [Carriers] essentially claim that states may not take any measures to regulate wireless carriers, even those that fall under ‘other terms and conditions of wireless service.’ Wireless Carriers have made these same arguments in nearly every proceeding where the Commission has attempted to adopt and implement consumer protection measures. As in every other case, the [Wireless Carriers’] express preemption argument is without merit.” D.21-10-015 at p. 3.

³⁸ AT&T Opening Comments at 48.

³⁹ 47 U.S.C. Section 253 (a). “Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis . . . requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.”

⁴⁰ AT&T Opening Comments at 48-51.

⁴¹ *Charter Advanced Services LLC v. Lange*, 903 F.3d 715, 719 (8th Cir. 2007).

⁴² D.21-10-015 at 11.

⁴³ Network Exam, Chapter 11 at 515.

⁴⁴ *Comments of Frontier on August 31, 2002 ALJ Ruling Requesting Comments on Network Examination and ARMIS Reporting*, December 21, 2022 (Frontier Opening Comments) at 19.

⁴⁵ *Opening Comments of Sonic Telecom, LLC (U-7002-C) in Responses to Administrative Law Judge’s Ruling Requesting Comments on Network Examination and ARMIS Reporting* (Sonic Opening
(continued on next page)

Network Exam Phase 2 Recommendation 3⁴⁶ that would remove “investments in lieu of fines,” noting that additional investments are far better for service quality.⁴⁷ The Commission should reject these statements and revise GO 133-D’s enforcement mechanism to focus on compliance through removal of GO 133-D Alternative Proposal for Mandatory Correction Action (Section 9.7), increasing penalties, and adopting customer credit refunds for affected customers experiencing service quality issues.

First, the Commission should remove Section 9.7, which allows providers to invest twice the amount of the proposed fine in lieu of paying the fine.⁴⁸ As previously discussed, Section 9.7 lacks proper oversight, and there is no evidence to demonstrate that these investment projects are incremental to the communication service provider’s planned investments or normal operating and capital costs.⁴⁹ Table 6 below shows a compilation of Commission resolutions approving fines or Section 9.7 alternative proposals of AT&T and Frontier from 2017-2021. For all five years, AT&T and Frontier languished in chronic failure status for the same standard, despite investing in projects to meet the minimum service quality standard. In 2019, Commission Staff denied AT&T’s alternative proposal, citing concerns that AT&T’s utilization of Section 9.7 in the last two years totaling \$11,800,000 had not demonstrated incremental improvements to AT&T’s network.⁵⁰ Commission Staff also denied Frontier’s alternative proposal in 2019, citing Frontier’s failure to identify specific service quality deficiencies that its projects would remedy, and uncovering overlap from the previous 2017 and 2018 investment projects and in the

Comments) at 3-4.

⁴⁶ Network Exam, Chapter 17 at 728.

⁴⁷ Sonic Opening Comments at 5.

⁴⁸ GO 133-D Section 9.7 Alternative Proposal for Mandatory Corrective Action. “In support of a request to suspend the fine, carriers may propose, in their annual fine filing, to invest no less than twice the amount of their annual fine in a project (s) which improves service quality in a measurable way within 2 years. The proposal must demonstrate that 1) twice the amount of the fine is being spent, 2) the project (s) is an incremental expenditure with supporting financials (e.g. expenditure is in excess of the existing construction budget and/or staffing base), 3) the project (s) is designed to address a service quality deficiency and, 4) upon the project (s) completion, the carrier shall demonstrate the results for the purpose proposed. Carriers are encouraged to review their service quality results to find appropriate target projects to invest funds.”

⁴⁹ *Opening Comments of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133* at 15.

⁵⁰ Resolution T-17721 at 12.

proposed 2019 proposed projects.⁵¹ This is consistent with the findings of the Network Exam Phase 2, which states that there is no evidence to suggest that the investments have in actual improvements in service quality outcomes.⁵² Therefore, the Commission should eliminate Section 9.7 from GO 133 D, as it is neither in the public interest nor an effective enforcement mechanism to guarantee high-quality and reliable service outcomes for customers.

Table 6: Section 9.7 Alternative Proposal Utilization 2017-2021 for AT&T (U-1001-C) and Frontier (U-1002-C and U-1024-C)⁵³

Year	AT&T (U-1001-C)	Frontier (U-1002-C)	Frontier (U-1024-C)	GO 133-D Standard Violation
2017	\$4,400,000	\$1,949,000	\$127,080	Out of Service Repair Standard, Answer Time
2018	\$7,405,200	\$2,620,620	\$65,100	Out of Service Repair Standard, Answer Time
2019	\$3,222,000	\$1,277,856	\$118,332	Out of Service Repair Standard, Answer Time
2020	\$3,129,300	\$967,725	\$34,800	Out of Service Repair Standard
2021	\$6,184,800*	\$173,850	\$0	Out of Service Repair Standard

Section 9.7 utilization is shown in red, fines are shown in black.

*T-17769 is currently pending vote on January 12, 2023 Commission Voting Meeting.

Second, the Commission should revise the existing fine mechanism by increasing financial penalties⁵⁴ in accordance with the severity of the offense and expand penalties to wireless, VoIP, and broadband service providers. As evidenced from the above data, wireless, VoIP and broadband customers continue to receive poor service quality. Enforcement, such as financial penalties, must be in place to deter violations that harm customers and hold providers accountable to deliver improved service quality. The penalties must be significant to match the severity of the impacts that customers face under poor quality. As previously recommended, the fine should be the maximum amount allowable under PU Code Section 2107, and scale over

⁵¹ Resolution T-17731 at 16 and 18.

⁵² Network Exam, Chapter 17.

⁵³ Resolution T-17625, Resolution T-17629, Resolution T-17631, Resolution T-17652, Resolution T-17655, Resolution T-17769. Available at: <https://docs.cpuc.ca.gov/ResolutionSearchForm.aspx>.

⁵⁴ A table of recommended proposed increased financial penalty tabulations are available at Opening Comments of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133 at 14.

time.⁵⁵ The Commission should consider Joint Commenters' suggestion of Resolution UEB-006 as an example of proposed modifications to fines.⁵⁶ Resolution UEB-006 calculate penalties based on per affected customer, which is more progressive than GO 133-D's current fine calculations based on per day, compiled per month.⁵⁷

Lastly, the Commission should adopt an automatic customer credit refund mechanism to ensure that proper customer protections for reliable communications services are in place. A customer credit mechanism serves as a robust enforcement mechanism as it provides customers with some relief from subpar service quality and will incentivize providers to improve service for their customers. The Commission has used customer refunds as an enforcement tool "to return funds to the victim which were unlawfully collected by the public utility for unreasonable, excessive or discriminatory amount."⁵⁸ Currently, GO 133-D's Section 8 states that the providers shall utilize their existing tariff or customer guidebook provisions for customer refunds.⁵⁹ However, this leaves the burden on the customer, who needs to report service issues to the providers and must deal with each issue on a case-by-case basis. Refunds are not guaranteed, and in many cases, the resulting refund is a marginal amount that is not commensurate with the loss of service and time the customer lost reporting the issue. There are also cases where customers are reporting prolonged poor service and do not receive sufficient assistance or alternatives to their service issue. In the public comments section of the docket card of this proceeding, there are many examples of customers expressing the poor service they

⁵⁵ *Opening Comments of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133* at 13.

⁵⁶ *Comments of The Utility Reform Network, Center for Accessible Technology, and the Communications Works of America on the Administrative Law Judge's Ruling Requesting Comments on Network Examination and ARMIS Reporting*, December 21, 2022 at 18-19.

⁵⁷ Resolution UEB-006. Adoption of a Disconnection Citation Program to Enforce Compliance with the Rules in Commission Decision 20-06-003. Available at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M355/K790/355790396.pdf>

⁵⁸ Public Utilities Code Section 734. Available at https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PUC§ionNum=734.

⁵⁹ GO 133-D Section 8 Refunds. "URF carriers and GRC ILECs shall utilize their existing tariff or customer guidebook provisions for customer refunds. If a carrier does not have a tariff or guidebook provision for customer refunds, the carriers should develop a refund policy and file with the Commission a Tier 1 Advice Letter to describe the refund policy, identify where the policy can be found, and modify the tariff or customer guidebook as appropriate."

have received and pleading that they should receive credit for the lack of service. For example, a Frontier customer from Milford who lives in an area impacted by the Dixie fire stated:

“I reside in the area that the Dixie Fire burnt several miles of phone poles and lines which left the area without any phone or internet service from August 2021 until January 2022. During this time there was little or none communications from Frontier or any Fire agencies to keep the public informed on progress or expected completion date of repairs. When our monthly bills were due we got charged as though we had received service when there wasn't even a delivery system to deliver them. **There was nothing established to accommodate customers affected. You literally had to call every billing cycle and argue with customer service to not be billed. You had to purchase other services to have access phone and internet services. No accommodations for your extra expenses and lack of services were provided.** A communication company could not communicate, with the technology available today they couldn't even compose a list of affected customers or offer alternative assistance. Then when repairs were completed the services were worse than before rather than improved with new lines. This did not reflect on their employees on the ground but rests solely with management and company policy. Some neighbors experienced emergency situations during the harsh winter storms we had and of course had no phones services. We should not be limited to just one provider in our area, it should be opened up to other sources...I often wonder how many people have been overcharged for their services, especially after the fire...”⁶⁰

The Commission should adopt an automatic customer refund, with an amount comparable to the time of essential communication service lost and should scale over time for customers that face lengthy instances of failed service. This serves the public interest, as those most harmed by poor service quality are returned economic relief which would otherwise be gained by the providers. Frontier, as a condition of its restructuring, has successfully committed to providing refunds to customers with voice service outages lasting over 24 hours.⁶¹ The Commission should consider this customer protection and standardize automatic refunds, crediting all customers who experiencing poor service quality due to failure to meet any GO 133-D standards across all wireline, wireless, VoIP, and broadband service providers. It is imperative

⁶⁰ Public comment in R.22-03-016 submitted by Sharon McCallister, December 30, 2022.

⁶¹ Frontier Opening Comments at 16. D.16-08-021 ordered Frontier to provide a customer credit of \$5 per day for services subject to GO 133-D. D.21-04-008 expanded on that commitment by ordering Frontier to provide a credit of \$10 per day to tribal land customers for outages of over 24 hours.

that customers receive the minimum level of service quality that they pay for and should be compensated accordingly for any issues.

5. The Commission should reject AT&T, Frontier, and CCTA’s claim that communications services markets are competitive and reject the idea that competition in communications services is a substitute for regulation.

Customer satisfaction surveys and federal complaints discussed above, as well as comments in CPUC proceedings,⁶² make clear that service quality issues exist in the communications services markets. Plain-old telephone service (POTS), VoIP, wireless, and broadband services all experience service quality issues as detailed in our comments above. We also know from public comments⁶³ that many Californians do not have options for whom they procure these services from.

The Commission should reject the arguments that POTS, VoIP, wireless, and broadband services are competitive and thus need no regulation. For example, AT&T asserts that these markets are competitive, but does not provide serious evidence.⁶⁴ AT&T supports its assertion of a competitive communications services market by counting whether there are other providers offering some type of telecom service to households in the census blocks served by their wire centers.⁶⁵ The data that serves as the basis of the AT&T analysis is problematic for this use. It shows only whether some location in the census block has access to a service. Even if one location in a census block has access to a service, many other households and businesses in that block may not have access. Public comments⁶⁶ suggest that many Californians face limited or no choices for providers.

⁶² For example, “VOIP is not reliable and when others are on VOIP calling us on the landline the quality is poor and choppy.” Submitted in Public Comments for R.22-03-016 Dec 6 2022 by Cindy Russell.

⁶³ “it is the only provider in my rural neighborhood” submitted in Public Comments for R.22-03-016 dec 4, 2022 by Ann Campbell; “AT&T is the only provider in my area” submitted in Public Comment for R.22-03-016 Nov 15 2022 by Monica Beachell; “Comcast Xfinity is the only provider of internet service where I live” Submitted in Public comments for R.22-03-016 Nov 15 2022 by Jaime Moldowan.

⁶⁴ Examples of robust analysis of competition can be found at:
<https://www.oecd.org/daf/competition/methodologies-to-measure-market-competition-2021.pdf>.

⁶⁵ AT&T Opening Comments at 17.

⁶⁶ “We have wished for an alternative to AT&T for decades: We want land-line phones, but use them very little. AT&T is the only provider...” Public comment in R.22-03-016 submitted December 1, 2022 by James Arden.

Similarly, the Commission should reject wireless service providers' unsubstantiated claims of competition in the wireless industry.⁶⁷ The churn rates that Verizon and CTIA point to, for example, as an indicator of "robust" competition are nothing more than indicators of how often consumers disconnected from service; indeed, in the recent Verizon-TracFone merger, the Commission found that....⁶⁸ churn rates have decreased overall since 2018.⁶⁹ More importantly, the Herfindahl-Hirschman Index (HHI), a measure of market concentration widely used in competition analysis, increased from 3,106 (HHI greater than 2,500 is considered "Highly Concentrated," the most concentrated class of market) to 3,596.⁷⁰ In other words, a Highly Concentrated market has only become *even more* Highly Concentrated in recent years.

III. CONCLUSION

The Commission should establish minimum service quality standards for essential communications services that include wireless, VoIP and broadband service. Quantitative and qualitative data point to continued existence of service quality issues for all these services. The Commission should reject claims that competition will resolve service quality issues or that issues do not exist. California customers have little or no choice for their communications service providers. Customers are unhappy with the service quality they are currently receiving and are looking for the Commission to take action in establishing common sense, baseline service quality standards for wireless, VoIP and broadband services.

⁶⁷ CTIA Opening at 5. Verizon Opening Comments at 10-11. AT&T's Opening Comments at 28.

⁶⁸ As the Commission itself found in its Decision Granting Joint Application and Approving Transfer of Control of Tracfone Wireless, Inc. to Verizon Communications, Inc., Subject to Conditions (Decision 21-11-030 at 20), there is no basis to establish that a certain level of churn is indicative of a competitive market, or that churn can be used to assess anything besides the number of disconnections.

⁶⁹ Federal Communications Commission 2022 Communications Marketplace Report, at.61-62.

⁷⁰ Federal Communications Commission 2022 Communications Marketplace Report, at.60-61.

Respectfully submitted,

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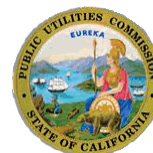
January 20, 2023

APPENDIX C

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

Opening Comments of the Public Advocates Office
on the Administrative Law Judge's Ruling Requesting
Comments on Information Presented
in the Staff Report



BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

FILED

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R2203016

Order Instituting Rulemaking
Proceeding to Consider Amendments to
General Order 133.

Rulemaking 22-03-016

**OPENING COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE
ADMINISTRATIVE LAW JUDGE'S RULING REQUESTING COMMENTS
ON INFORMATION PRESENTED IN THE STAFF REPORT**

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May 18, 2023

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I. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

Pursuant to Rule 6.2 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure, and the Administrative Law Judge's Ruling (Ruling) Requesting Comments on the Service Quality Outage Analysis (Staff Report),¹ the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these Opening Comments.

Communications services are a critical part of our daily lives. From talking to loved ones to accessing remote education, healthcare, work, and emergency services, these services are now a baseline to navigate society. California must ensure these communication services are working in the way they are advertised to meet these needs. We have seen in this proceeding that customers are deeply frustrated with the service quality of these communications services, including broadband service.² Hundreds of Californians from all over the state have voiced their concerns to the Commission in this proceeding's Public Participation Hearings (PPH) that their Plain Old Telephone Service (POTS), wireless, Voice over Internet Protocol (VoIP), and broadband services are not performing to the standards that they were advertised or that are needed in their daily lives.³ There is a pressing need to hold wireline, wireless, interconnected VoIP, and broadband service providers accountable to deliver a baseline level of communications service quality to all California customers.

¹ *Administrative Law Judge's Ruling Requesting Comment*, April 17, 2023 (ALJ Ruling).

² *Opening Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Requesting Comments on Network Examination and ARMIS Reporting*, January 20, 2023 (Cal Advocates Reply Comments on ARMIS Report) at 2-9.

³ Links to the watch the April 18, 2023 and May 3, 2023 PPHs are accessible here:

<https://www.adminmonitor.com/ca/cpuc/hearing/20230418/>,

<https://www.adminmonitor.com/ca/cpuc/hearing/202304182/>,

<https://www.adminmonitor.com/ca/cpuc/hearing/20230503/>,

<https://www.adminmonitor.com/ca/cpuc/hearing/202305032/>. Transcripts of December 6 and 8, 2022

PPHs are accessible here:

<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M501/K974/501974629.PDF> and here:

<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M501/K974/501974630.PDF>.

The Commission must act now to establish and enforce minimum service quality standards for wireless, VoIP, and broadband services. Attachment A to these comments outlines the necessary revisions to General Order (G.O.) 133-D. In the context of the ALJ's Ruling, the recommendations include:

- Extending the existing G.O. 133-D service quality standards to wireless and interconnected VoIP services;
- Adopting new minimum service quality metrics for wireless, interconnected VoIP, and broadband services;
- Revising and applying G.O. 133-D's enforcement mechanisms to all new and existing minimum service quality metrics;
- Adopting customer credits in addition to the revised enforcement mechanism.

II. DISCUSSION

A. **The Commission should apply the existing G.O. 133-D service quality standards to wireless and interconnected VoIP services.**⁴

The Ruling asks whether the data and analysis included in the Staff Report⁵ merit revising G.O. 133-D to include wireless and interconnected VoIP services. Currently, existing G.O. 133-D standards apply to “facilities-based carriers”.⁶ The Staff Report shows that outages for wireless and interconnected VoIP have increased steadily, as

⁴ *Opening Comments of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133*, May 9, 2022 (Cal Advocates Opening Comments) at 3.

⁵ *Service Quality Outage Analysis*, April 17, 2023 (Staff Report).

⁶ G.O. 133-D Section 1.3 defines “facilities-based carriers” as a “telephone corporation or interconnected VoIP provider that owns or controls facilities used to provide communications for compensation, including the line to the end-user’s location. A local exchange carrier providing service solely by resale of the ILEC’s local exchange services is not a facilities-based carrier. By Commission Decision (D.) 95-12-057, facilities-based carriers must file an environmental assessment report and undertake mitigation efforts addressing any adverse environmental impacts associated with their construction activities under their CPCN.” Installation Interval and Installation Commitments only apply to GRC ILECs, whereas Customer Trouble Reports, Out of Service Repair Intervals, and Answer Time for trouble reports and billing and non-billing inquiries applies to TDM-based voice services provided by GRC ILECs, facilities-based URF Carriers with 5,000 or more customers, and any URF Carrier with fewer than 5,000 customers that is a COLR.

highlighted in Table 1 of this opening comment.⁷ The California Governor’s Office of Emergency Services (CalOES)⁸ requires communications service providers that offer access to 911 service to electronically submit community isolation outage notifications via e-mail.⁹ All reporting service providers must notify CalOES within 60 minutes of discovering a community isolation outage that limits customers’ ability to make 911 calls or receive emergency notifications.¹⁰ The Staff Report includes CalOES data and focuses on outages by network type from 2021-2022, specifically wireline, wireless, interconnected VoIP, and “Multiple” (a combination of two or more network types); this data is included in Table 1 below. This data shows that 22% and 57% of the total reported outages are from wireless and interconnected VoIP services, respectively.¹¹

Table 1: Outages by Network Type reported to the Cal OES

Cal OES: Outages by Network Type (2021-2022)		
Network Type	Total Reported Count	Total Percentage (%)
Wireline	2,944	10%
Wireless	6,634	22%
Interconnected VoIP	17,421	57%
Multiple*	3,371	11%
Total	30,370	100%

* Reports that selected two or more network types.

The data trends included in the Staff Report echo prior evidence submitted in the record of this proceeding that highlight the presence of service quality issues for major

⁷ Staff Report at 29.

⁸ Cal OES is California’s state agency responsible for overseeing and coordinating emergency preparedness, response, recovery, and homeland security activities within the state.

⁹ See 19 Cal. Code Regs. § 2480.3.

¹⁰ See California Government Code § 53122(c)(1).

¹¹ *The Cal OES: Outages by Network Type (2021-2022)*, Cal OES, Accessible here: <https://public.outage.ca.nga911.com/dashboard>.

communications services.¹² The Commission should apply the existing G.O. 133-D service quality standards to wireless and interconnected VoIP services as outlined in Table 2 below.

Table 2: Current GO 133-D Standards and Applicability to Wireless and Interconnected VoIP Services^{13,14}

Standard	Applicable Services^{15 16}
3.1 Installation Interval	Interconnected VoIP Services
3.2 Installation Commitment	Interconnected VoIP Services
3.3 Customer Trouble Reports	Interconnected VoIP, and Wireless Services
3.4 Out of Service Repair Interval	Interconnected VoIP, and Wireless Services
3.5 Answer Time	Interconnected VoIP, and Wireless Services

B. The Commission should adopt new service quality metrics for Wireless, Broadband, and VoIP services.

The Commission should develop additional service quality metrics in the current G.O. 133-D for wireless, Interconnected VoIP, and broadband services that include Call Failure Rate, Call Drop Rate, Call Setup Time, Repeat Trouble Reports, Latency, Jitter,

¹² *Opening Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Requesting Comments on Network Examination and ARMIS Reporting*, December 21, 2022 (Cal Advocates Comments on ARMIS Report) at 4-9.

¹³ The ALJ's Ruling seeks interested parties' comments regarding the current standards applying to Wireless and VoIP. While Table 2 reflects the two services listed in the ALJ Ruling, it should be noted that these standards should apply to broadband services as well.

¹⁴ Cal Advocates Opening Comments at 3.

¹⁵ As wireless service does not involve customer premise equipment, and customers can bring their own phones to a wireless service provider, the existing service quality metrics of Installation Interval, Installation Commitment, and Out of Service Repair interval need not apply to wireless service providers.

¹⁶ Extending these existing standards to broadband service should be urgently addressed in this proceeding.

Packet Loss, Packet Reordering, Community Outages, Cell Site Outages, and Delivered Network Speeds, as summarized in Table 3.

Table 3: Summary of Applicable Services

Standard¹⁷	Applicable Services¹⁸
Latency	Wireless, Broadband, and Interconnected VoIP Services
Jitter	Wireless, Broadband, and Interconnected VoIP Services
Packet Loss	Wireless, Broadband, and Interconnected VoIP Services
Packet Reorder	Wireless, Broadband, and Interconnected VoIP Services
Repeat Trouble Reports	Wireless, Broadband, and Interconnected VoIP Services
Call Drop Rate	Wireless, and Interconnected VoIP Services
Call Setup Time	Wireless, and Interconnected VoIP Services
Call Failure Rate	Wireless, and Interconnected VoIP Services
Community Outage	Broadband, and Interconnected VoIP Services
Cell Site Outages	Wireless Services
Delivered Network Speeds	Broadband Services

C. GO 133-D’s enforcement mechanism should be significantly revised.

The Staff Report demonstrates that the current G.O. 133-D enforcement framework, which authorizes the Commission to impose fines for non-compliance and allows providers to put forth alternative investment proposals in lieu of fines, is ineffective in ensuring communications service providers comply with minimum service quality standards.¹⁹ The Commission should revise the enforcement mechanism in G.O.

¹⁷ Cal Advocates Opening Comments at Attachment A, A-2 to A-8. Also attached to these opening comments.

¹⁸ See GO 133-D Section 1.3 for definitions of Interconnected VoIP service and wireless carriers.

¹⁹ Staff Report at 18.

133-D. The Commission should increase the authorized level of fines to the maximum allowable limit under Public Utilities (Pub. Util.) Code sections 2107²⁰ and 2108^{21, 22}. These fines should be assessed based on the factors laid out in the Commission Enforcement Policy, described in further detail below. In addition, the Commission should remove G.O. 133-D, Section 9.7, Alternative Proposal for Mandatory Corrective Action, which allows providers to invest twice the amount of the proposed fine in lieu of paying a fine.²³ The section lacks oversight and there is no evidence to demonstrate that these investment projects are incremental to the communication service provider's planned investments or normal operating and capital costs.²⁴ Furthermore, enforcement should include automatic customer credit refunds and extend the enforcement mechanism to new standards that are proposed in these and prior comments²⁵ for GO 133-D. The recommendations below would enhance enforcement to ensure that providers are incentivized to make appropriate investments into their infrastructure.

1. G.O. 133-D's enforcement mechanism needs to be revised to better reflect the importance of service quality for customers in California.

The Commission should revise G.O. 133-D's enforcement mechanism so that providers incur real-time fines by removing the 3-month grace period. Section 9.1 of G.O. 133-D assesses fines for violations only when the violation has lasted for three or

²⁰ Pub. Util. Code section 2107: "Any public utility that violates or fails to comply with any provision of the Constitution of this state or of this part, or that fails or neglects to comply with any part or provision of any order, decision, decree, rule, direction, demand, or requirement of the commission, in a case in which a penalty has not otherwise been provided, is subject to a penalty of not less than five hundred dollars (\$500), nor more than one hundred thousand dollars (\$100,000), for each offense."

²¹ Pub. Util. Code 2108: "Every violation of the provisions of this part or of any part of any order, decision, decree, rule, direction, demand, or requirement of the commission, by any corporation or person is a separate and distinct offense, and in case of a continuing violation each day's continuance thereof shall be a separate and distinct offense."

²² A table of recommended proposed modifications to fine is located at Cal Advocates Opening Comments) at 12-14.

²³ Cal Advocates ARMIS Reply at 15-19.

²⁴ Cal Advocates ARMIS Reply at 15-19.

²⁵ Cal Advocates ARMIS Reply at 17.

more months. As shown by Table 4 of the annual fine assessments for 2020 included below, there are two things undermining the efficacy of using the third-month grace period. First, some providers are in a state of permanent “chronic failure status,” in which their G.O. 133-D metrics, specifically the Out of Service Repair Interval, are below the 90% threshold. Second, some providers are constantly coming in and out of compliance over a short period of time, such as in the case of Frontier Citizens, Frontier Southwest, and Happy Valley,²⁶ which enables them to avoid triggering the end of the three-month grace period, thus avoiding fines. In both cases, the violation is not fully corrected; it is either left to continue next year, or the violation is only resolved marginally in the short term to avoid penalties. As a result, customers fail to experience long-term solutions to their service quality issues.

Table 4: Copy of 2020 Annual Fine Schedule²⁷

AT&T CA, AT&T Corp., Frontier Citizens, Frontier Southwest, Happy Valley, and Hornitos failed to meet the *Out of Service Repair Interval* standard for the following months in 2020¹⁸:

	2020 Reporting for <i>Out of Service Repair Interval</i> GO 133-D, Section 3.4 – 90% minimum											
	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
AT&T CA	<u>44.3%</u>	<u>54.9%</u>	<u>45.5%</u>	<u>41.3%</u>	<u>49.2%</u>	<u>48.3%</u>	<u>47.8%</u>	<u>42.8%</u>	<u>49.7%</u>	<u>52.5%</u>	<u>57.7%</u>	<u>26.6%</u>
AT&T Corp.	<u>25.3%</u>	<u>57.8%</u>	<u>34.8%</u>	<u>26.5%</u>	<u>50.0%</u>	<u>26.1%</u>	<u>39.2%</u>	<u>54.8%</u>	<u>47.5%</u>	<u>58.0%</u>	<u>69.7%</u>	<u>64.8%</u>
Frontier Citizens	<u>57.4%</u>	<u>78.9%</u>	<u>85.1%</u>	90.3%	90.4%	<u>86.0%</u>	<u>86.6%</u>	<u>82.0%</u>	93.2%	93.8%	<u>88.0%</u>	<u>87.7%</u>

²⁶ Resolution T-17736. Accessible here:
<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M389/K955/389955507.PDF>

²⁷ The original tables are in T-17736 at 7-8.

	2020 Reporting for Out of Service Repair Interval GO 133-D, Section 3.4 – 90% minimum											
Frontier Southwest	<u>71.4%</u>	92.9%	<u>76.3%</u>	93.1%	<u>75.9%</u>	90.6%	<u>80.0%</u>	95.2%	<u>91.7%</u>	92.3%	<u>84.0%</u>	<u>70.0%</u>
Happy Valley	<u>87.5%</u>	92.9%	<u>75.0%</u>	100.0%	100.0%	<u>80.0%</u>	<u>83.3%</u>	<u>83.3%</u>	100%	<u>82.6%</u>	<u>51.8%</u>	<u>60.0%</u>
Hornitos	<u>88.0%</u>	<u>75.0%</u>	<u>86.0%</u>	<u>83.0%</u>	<u>83.0%</u>	<u>75.0%</u>	<u>52.0%</u>	<u>80.0%</u>	<u>58.0%</u>	100.0%	<u>86.0%</u>	100.0%

Furthermore, the scaling factor for assessing fines based on working lines,²⁸ as described in Section 9.1 of G.O. 133-D, should be removed. G.O. 133-D assesses a fine amount weighted on the number of working lines a provider has for the given year in California.²⁹ The scaling factor³⁰ is not effective because it improperly minimizes the amount of fines for a provider for non-compliance with G.O. 133-D. This disparity is shown in Table 5 below, which reflects a sample of providers’ maximum amount of fine (for a single service quality standard) for 2022. This scaling factor is not in the public interest; it merely reduces the financial amount of the maximum fine the provider must pay. Assessing the penalty based directly on the providers’ size fails to balance the need to ensure compliance with G.O. 133-D’s requirement and the avoidance of excessive penalties. It also may not accurately measure the financial resources of the regulated entity.³¹ Therefore, the penalty amount should be determined equally with the baseline

²⁸ G.O 133-D Section 9.1 states: “The fine will be assessed based on the size of the carrier relative to the number of access lines in California at the end of June of the applicable year. The June 30th total California line count will be posted on the Communications Division’s web page for each year of calculation.” However, the PDF posted on the CPUC’s website uses the term “working lines.” For discussion purposes, the term working lines will be used in these comments.

²⁹ This is reported annually to the CPUC. This year’s number of working lines is reported in the Staff. Last assessed May 12, 2023: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/communications-division/documents/service-quality/june-30-2022-go-133-d-carrier-line-counts.pdf>.

³⁰ GO 133-D Section 9.1 states the formula is: (Carrier’s Access Lines/Total CA Access Lines in June) = Carrier’s Scaling Factor. (Carrier’s Scaling Factor) X (Monthly Base Fine per Measure) X (Number of Months Measure Was Not Met) = Fine.

³¹ In CPUC’s Enforcement Policy, Financial Resources of the Regulated Entity, Including the Size of the Business states “Effective deterrence also requires that staff recognize the financial resources of the regulated entity in setting a penalty that balances the need for deterrence with the constitutional limitations on excessive penalties. Some California regulated entities are among the largest corporations
(continued on next page)

fine amount across all providers who violate G.O. 133-D standards. Then, an additional penalty should be imposed based on the severity of violation if it is necessary to determine the total amount, such as number of days the violation continues, or number of customers the violation impacted.

Table 5: Example of Fine Amounts for Out of Service Standard³² under the Current Scaling Factor by Working Line, 2021

Company Name	Total Number of Working Lines (A)	% of All Working Lines Served in CA (B)	Max Fine Amount Allowable under Current G.O. 133-D (\$) (C)	Total Fine Amount per Month (\$) (D) [B*C = D]	Total Fine Amount per Year (\$) (E) [D*12=E]
AT&T California	1,219,784	33.50%	\$750,000	\$251,250.00	\$3,015,000.00
Frontier California	406,631	11.17%	\$750,000	\$83,775.00	\$1,005,300.00
Time Warner Cable Information Service	1,076,346	29.56%	\$750,000	\$221,700.00	\$2,660,400.00
Cox California Telecom	432,067	11.87%	\$750,000	\$89,025.00	\$1,068,300.00
Sierra Telephone	14,562	0.40%	\$750,000	\$3,000.00	\$36,000.00
Pinnacles Telephone	205	0.01%	\$750,000	\$75.00	\$900.00

in the United States and others are extremely modest, one-person operations. An accounting rounding error to one company is annual revenue to another. If appropriate, penalty levels will be adjusted to achieve the objective of deterrence, without becoming excessive, based on each regulated entity's financial resources." CPUC's Enforcement Policy is set forth in and Attachment to Resolution M-4846 (CPUC Enforcement Policy) at 19.

³² GO 133-D Section 9.3.

Table 6: Fine Amounts for Customer Trouble Report Standard³³ and Base Answer Time Standard³⁴ under the Current Scaling Factor by Working Line, 2021

Company Name	Total Number of Working Lines (A)	% of All Working Lines Served in CA (B)	Max Fine Amount Allowable under Current G.O. 133-D (\$) (C)	Total Fine Amount per Month (\$) (D) [B*C = D]	Total Fine Amount per Year (\$) (E) [D*12=E]
AT&T California	1,219,784	33.50%	\$60,000	\$20,100.00	\$241,200.00
Frontier California	406,631	11.17%	\$60,000	\$6,702.00	\$80,424.00
Time Warner Cable Information Service	1,076,346	29.56%	\$60,000	\$17,736.00	\$212,832.00
Cox California Telecom	432,067	11.87%	\$60,000	\$7,122.00	\$85,464.00
Sierra Telephone	14,562	0.40%	\$60,000	\$240.00	\$2,880.00
Pinnacles Telephone	205	0.01%	\$60,000	\$6.00	\$72.00

2. G.O. 133-D's enforcement mechanism needs to be reviewed utilizing the CPUC's enforcement policy.

The current enforcement mechanism does not comply with the CPUC's Enforcement Policy, set forth in Resolution M-4846,³⁵ which supports assessing penalties to deter violations. As the Commission modifies and revises the current enforcement mechanism it needs to be reviewed in compliance with CPUC's Enforcement Policy. The table below presents the five factors of the enforcement policy, and some examples of considerations to determine G.O. 133-D penalties as a standard of review:

³³ GO 133-D Section 9.4.

³⁴ GO 133-D Section 9.5.

³⁵ Resolution M-4846. Accessible here: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/safety-and-enforcement-division/documents/m-4846.pdf>

Table 7: G.O. 133-D Penalty Assessment Using CPUC’s Enforcement Policy

Factor	Items to Consider
I. Severity of the Offense	Examples such as the Public Participation Hearings for this proceeding demonstrate that customers may face economic and physical harm due to loss of essential communications services.
II. Conduct of the Regulated Entity	Some communications service providers have now established a history of continued violations, and repeated corrective actions and fines have not served to prevent and rectify a violation.
III. Financial Resources of the Regulated Entity	As G.O. 133-D will apply to more communications service providers that provide wireless, interconnected VoIP and broadband services, this will need to be assessed.
IV. Totality of the Circumstances	The present value of the economic benefit for communications service providers to continue to violate G.O. 133-D standards in lieu of improvements to infrastructure needs to be calculated (i.e., cost of doing business).
V. Role of Precedent	Past annual fine resolutions with fine penalties have demonstrated that precedent have been ineffective in deterring violations.

Lastly, there are new enforcement tools the Commission can use, such as the Administrative Enforcement Order and Administrative Consent Order.³⁶ The Commission should include both tools in Section 7 of G.O. 133-D, in addition to the Order Instituting Investigation (OII).

³⁶ A list of Administrative Enforcement Orders and Administrative Consent Orders can be accessed here: <https://www.cpuc.ca.gov/regulatory-services/enforcement-and-citations>

3. The Commission should require customer credit refunds, in addition to fines, in the enforcement framework.

The Commission should expand Section 8 of G.O. 133-D to include an automatic customer credit refund as a standard across all providers. We recommend an automatic customer refund in the amount of \$5 per incident for G.O. 133-D violations lasting less than 24 hours, and a refund amount of \$15 per day for violations lasting longer than 24 hours. For violations that persist over a 30-day billing cycle, customers should receive an automatic refund of the monthly bill amount and be able to terminate the service contract without a fee. Furthermore, refund amounts provided to customers in each month should continue to be reported to the Commission quarterly, in addition to G.O. 133-D's standards.

The automatic customer credit refund amount proposed above is consistent with Commission decisions that have assisted customers to get refunds from investigations and settlements in which a communications service provider has violated Commission rules and regulations. Decision (D.) 21-04-008 approved a settlement agreement between Frontier, Cal Advocates, The Utility Reform Network (TURN), and Communications Workers of America (CWA), that required Frontier to provide a customer credit of \$5 per day for services subject to G.O. 133-D, and to provide a credit of \$10 per day to tribal land customers for outages of over 24 hours.³⁷ In another decision, the Commission approved settlement agreements requiring Frontier to issue refunds in the amount of \$6 in bill credits to customers affected by address disclosures in 2016.³⁸

The customer credit refund amounts also align with two factors that the Commission should consider in determining the baseline refund amount. The first component of the baseline refund should be based on the impact on the customer when

³⁷ Decision (D.) 20-05-010, *Decision Approving Corporate Restructuring with Conditions*, May 20, 2021.

³⁸ D.22-04-059, *Decision Approving with Modifications the Proposed Settlement of Frontier Communications Corporation, Frontier Communications of America, Inc., Frontier California, Inc., and the Consumer Protection and Enforcement Division of the California Public Utilities Commission*, April 27, 2022

service quality is degraded or lost. The second component of the refund should be based on the alternative communication services available to the customer. Any refund amounts should consider what alternatives the customer has available when there is a service quality degradation or loss of voice, text, or data services. For example, some questions the Commission can explore are the following: When customers lose service for a day, do they commute to a neighbor's house, or a public space with broadband or phone services in the interim? Are customers able to buy a temporary service? An automatic customer credit requirement of \$15 per day for violations over 24 hours is reasonable because it is the cost of purchasing some temporary alternative service, such as a prepaid phone plan,³⁹ add-on/upgrade to the service,⁴⁰ or equipment.⁴¹ The \$5 amount in the G.O. for violations under 24 hours should be applied to capture repeat, short-term violations, which still disrupt a customer's daily services.

Automatic customer credit refund amounts are necessary because customers have reported many instances of service quality issues but have not received adequate compensation for the loss or timely restoration of their service. In the December 8, 2022 Public Participation Hearings (PPH), many customers voiced complaints that they are not receiving the levels of service that they pay for. One customer with multiple phone lines from San Diego stated that he suffers from dropped calls often, spending hours on the phone with customer service with no resolution. He stated, "I'm paying 100% percent and getting 60% service".⁴² Another customer from San Leandro contacted AT&T customer service, and after two hours and six transfers, customer services promised to

³⁹ For example, Tello offers a 500 mb plan with no minutes at \$5 a month, or 100 minutes and free text with no data at \$5 a month. See [Build Your Own Plan | Mix Minutes & Data | Free Text in Any Plan \(tello.com\)](#) Services such as Mint Mobile or Tracfone advertise plans starting at \$15.

⁴⁰ AT&T Mobility and Verizon advertise their plans with incremental increases ranging from \$5-\$10 to move up to the next tiered plan.

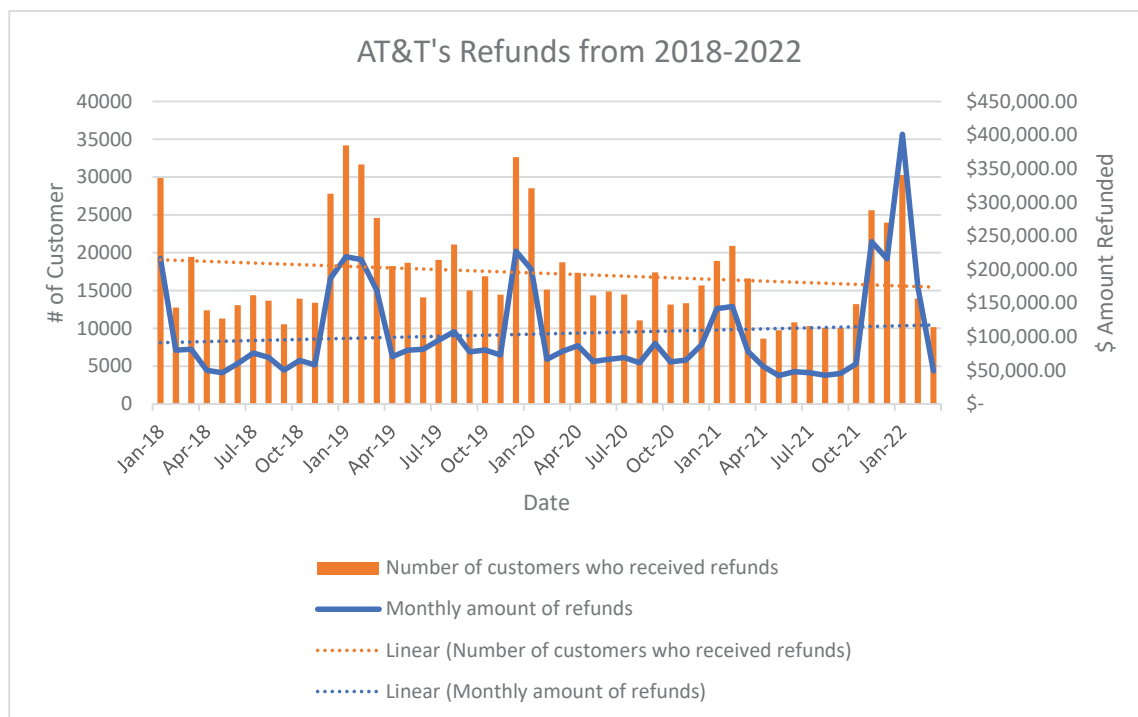
⁴¹ Many carriers charge \$5-\$15 on an equipment rental fee. See CNET "There's an Easy Way to Save Money on Your Internet Bill." January 18, 2023. Accessible here: <https://www.cnet.com/home/internet/theres-an-easy-way-to-save-money-on-your-internet-bill/>

⁴² *Public Participation Hearing Transcript*, December 8, 2022 (PPH Transcript) at 236.

give her a \$20 credit, but she never received the credit, and her issues were not resolved.⁴³

Automatic customer credit refunds are also fair because these refunds are very small relative to the impact of the disruption the customer experienced from the poor service quality. Using AT&T California’s G.O. 133-D data, the largest wireline communications service provider, Figure 1 below shows the annual amount of refunds to customers is around \$1 million per year, which is less than the amount in a fine and even lower than the amount in the alternative proposal investments.⁴⁴ For AT&T, this is an insignificant amount, considering the \$55 million in monthly revenue from these working lines.⁴⁵

Figure 1: AT&T’s Number and Amount of Refunds from 2018-2022



⁴³ PPH Transcript at 288.

⁴⁴ See Staff Report at 14.

⁴⁵ Number derived from AT&T’s basic voice plan (\$41) multiplied by the number of 2021 working lines reported in GO 133-D.

Lastly, automatic customer credit refunds can be easily implemented and standardized across providers. G.O. 133-D can require automatic refunds rather than having customers initiate a call to customer service. Section 8 of G.O. 133-D contains a refund framework requiring providers to have a refund policy in place. Some communications service providers⁴⁶ already have refund policies but require the customer to initiate the issue. The company then evaluates the issue and issues a refund amount based on the company's refund policy. A sample of this language is shown in Cox's refund policy:

“The Company shall allow, for interruptions in exchange telephone service 24 hours or more not due to conduct of the Customer, an amount equal to the prorated fixed monthly charge for the affected exchange service based on the duration of the interruption. To calculate this allowance, the Company will divide the applicable fixed monthly charge(s) by 30 (regardless of the calendar month), then multiply the result by the number of days of interrupted service. When interruptions continue beyond 24 hours, credit allowance will be given in successive 24-hour multiples. The Company, at its option, may provide products or services up to a \$25 value as a gesture of goodwill whenever the Company deems it appropriate to compensate Customers for their inconvenience.”⁴⁷

III. CONCLUSION

The Commission should establish minimum service quality standards for essential communications services, including wireless, interconnected VoIP, and broadband services. The Staff Report includes outage trends that warrant extending the current requirements to wireless and interconnected VoIP services. Furthermore, the Staff Report also shows that the current enforcement mechanism is not working and should be

⁴⁶ All major communication service providers have a refund policy in its tariff schedules (i.e. Frontier or AT&T California), or online. Please visit the following for some examples:
<https://www.spectrum.com/content/spectrum/residential/en/policies/residential-general-terms-and-conditions-of-service>;
https://www.att.com/legal/terms.consumerServiceAgreement.html#section_wireless;
<https://www.verizon.com/legal/notices/customer-agreement/>;

⁴⁷ Cox California Telcom LLC dba Cox Communications Tariff Schedule. Last accessed on May 12, 2023: <https://www.cox.com/content/dam/cox/residential/documents/regulatory/california-tariff-local.pdf>

revised. The Commission should require automatic refunds to customers in relation to G.O. 133-D service quality violations.

Respectfully submitted,

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May 18, 2023

ATTACHMENT A

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



FILED

10/07/21
04:59 PM

P2110003

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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September 29, 2021

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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

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.) 16-08-021⁷ (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

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,

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 Order¹⁸ 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

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. Red. 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 injunction²⁵ 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

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.pacemonitor.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 decision³¹ 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

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

²⁸ *American Cable Association, et. al. v. Becerra*, 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.

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

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

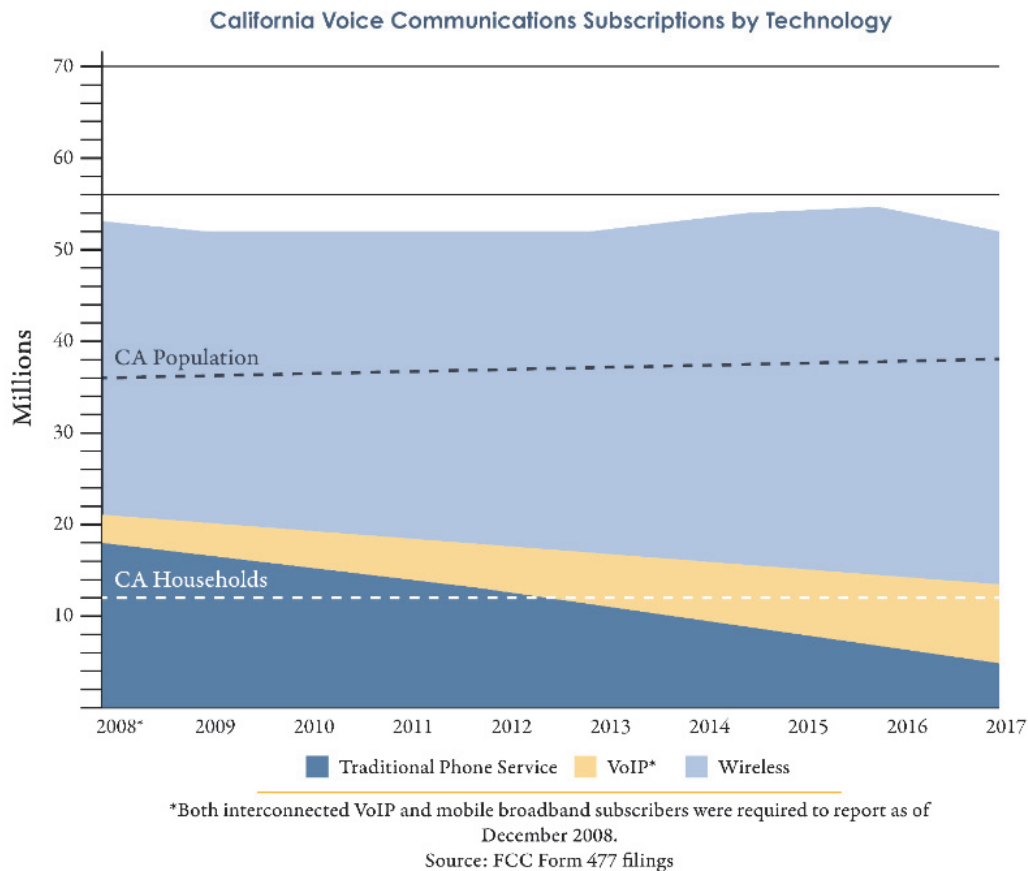
increased greatly since their inception roughly four decades ago, transforming from solely a method of voice communication to a critical means for consumers to manage countless facets of their daily lives. Among the variety of consumer uses enabled by these services are transportation applications ..., 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

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 \(fcc.gov\)](https://www.fcc.gov/media/releases/2019/CA-Power-Shutoff-Communications-Status-Report-for-Oct-27-2019).

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 \(census.gov\)](https://www.census.gov/newsroom/2020-08-11-schooling-during-the-covid-19-pandemic.html).

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

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

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

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

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 conferencing 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*

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 NBNBCB, 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

smallest 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

APPENDIX D

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

Comments of the Public Advocates Office
on the Administrative Law Judge's Ruling
Issuing Staff Proposal

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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Order Instituting Rulemaking Proceeding
to Consider Amendments to General
Order 133.

Rulemaking 22-03-016

**COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE
ADMINISTRATIVE LAW JUDGE'S RULING ISSUING STAFF PROPOSAL**

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Proceeding
to Consider Amendments to General
Order 133.

Rulemaking 22-03-016

**COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE
ADMINISTRATIVE LAW JUDGE’S RULING ISSUING STAFF PROPOSAL**

I. INTRODUCTION

Pursuant to the *Administrative Law Judge’s Ruling Issuing Staff Proposal* (Ruling), the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these comments on the Commission’s Communications Division’s Service Quality Proceeding Phase One Staff Proposal (Staff Proposal).¹

The Staff Proposal recommends changes to General Order (GO) 133-D that would extend outage metrics to Voice Over Internet Protocol (VoIP) and wireless services. However, the Staff Proposal fails to recognize the difference between (1) the traditional voice telephone service or copper-based network services (also known as “plain-old telephone service” or “POTS”) that GO 133-D originally covered, and (2) the packet-switched technologies that have become Californians’ dominant modes of communication. This difference requires collection of a call quality metric for wireless and voice over internet protocol services. Furthermore, the Staff Proposal fails to recognize that the level of service quality customers experience may include service degradation that does not result in an outage yet can be an obstacle to safe and reliable communication service. Therefore, the Staff Proposal’s consumer protection requirements need to be revised to promote public safety and further the public interest of

¹ *Administrative Law Judge’s Ruling Issuing Staff Proposal*, June 27, 2024, at Attachment 2.

ensuring that Californians actually receive the level of voice service reliability that they pay for.

VoIP, wireless, and broadband technologies now serve as the dominant forms of communication used by Californians in both conventional and emergency situations. For example, the California Governor's Office of Emergency Services (CalOES) reported 9-1-1 call statistics showing that in 2023, there were 23,315,779 wireless emergency calls placed in California, which represents 87% of all emergency calls. 1,579,993 emergency calls, or 6% of all emergency calls, were placed using VoIP technologies—which surpasses the number of emergency calls made over traditional POTS networks. 1,293,631 emergency calls were made over POTS lines, which represents 5% of all emergency calls made.²

The Commission has an obligation to ensure a minimum level of service quality for VoIP and wireless services because these services are essential to public safety.³ In Decision (D.) 20-07-011, *Decision Adopting Wireless Provider Resiliency Strategies*, the Commission stated that in the face of an increasingly challenging climate emergency, “the State has a duty to ensure, as much as possible, the safety of all Californians,” including by taking action to safeguard Californian’s access to communications networks.⁴

The Staff Proposal should be modified to ensure reliability of wireless and VoIP services. The Staff Proposal must go beyond provisions that monitor and enforce when

² CalOES. “State 9-1-1 Advisory Board” (2024). Available at: <https://www.caloes.ca.gov/wp-content/uploads/PSC/Documents/9-1-1-Advisory-Board-Slides-May-2024-Final.pdf>. Last accessed August 12, 2024.

³ From Public Utilities Code Section 451: “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.” [emphasis added].

⁴ D.20-07-011, *Decision Adopting Wireless Provider Resiliency Strategies*, July 20, 2020, at 13: “California is in an unprecedented climate emergency that has produced increasingly deadly and destructive wildfires, and PSPS events. The State has a duty to ensure, as much as possible, the safety of all Californians. The CPUC 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.”

customers are currently experiencing outages. To modernize service quality standards in the interest of public safety, the Commission should:

- Add the minimum service quality standards recommended in Cal Advocates’ *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*.⁵ To the extent that the Commission pursues a streamlined service quality metric that encapsulates quality of service for VoIP and wireless technologies, an automated, mathematically calculated Mean Opinion Score (MOS) can be required for wireless and interconnected VoIP⁶ service providers.
- Retain the Trouble Reports metric,^{7,8} which is technology neutral and helps ensure that Californians’ trouble reports are tracked, monitored, and subject to standards. These Trouble Reports document customers’ experiences with the services they pay for.
- Clarify the types of entities that each metric applies to, and specifically identify that VoIP and wireless metrics respectively apply to all facilities-based VoIP and wireless providers.

⁵ See Petition (P.)21-100-003, *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*, October 7, 2021 at 22. Suggesting that metrics include latency, jitter, packet loss, call failure rate, call drop rate, call setup time, delivered network speeds, and chronic customer trouble reports.

⁶ The following is a definition for Interconnected VoIP from the Staff Proposal GO 133-D Redline at 5.

“Interconnected Voice over Internet Protocol (VoIP) Provider: Pursuant to 47 C.F.R. § 9.3, an interconnected VoIP provider is a company which provides a VoIP service that uses Internet Protocol (IP) or a successor protocol to (i) enable real-time, two-way voice communications; (ii) requires a broadband connection from the user’s location; (iii) requires IP-compatible customer premises equipment; and (iv) permits users generally to receive calls that originate on the public switched telephone network (PSTN) and to terminate a call to the PSTN.”

⁷ GO 133-D currently requires submission of the trouble reports metric. See GO 133-D at 7. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/communications-telecommunications_and_broadband/consumer_programs/service_quality/general-order-133-d.pdf. Last accessed: August 20, 2024.

⁸ From the Staff Proposal at 41: “Eliminate the customer trouble reports standard.”

- Adopt the customer credit fine mechanism contained in the Staff Proposal.
- Require wireless providers to verify coverage at the address level, using data collected at the user's premises through the use of a mobile application.
- Require reporting requirements beyond the Staff Proposal related to call quality degradation.
- Fine providers for mass outages based on the total number of localized outages within them.

To modernize service quality requirements, the Staff Proposal must be modified to ensure reliability of wireless and VoIP services by incorporating one or more metrics to track call quality. Attachment A to these Opening Comments is a redlined Staff Proposal that reflects the changes necessary to ensure that it adequately protects customers and public safety. Attachment B provides the same changes reflected in a redlined version of GO 133-D itself.

Cal Advocates reserves the right to respond in future filings to questions in the Ruling that are not addressed in these comments.

II. DISCUSSION

A. The Commission should Incorporate at least one Call Quality Metric to Fully Measure all Aspects of Service Quality

1. A Call Quality Metric is Necessary to Support Emergency Communications

The current Staff Proposal is a step in the right direction toward protecting Californians. However, the Staff Proposal leaves a loophole that will permit poor service quality to persist it does not currently include a call quality metric and instead focuses only on outages. Under the Staff Proposal, wireless and VoIP providers could perform well on outage-related metrics but still deliver poor service quality to customers. As a result, customers could experience service degradation without experiencing an outage, that would still impact their access to a safe and reliable communications service. For example, a wireless or VOIP provider could experience no outages but still provide poor call quality that is not good enough for customers to understand each other (which is

referred to as “call quality degradation”). Call quality degradation is of particular importance to maintain public safety, where emergency workers and callers must be able to communicate clearly and quickly.

The Commission should include call quality metrics in the Staff Proposal to support communications in emergency situations. The negative impacts of degraded call quality can be just as severe as the negative impacts of a communications network outage. For example, in an emergency, it is critical that a 9-1-1 operator understand the caller in the shortest possible time. Emergency callers are under a lot of stress, making communication difficult in the first place, so the quality of the call is incredibly important.⁹ If a 9-1-1 operator misunderstands a caller or is unable to quickly discern the what the caller is saying, the consequences can be devastating. The Staff Proposal already highlights the need for voice communications to support public safety operations.¹⁰ To consistently support public safety, the Staff Proposal must adopt call quality-related metrics along with the existing outage and customer service metrics. Adopting such call quality-related metrics would support the public safety of all Californians, whether they use POTS, VoIP, or wireless networks.

2. A Call Quality Metric is Necessary to Account for the Difference between Circuit-Switched (POTS) and Packet-Switched (Wireless and VoIP) Communications

The Staff Proposal fails to distinguish between the traditional end-to-end POTS network that GO 133-D was originally designed for, and the packet-switched technologies that are now Californian’s dominant modes of communication.

⁹ Dr. Murray Milner for the New Zealand Ministry of Business, Innovation, and Employment, “Understanding Voice Quality in the Context of Emergency Calling”, 2009. Available at: <https://www.mbie.govt.nz/dmsdocument/1336-understanding-voice-quality-in-emergency-calling-pdf>. Last accessed August 19, 2024.

¹⁰ See Staff Proposal at 35: “During an emergency, customers must be able to reach 9-1-1 or emergency service using whatever technology platform available to them, be it POTS, VoIP, or wireless. Adequate standards and enforcement must be in place to ensure these communications services are available at times of need.”

The modern packet-switched networks that are used to supply wireless and VoIP services are susceptible to service quality issues that POTS networks are not susceptible to. Under the modern packet-switched networks, the packets travel through multiple paths (or routes), which allows for more efficient use of the telecommunications infrastructure. But these modern packet-switched networks also introduce the possibility of delays—often undetectable—in the movement of packets from end-to-end.¹¹ If the network is busy or congested (e.g., during peak data traffic hours), users face service degradation of whatever voice service they are utilizing.

Call quality must be accounted for under this Staff Proposal. For example, even if a customer is not experiencing an outage, poor call quality may still cause the customer to be unable to discern what is being said on the other line—or the call may drop. Poor call quality issues effectively defeat the purpose of having a service connection. Furthermore, the need for reliable and clear call connectivity is of great importance in emergency situations.

The service quality standards and enforcement mechanism in GO 133-D were adopted in 2016 and focused primarily on POTS services that were provisioned through time division multiplexing (TDM) technology.¹² For POTS services, GO 133-D established minimum standards for installation, maintenance and operator services.¹³ To establish voice communications between one customer and another, a POTS service uses both circuit switching and a circuit dedicated to only that particular connection. The POTS services' method of establishing voice communications was historically designed and has evolved to provide reliable and consistent voice service. Therefore, there was no critical need to establish a call quality standard.

In contrast, current VoIP and wireless services (packet-switching) face different technical conditions and potential voice degradation (depending on underlying network

¹¹ Benjamin, S.M., et al, Telecom Law and Policy, Third edition, 2012, Carolina Academic Press, at 949.

¹² Staff Proposal at 8.

¹³ GO 133-D at 6. https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/proceedings/proceedings_rules/go133d.pdf

conditions). Thus, to ensure the *same* level of service quality among POTS providers, wireless providers, and VoIP providers, the Staff Proposal must incorporate a call quality standard applicable to VoIP and wireless services.

3. The Commission Should Use Mean Opinion Score if a Single Call Quality Metric is Warranted

The Staff Proposal did not adopt Cal Advocates' proposed minimum call quality-related standards for jitter, latency, and packet loss,¹⁴ which are the basic standards for tracking call quality. To best encapsulate all these recommendations in a single metric, the Commission should at a minimum implement Mean Opinion Score (MOS), specifically the MOS R-factor methodology from the International Telecommunications Union (ITU). MOS is a widely used, objective,¹⁵ and reliable metric for determining call quality across packet-switched technologies. Today's automated capture of MOS comprehensively and objectively encapsulates the essential components of each of the gold standard call quality metrics with a single, mathematically derived and easily recordable metric. The Commission should require wireless and VOIP providers to report their MOS which is already automatically captured by equipment the service providers utilize to deliver voice service.

The process for calculating the MOS is outlined in ITU-T Recommendation G.107.¹⁶ This standard has been implemented by many VoIP and wireless equipment

¹⁴ See Petition at 23-24.

¹⁵ When mathematically calculated, rather than provided by subjective users.

¹⁶ ITU-T G.107 (06/15 in force): The E-model: a computational model for use in transmission planning. <https://www.itu.int/rec/T-REC-G.107>.

manufacturers,^{17, 18, 19, 20} and can be automatically calculated using the “R-Factor.” The ITU’s documentation specifically details how to collect this metric and describes the metric’s ability to holistically capture multiple elements of call quality including latency, jitter, and “signal-to-noise-ratio.”²¹ This metric is a catch-all and guarantees the ability to measure and track providers’ call quality, without unduly burdening providers or Commission staff.

More specifically, the R-Factor, based on the ITU’s E-Model,²² is used to calculate MOS for the Communications Quality Estimated (or MOSCQE). The R-factor is a value derived from metrics such as latency, jitter, and packet loss, as detailed in ITU-T Recommendation G.107.²³ The table below provides a guide to show the

¹⁷ Cisco: Cisco Unified Border Element Configuration Guide Through Cisco IOS XE 17.5 - Voice Quality Monitoring. Available at: <https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/voice/cube/configuration/cube-book/voi-cube-voice-quality-monitoring.html>. Last accessed: August 21, 2024.

¹⁸ Ribbon: About Mean Opinion Scoring (MOS) - VOS 16.2.x Documentation - Ribbon Public Documentation Center. Available at: <https://publicdoc.rbbn.com/pages/viewpage.action?pageId=273908689>. Last accessed August 21, 2024.

¹⁹ Oracle: About QoS Reporting. Available at: https://docs.oracle.com/cd/E95619_01/html/esbc_ecz810_configuration/GUID-0DF784F1-CB3C-4680-ACF8-9FA9D531A165.htm#GUID-8BDC9EBA-06ED-494D-A35C-C453DB88FCB3. Last accessed August 21, 2024.

²⁰ Metaswitch Networks: Metaview Analytics: QoS. Available at: <https://info.metaswitch.com/hubfs/PDFs/metaview-analytics-overview.pdf>. Last accessed August 21, 2024.

²¹ See Section 7 of ITU-T G.107 (available above).

²² The E-model was developed by an ETSI ad hoc group called "Voice Transmission Quality from Mouth to Ear" (ITU-T Recommendation G.107 at 3). The result of any calculation with the E-model in a first step is a transmission rating factor R, which combines all transmission parameters relevant for the considered connection (ITU-T Recommendation G.107 at 4). The transmission rating factor R can lie in the range from 0 to 100, where R = 0 represents an extremely bad quality and R = 100 represents a very high quality (ITU-T Recommendation G.107 at 15).

²³ Calculation of the transmission rating factor, R (ITU T Recommendation G.107 at 4):

$$R = R_o - I_s - I_d - I_e\text{-eff} + A$$

R_o: basic signal-to-noise ratio (inc. circuit noise and room noise).

I_s: combination of impairments which occur simultaneously with the voice signal.

I_d: Impairments caused by delay. Default value 100 ms. Must be used for: carrier-grade fixed, or mobile telephony and enterprise-grade fixed

relationship between R-value, MOSCQE, and user satisfaction. The primary output of the model is a scalar rating of transmission quality (from 0 to 100), which can be translated to MOS scores (which are from 1-5) using the following table.

**Provisional guide for the relation between R-value and user satisfaction
(ITU-T Recommendation G.107 16)**

R-value (lower limit)	MOSCQE (Communication quality estimated) (lower limit)	User Satisfaction
90	4.34	Very satisfied
80	4.03	Satisfied
70	3.60	Some users dissatisfied
60	3.10	Many users dissatisfied
50	2.58	Nearly all users dissatisfied

Attachments A and B show how the Staff Proposal and GO 133-D should be updated to account for MOS. This recommendation can be summarized as follows:

- a. Description: Mean Opinion Score (MOS) based on R-factor (ITU-T Recommendation G.107) provides a scalar rating of transmission quality (from 0 to 100) to help ensure that users will be satisfied with end-to-end call. This applies to wireless and VoIP providers.
- b. Minimum Standard: 4.03 and up.
- c. Reporting Unit: Reporting is at the level of the historical Rate Center. Network equipment within the rate center that is capable of mathematically calculating MOS should perform a MOS calculation, and the scores should be averaged across the entire Rate Center.

or mobile telephony. (ITU-T Recommendation G.107 at 7)

Ie-eff: Impairments caused by low bit-rate codecs. It also includes impairment due to randomly distributed packet losses. [...] the packet-loss burstiness can be defined by observing packet-loss characteristics (ITU-T Recommendation G.107 at 8).

A: compensation of impairment factors when the user benefits from other types of access to the user. Values for wirebound, mobility in a building, mobility in moving vehicle, etc. (ITU-T Recommendation G.107 at 9)

d. Reporting Frequency: Reports shall be compiled monthly and reported quarterly.

B. The Staff Proposal should retain Trouble Reports as a Required Reporting Metric and apply them not only to POTS but to Wireless and VoIP Services.

Trouble Reports are an essential way that the Commission can ensure that customers' service quality issues are addressed and resolved. It is critical that Trouble Reports remain in General Order 133-D to address and resolve customers' complaints.

Specifically, Trouble Reports measure dissatisfaction from customers regarding affected services, service outages, and other service quality issues.²⁴ The standard varies based on wire center. Wire centers with 3,000 or more working lines must meet a 6% standard (6 trouble reports per 100 working lines), wire centers with 1,000 to 3,000 working lines must meet an 8% standard, and wire centers with 1,000 or fewer working lines must meet a 10% standard.²⁵ Trouble Reports are an effective method to receive input from the public regarding access to service. Therefore, the Commission should continue to include customer feedback as a metric in GO 133-D in order to assess the providers' service access and service quality.

Currently, to enforce the requirements related to Trouble Reports, the Commission issues fines based on companywide Customer Trouble Reports. Once the carrier reaches a chronic status of 10 or more customer reports per 100 access lines for its entire service territory—in other words, once the 10% threshold is exceeded—a fine is implemented.²⁶ The fine provides a strong incentive for all providers covered by GO 133-D to maintain a level of service quality to meet the adopted standards.²⁷ For the Trouble Reports metric, there must continue to be enforcement through the use of fines, in order to keep carriers accountable and to address regional and individual concerns.

²⁴ General Order 133-D Section 3.3 (a).

²⁵ General Order 133-D Section 3.3 (c).

²⁶ General Order 133-D Section 9.4.

²⁷ D.16-08-021, *Decision Adopting General Order 133-D*, August 18, 2016 at 18-19.

Without the Trouble Reports metric, there would be no way to use an enforcement mechanism to address the persistent service quality issues occurring in certain regions or at given locations. The Commission's Environmental and Social Justice Action Plan strives to enhance enforcement to ensure safety and consumer protection for all, especially Environmental and Social Justice (ESJ) communities.²⁸ The Trouble Reports metric enables customers to provide input on service degradation to carriers. The Trouble Reports metric also allows the Commission to assess how carriers respond to the reports.

Additionally, the Trouble Reports metric would help highlight which providers are having service quality problems. The metric has been used in the record of this proceeding to highlight Cox's increase in trouble reports.²⁹ During the period of 2019 through 2021, the number of Cox's Trouble Report tickets increased when compared to 2018. And during the period of 2019 through 2021, the number of Cox's Trouble Report Tickets did not reach the low levels seen in 2018. Additionally, in 2022 and 2023, AT&T's Trouble Report tickets increased, and AT&T failed to meet the Customer Trouble Report standards of 6% (6 trouble reports per 100 working lines), 8%, and 10%. AT&T failed to meet the 6% standard from November 2022 to September 2023, the 8% standard from January 2023 to May 2023, and the 10% standard from November 2022 to June 2023 and from November 2023 to December 2023.³⁰ The increase in customer complaints demonstrates customer dissatisfaction with the provider. It is critical that the Trouble Report metric must remain, in order to assess each provider's response to these instances of increased complaint levels.

Furthermore, it is critical that the Commission extend the Trouble Reports metric to also apply to all facilities-based VoIP and wireless providers. The Trouble Reports

²⁸ See *Environmental & Social Justice Action Plan*, Version 2.0, Goal 6.1, at 25.

²⁹ See *Opening Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Requesting Comments on Network Examination and Armis Reporting*, December 21, 2022.

³⁰ Telecommunications Carriers' Service Quality Reports, CPUC, Available at: <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/network-performance-and-public-safety/telecommunications-carriers-service-quality-reports>

metric must be kept in the revised GO 133-D and it must apply to POTS, VoIP, and wireless providers to ensure that customers can report service degradations to the carrier. It is imperative that the metric is kept in order to assess carriers' responses to customer complaints.

C. The Commission should Correct Definitional Issues and Directly List the affected Provider Names.

For consistency and clarity, the Staff Proposal must clarify which entities the new metrics and standards apply to, to ensure that all relevant providers report service quality information. For example, the Out of Service Repair Intervals Standard is proposed to be extended to “wireless and VoIP services” generally.³¹ However, in Appendix A of the Staff Proposal, the VoIP Outage Repair metric specifically only applies to a subset of facilities-based interconnected VoIP providers.³² Importantly, Comcast, one of the state's largest providers of broadband and VoIP, is missing from this list.

Therefore, to avoid confusion, the Commission should adopt a single definition that can be applied to all VoIP and wireless companies. The Commission should modify the Staff Proposal and the modified GO-133 D draft to state that the standards specific to VoIP and wireless services apply to “all facilities-based carriers of interconnected VoIP services” and “all facilities-based carriers of wireless services”, respectively, relying on the definition of facilities-based carriers that already exists in GO 133-D.³³ Out of an abundance of caution, the Commission should also explicitly identify the appropriate carriers that fall under each of these definitions. Cal Advocates supplies corrected definitions in its Staff Proposal Redline (Attachment A).

³¹ Staff Proposal at 36.

³² Staff Proposal at 49: “This includes GRC ILECs, URF ILECs, and URF CLECs.” Based on the URF CLEC definition supplied in Appendix B, this VoIP Outage Repair Standard would incorrectly leave out Comcast.

³³ See GO 133-D at 2, “Facilities-based Carriers”. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpuc_public_website/content/utilities_and_industries/communications-telecommunications_and_broadband/consumer_programs/service_quality/general-order-133-d.pdf. Last accessed August 21, 2024.

D. Responses to Select Questions in the Ruling.

The following subsection provides additional responses to the Ruling on questions related to the Staff Proposal.

1. (1.3) The Staff Proposal recommends eliminating the use of the customer trouble reports standard, as currently used in General Order 133-D. Should the Commission adopt this proposal?

No, the Commission should not adopt this proposal. See section II, subsection B to these comments above, related to trouble reports.

2. (1.5) Regarding Automatic Customer Credit Fine Mechanism.

The Commission should adopt the automatic customer credit fine mechanism as proposed in the Staff Proposal,³⁴ which provides for automatic customer credits of \$5 per day and \$10 per day in disadvantaged communities. Customers should receive access to reliable service and be compensated when the service is unreliable. When the Commission ensures that customers receive such compensation, that holds companies accountable for their failure to provide customers with reliable service. The Commission accomplishes this by establishing the proposed customer credits of \$5 for each day a customer is without service, and \$10 for each day a customer in a disadvantaged community is without service.

Adopting a fine mechanism that uses automatic customer credits also aligns with the Commission's ESJ Action Plan. The ESJ Action Plan's Goal 3.4 seeks to extend essential communication services to ESJ communities.³⁵ Providing customer credits of \$10 per day in disadvantaged communities would allow these communities to be appropriately compensated when they receive unreliable service or unreliable access. For example, the automatic customer credits adopted in the Frontier Settlement Agreement

³⁴ See Staff Proposal at 45.

³⁵ See *Environmental & Social Justice Action Plan*, Version 2.0, Goal 3.4, at 24.

have improved outcomes for tribal communities.³⁶ Overall, the adoption of a fine mechanism that uses automatic customer credits is in the public interest because the credits are being used to benefit those affected by poor service quality.

In the case of resold service, the automatic customer credit should be paid by the wholesale provider that provides the underlying service. Resellers provide a service that is leased from a wholesale provider; and these resellers resell the service to the public under the resellers' own names.³⁷ Therefore, the wholesale providers are responsible for the service provided to the reseller. The wholesale providers are under the same requirements to meet GO 133-D standards and should thus be responsible for providing the proposed automatic customer credits to resellers' customers that experience outages.

3. (1.11) Regarding Wireless Coverage Maps.

The Commission should require providers of wireless services to verify the availability of their services at the address level. Such verification should be done using the updated version of the Broadband Serviceable Location Fabric (BSLF), which is published by the Federal Communications Commission (FCC).³⁸ If customer-reported information show that services are actually not available at a certain address, a fine should be assessed and the customer refunded for the wireless services paid for but not received.

The wireless providers should provide a dedicated phone app that measures the signal strength, signal quality, signal-to-noise ratio, network congestion, and cell tower proximity at a customer's premises. This could be done using a proprietary formulation or could be done using existing signal-measuring applications, such as the LTE

³⁶ See *The Public Advocates Office and California Broadband & Video Association's Joint Summary of the September 7, 2023, Workshop Discussing General Order 133-D (Workshop Summary)*, September 21, 2023, at 10-11.

³⁷ CPUC. "Telecommunication Carrier Types with Definitions." Available at: <https://www.cpuc.ca.gov/industries-and-topics/internet-and-phone/telecommunications-carrier-types-with-definition>. See Cellular Retail Reseller and Competitive Local Reseller. Last accessed August 16, 2024.

³⁸ FCC "About the Fabric: What a Broadband Serviceable Location (BSL Is and Is Not," See: <https://help.bdc.fcc.gov/hc/en-us/articles/16842264428059-About-the-Fabric-What-a-Broadband-Serviceable-Location-BSL-Is-and-Is-Not>, Last accessed August 20, 2024.

Discovery App.³⁹ By using such an app, customers would be able to, in real time, assess the reliability of the wireless services they pay. Wireless providers already have procedures that measure signal strength,⁴⁰ however these would need to be improved since signal strength is not the only factor affecting wireless voice connection.⁴¹

4. (1.12) Regarding Reporting Requirements.

The Commission should adopt the Staff Proposal’s multiple reporting requirements and apply these requirements to all POTS, VoIP, and wireless service providers.⁴² The recommended reporting requirements for telephone corporations include providing copies of the FCC’s required reports to the Commission. Additionally, the Staff Proposal recommends that telephone corporations adhere to all current reporting requirements, including the Major Service Interruption reports. The Staff Proposal recommends that providers be required to notify customers of the aggregate annual fine amount paid by the telephone corporations. The Commission should adopt these reporting requirements as recommended by the Staff Proposal.

Additionally, the Commission should adopt the reporting requirements related to the service degradation of wireless and VoIP services. As discussed in section II, subsection A above, the Commission should require wireless and VOIP providers to report their mathematically calculated MOS as a reporting metric.

³⁹ This application provides details about which wireless network a consumer is using, such as speeds, available cell towers, and satellites. Available for free on the Google Play store.

⁴⁰ For example, see T-Mobile’s suggestion for monitoring signal strength. Available at: <https://www.t-mobile.com/support/tutorials/device/apple/iphone-xs/topic/esim/how-to-check-the-signal-strength-of-multiple-carriers/3>. Last accessed August 23, 2024.

⁴¹ Oliveira et. al. “Mobile 4G Network: Signal Power and Quality vs Bandwidth Throughput” in New Trends in Disruptive Technologies, Tech Ethics and Artificial Intelligence. 2021. From abstract: “The throughput obtained depends not only on the network and terminals’ capabilities and configurations but also on the radio conditions measured by **signal strength and quality**” (emphasis added). Available at: https://link.springer.com/chapter/10.1007/978-3-030-87687-6_32. Last accessed August 23, 2024.

⁴² A “telephone corporation” is defined in Public Utilities Code Section 234(a) to include every corporation or person owning, controlling, operating, or managing any telephone line for compensation within California.

5. (1.13) Regarding accountability for mass outages.

Telephone corporations should be fined for network-based mass outages. In the case of mass outages, the Commission should assess the fine by determining the number of “localized outages” within that area; and then the Commission should calculate the fine based on the same currently proposed fine mechanism for regular outages.

III. CONCLUSION

While the Staff Proposal correctly extends outage metrics to cover wireless and VoIP services, it must also include metrics related to call quality and trouble reports to protect the public interest. Furthermore, The Commission should retain the trouble report metrics to track and monitor service quality standards while adopting a credit fine mechanism to enforce the standards. Californians must be able to place calls with a high degree of voice quality during emergency situations and should be guaranteed the reliability they pay for.

Respectfully submitted,

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September 2, 2024

ATTACHMENT A
Cal Advocates Redline of
Staff Proposal Summary Appendix A



California Public
Utilities Commission



Service Quality Proceeding Phase One Staff Proposal

Communications Division

Redlines and strikethroughs added by Cal Advocates

June 2024

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Appendix A

Voice Service Standards Recommendation Summary

Current GO 133-D Standards

Installation Interval

Replaced by Installation Standard.

Installation Commitments

Replaced by Installation Standard.

Customer Trouble Reports

~~Eliminated to focus on outage-related standards.~~ Applies to telephone corporations, including but not limited to GRC ILECs, URF ILECs, facilities-based interconnected VoIP carriers, facilities-based wireless carriers. It also applies to any facilities-based Carrier with fewer than 5,000 customers that is a COLR. Trouble reports apply to residential and business customers.

Out of Service Repair Intervals

Replaced by POTS Outage Repair Standard, VoIP Outage Repair Standard, and Wireless Community Isolation Outage Repair Standard.

Answer Time

Expanded to incorporate a resolution requirement in addition to response. Renamed to Customer Service Standard.

New Proposed Standards

Installation Standard

Requirement: establish basic service within five business days of when a customer places an installation service order. Applies to facilities-based interconnected VoIP carriers, GRC ILECs, URF ILECs, and other wireline companies, such as CLECs.

POTS Outage Repair Standard

Requirement: repair both individual and community isolation outage tickets within 24 hours. Applies to GRC ILECs, URF ILECs, and URF CLECs.

VoIP Outage Repair Standard

Requirement: repair both individual and community isolation outage tickets within 24 hours. Applies to facilities-based interconnected VoIP carriers, GRC ILECs, URF ILECs, and URF CLECs.

Wireless Community Isolation Outage Repair Standard

Requirement: repair community isolation outage tickets within 24 hours. Applies to all facilities-based wireless carriers.

Customer Service Standard

Response requirements:

- Staff live agents to answer 80% of the customer service calls within 60 seconds and 100% of the customer service calls within five minutes.
- Provide a chat component on the homepage for those with no access to voice service.
- Provide a postal mail component for those with no access to voice or internet services.

Resolution requirements:

- Billing-related inquiries to be corrected by the next billing cycle.
- Outage-related inquiries to adhere to these outage-related standards: [POTS Outage Repair Standard](#), [VoIP Outage Repair Standard](#), and [Wireless Community Isolation Outage Repair Standard](#).

Voice Service Enforcement Recommendation Summary

Investment in Lieu of Paying Fines

Reform the investment in lieu of paying fines alternative. Alternatively, if it is found that the investment in lieu of fine alternative cannot be reformed in order to yield meaningfully and measurably increased service quality, the alternative should be eliminated.

Corrective Action Plan

Reform or eliminate this reporting requirement based on the decision on the investment in lieu of paying fines alternative.

Chronic Failure Status

Eliminate the chronic failure status designation. Hold telephone corporations accountable for their failures to achieve standards immediately instead of accumulating three consecutive months of failures.

Adjusted Data

Eliminate the “adjusted” and “unadjusted” distinctions to instill accountability on Sundays, federal holidays, and delays beyond a carrier’s control. Lone exemptions are declared state of emergencies.

Fines

Utilize two types of fine mechanism: automatic customer credit; monies to the state’s general fund.

Fine Mechanism – Two Types

Monies to the State’s General Fund (New Calculation Method)

- For *customer service standard* violations, assess a daily fine amount that is equivalent to the interest amount for late surcharge remittances.

Automatic Customer Credit

- For *installation standard* violations, assess a base fine of \$5 per day in automatic customer credit for each day that exceeds the standard.
- For *POTS outage repair standard*, *VoIP outage repair standard*, and *wireless community isolation outage repair standard* violations, assess a base fine of \$5 per day in automatic customer credit for each day that exceeds the standard.

Multipliers based on Outage Duration

For *POTS outage repair standard*, *VoIP outage repair standard*, and *wireless community isolation outage repair standard* violations, apply multipliers to the base fine amount based on outage duration.

Geographical Filter

For *installation standard*, *POTS outage repair standard*, *VoIP outage repair standard*, and *wireless community isolation outage standard* violations, assess a base fine amount of \$10 per day in automatic customer credit for each day that exceeds the standard for violations in Environmental and Social Justice communities.

Appendix B

Carrier Types

Carrier of Last Resort (COLR)

A Carrier of Last Resort (COLR) is required to serve upon request all customers within its designated service areas. Pursuant to Decision 96-10-066 and Decision 12-12-038, a carrier seeking to be a COLR needs to file a notice of intent (NOI) with the Commission in order to have access to high-cost fund subsidies. Once designated a COLR, the carrier must get the Commission's approval to opt out of its obligation to serve.

Eligible Telecommunications Carrier (ETC)

An eligible telecommunications carrier (ETC) is a carrier that has been designated by the Commission, pursuant to 47 USC § 214 (e) (2) as eligible to receive federal lifeline and/or high-cost Universal Service support. Designated ETCs must file annual recertification advice letters to continue to be eligible for federal high-cost fund support.

Incumbent Local Exchange Carrier (ILEC)

An incumbent local exchange carrier (ILEC) is a certificated local telephone company such as Pacific Bell Telephone Company (now d/b/a AT&T California) and Verizon California Inc., which used to be the exclusive local telephone service provider in a franchise territory established before the Telecommunications Reform Act of 1996. Refer to Public Utility Code § 234 and § 1001 for details.

Competitive Local Exchange Carrier (CLEC)

A competitive local exchange carrier (CLEC), per Public Utility Code § 234, § 1001, and Decision 95-07-054, provides local telephone services in the service territories formerly reserved for ILECs, in competition with ILECs, and must obtain a Certificate of Public Convenience and Necessity (CPCN) from the Commission.

Uniform Regulatory Framework (URF) Carrier

A utility that is a wireline carrier that has full pricing flexibility over all or substantially all of its rates and charges. An URF carrier includes any ILEC that is regulated through the Commission's URF, as established in Decision 06-08-030, as modified from time to time by the Commission, and includes CLECs and interexchange carriers (IEC), which handles traffic between two telephone exchanges.

General Rate Case Incumbent Local Exchange Carrier (GRC ILEC)

A GRC ILEC is designated a COLR in its franchise territories per D.96-10-066, the decision where the Commission first spelled out what is meant by basic telephone service for purposes of Universal Service funding and updated by D.14-01-036, and is regulated through cost-of-service reviews by the Commission per General Order 96 B. GRC ILECs include U-1016-C Sierra Telephone, U-1019-C Volcano Telephone, U-1014-C Ponderosa Telephone, U-1017-C Siskiyou Telephone, U1004-C Calaveras Telephone, U-1012-C Kerman Telephone, U-1010-C Happy Valley Telephone, U-1009-C Foresthill Telephone, U-1006-C Cal-Ore Telephone, U-1007-C Ducor Telephone, U-1021-C Winterhaven Telephone, U-1011-C Hornitos Telephone, and U-1013-C Pinnacles Telephone.

Uniform Regulatory Framework Incumbent Local Exchange Carrier (URF ILEC)

These are ILECs that are regulated under the uniform regulatory framework (URF). URF ILECs include U-1001-C AT&T California, U-1002-C Frontier California, U-1024-C Citizens Telecommunications, U1015-C Consolidated Communications, and U-1026-C Frontier Communications Southwest.

Uniform Regulatory Framework Competitive Local Exchange Carrier (URF CLEC)

Competitive local exchange carriers (CLECs) operating in territories formerly reserved for the URF ILECs and regulated under the URF. URF CLECs include U-6874-C Time Warner Cable, U-5684-C Cox, U-6878-C Charter, U-6955-C Bright House Networks, U-7002-C Sonic, U-5002- C AT&T Corp, U-6097-C PAETEC, and U-6342-C ACN Communications (2018 only).

Appendix C

U-1015-C Consolidated Communications Out of Service Repair Interval (2018 – 2023 Q2)

U-1015-C Consolidated Adjusted OOS Measure	2018											
	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total # of outage report tickets	0	0	1	2	1	5	2	1	1	1	6	2
Total # of repair tickets restored in ≤ 24hrs	0	0	1	2	1	5	2	1	1	1	4	2
% of repair tickets restored ≤ 24 Hours	n/a	n/a	100%	100%	100%	100%	100%	100%	100%	100%	67%	100%

U-1015-C Consolidated Adjusted OOS Measure	2019											
	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total # of outage report tickets	2	1	1	2	0	2	3	9	0	1	1	3
Total # of repair tickets restored in ≤ 24hrs	2	0	0	1	0	2	2	2	0	1	1	3
% of repair tickets restored ≤ 24 Hours	100%	0%	0%	50%	n/a	100%	67%	22%	n/a	100%	100%	100%

U-1015-C Consolidated Adjusted OOS Measure	2020											
	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total # of outage report tickets	0	0	1	1	4	0	1	4	2	1	2	3
Total # of repair tickets restored in ≤ 24hrs	0	0	1	0	3	0	0	2	1	1	1	1
% of repair tickets restored ≤ 24 Hours	n/a	n/a	100%	0%	100%	n/a	0%	50%	100%	100%	50%	100%

U-1015-C Consolidated Adjusted OOS Measure	2021											
	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total # of outage report tickets	4	3	4	2	1	1	1	3	2	2	2	4
Total # of repair tickets restored in ≤ 24hrs	2	2	1	0	0	1	0	1	2	1	2	3
% of repair tickets restored ≤ 24 Hours	50%	67%	25%	0%	0%	100%	0%	33%	100%	50%	100%	75%

U-1015-C Consolidated Adjusted OOS Measure	2022											
	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total # of outage report tickets	1	1	0	2	1	1	0	0	1	1	2	0
Total # of repair tickets restored in ≤ 24hrs	1	0	0	0	0	1	0	0	1	1	2	0
% of repair tickets restored ≤ 24 Hours	100%	0%	n/a	0%	0%	100%	n/a	n/a	100%	100%	100%	n/a

U-1015-C Consolidated Adjusted OOS Measure	2023											
	1st Quarter			2nd Quarter			3rd Quarter			4th Quarter		
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Total # of outage report tickets	9	1	0	7	2	1						
Total # of repair tickets restored in ≤ 24hrs	1	0	0	0	0	1						
% of repair tickets restored ≤ 24 Hours	11%	0%	n/a	0%	0%	100%						

Table 13: U-1015-C Consolidated Communications Out of Service Repair Interval (2018 – 2023 Q2)

ATTACHMENT B
Cal Advocates Additions to GO 133D
(Staff Proposal Ruling Attachment 4)



California Public
Utilities Commission



General Order 133-D

Redline (Clean)

Strikethroughs and Additional Text Added by Cal
Advocates in Blue with Yellow Highlighting

Note:

Black fonts represent original text from General Order 133-D
Red fonts represent proposed additional text
Fonts highlighted in gray represent text under further consideration

General Order 133-D
Public Utilities Commission of the State of California
Rules Governing Telecommunications Services

Following is a list of decisions which authorized changes to General Order 133.

General Order 133	Decision No. 80082 (C.9535)	Adopted May 11, 1972 Effective 20 days later
General Order 133-B	Decision No. 92-05-056 (A.91-07-41)	Adopted May 20, 1992 Effective 30 days later
General Order 133-C	Decision No. 09-07-019 (R.02-12-004)	Adopted July 9, 2009 Effective July 9, 2009
General Order 133-D	Decision No. 16-08-021 (R.11-12-001)	Adopted Aug. 18, 2016 Effective Aug. 18, 2016 Except Section 9 on fines, which is effective Jan. 1, 2017
General Order 133-D Corrected Version	Decision No. 16-10-019	Corrections issued

1. GENERAL

1.1 Intent.

- a. Purpose. The purpose of these rules is to establish uniform minimum standards of service to be observed in the operation of **public utility** telephone corporations, **including but not limited to telephone corporations providing wireless and VoIP services.**
- b. Limits of Order. These rules do not cover the subjects in the filed tariff rules of telephone **corporations-utilities.**
- c. Absence of Civil Liability. The establishment of these rules shall not impose upon utilities, and they shall not be subject to, any civil liability for damages, which liability would not exist at law if these rules had not been adopted.
- d. These rules may be revised in scope on the basis of experience gained in their application and as changes in technology, the telecommunications market, or technology may require.

- 1.2 Applicability.** These rules are applicable to all **facilities-based public utility** telephone corporations providing service within the State of California, except as otherwise noted.

1.3 Definitions.

- a. **Access Line:** A wire or wireless connection that provides a real time two way voice telecommunications service or VoIP service to or from any device utilized by an end user, regardless of technology, which is associated with a 10-digit NPA-NXX number or other unique identifier and a service address or Place of Primary Use in California pursuant to Decision 22-10-021.
- b. **Areas of Affordability Concerns (AAC):** The Commission adopted this geographical designation in Decision 22-08-023. The AACs, presented at the census tract level, are areas where the Affordability Ratio (AR) metric for representative low-income households is disproportionately higher than the rest of the state. The higher the AR metric, the less affordable it is for households to pay for essential utility services. The AACs can be imputed for a specific essential utility service.
- c. **CalEnviroScreen:** A mapping tool developed by the California Office of Environmental Health Hazard Assessment (OEHHA) that uses environmental, health, and socioeconomic information to produce scores for every census tract in California. The scores are mapped so that different census tracts can be compared. A census tract with a high score is one that experiences a much higher pollution burden than census tracts with low scores. The OEHHA updates CalEnviroScreen periodically to reflect updated demographic information. The OEHHA released its latest version, CalEnviroScreen 4.0, in October 2021.
- d. **Census Tracts:** Per the United States Census Bureau, census tracts are defined as small, relatively permanent geographic entities within counties (or the statistical equivalents of counties) delineated by a committee of local data users. Generally, census tracts have between 2,500 and 8,000 residents and boundaries that follow visible features.
- e. **CLEC:** A Competitive Local Exchange Carrier (CLEC), per Pub. Util. Code §§ 234 and 1001, and Decision 95-07-054, provides local telephone services in the service territories formerly reserved for Incumbent Local Exchange Carriers (ILECs), in competition with ILECs, and must obtain a Certificate of Public Convenience and Necessity (CPCN) from the Commission.
- f. **COLR:** A Carrier of Last Resort (COLR) is required to serve upon request all customers within its designated service areas, including providing basic telephone service as defined by Decision 12-12-038. Pursuant to Decision 96-10-066, a carrier seeking to be a COLR needs to file a notice of intent with the Commission in order to have access to high cost fund subsidies. Once designated a COLR, the carrier must get the Commission's approval to opt out of its obligation to serve.
- g. **Commission:** The Public Utilities Commission of the State of California.

- h. Community Isolation Outage: Pursuant to California Code of Regulations, Title 19. Public Safety, Division 2. California Governor's Office of Emergency Services, Chapter 1.5 Community Isolation Outages, § 2480.2. Community Isolation Outage Reporting Thresholds, a community isolation outage limits a telecommunications service provider's end users' ability to make 911 calls or receive emergency notifications. The outage duration is measured in hours and minutes from the time when the outage occurs to the time when service is restored.
- i. Customer: A customer is a separate account number for voice service, or a bundle of **communications** services including voice, and includes small business (5 lines or less) and residential customers.
- j. Disadvantaged Communities (DAC): Disadvantaged communities refers to the areas throughout California which most suffer from a combination of economic, health, and environmental burdens. These burdens include poverty, high unemployment, air and water pollution, presence of hazardous wastes as well as high incidence of asthma and heart disease. One way that the state identifies these areas is by collecting and analyzing information from communities all over the state. The Commission adopted the California Environmental Protection Agency's (Cal EPA) updated geographical designation of DACs in Decision 22-08-023 presented at the census tract level, that include: (i) census tracts receiving the highest 25 percent of overall scores in CalEnviroScreen 4.0; (ii) census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps but receiving the highest 5 percent of CalEnviroScreen 4.0 cumulative pollution burden score; (iii) census tracts identified in the 2017 DAC designation as disadvantaged, regardless of their scores in CalEnviroScreen 4.0, and (iv) lands under the control of federally recognized tribes.
- k. Environmental and Social Justice (ESJ) communities: Predominantly communities of color or low-income communities that are underrepresented in the policy-setting and decision-making process. They include (i) disadvantaged communities, as defined as census tracts that score in the top 25% of CalEnviroScreen, (ii) all tribal lands, (iii) low-income households, and (iv) low-income census tracts.
- l. Facilities-based Carriers: A telephone corporation that owns or controls facilities **or infrastructure** used to provide communications **services** for compensation, including the line to the end-user's location. A **local exchange carrier providing service solely by resale of the ILEC's local exchange services** **telephone corporation that does not own or control facilities or infrastructure to provide voice service, and solely resells services from another telephone corporation that does own or control communications facilities,** is not a facilities-based carrier.¹

¹ Facilities-based interconnected VoIP carriers include but are not limited to companies such as U-5698-C Comcast Phone of California, LLC, U-6874-C Time Warner Cable, U-5684-C Cox, U-6878-C Charter, U-6955-C Bright House Networks, U-7002-C Sonic, U-5002-C AT&T Corp, U-6097-C PAETEC, and U-6342-C ACN Communications (2018

- m. GRC ILECs: A General Rate Case Incumbent Local Exchange Carrier (GRC ILECs) is an ILEC whose rates are regulated by the Commission per General Order 96-B. A GRC ILEC is designated a COLR in its franchise territories per D.96-10-066 and D.14-01-036.
- n. Installation of Telecommunications Service: The process of setting up and

configuring telecommunications equipment, systems, and infrastructure to enable the transmission of voice, data, and multimedia signals over communications networks. This installation encompasses a wide range of activities, including the deployment of hardware, cabling, software, and service quality checks to establish a functional telecommunications network.

- o. IEC: An Interexchange Carrier (IEC) is a wireline telephone company that provides interstate (long distance) communications services within the United States.
- p. ILEC: An Incumbent Local Exchange Carrier (ILEC) is a certificated local telephone company that used to be the exclusive local telephone service provider in a franchise territory established before the Telecommunications Act of 1996. See Pub. Util. Code §§ 234 and 1001.
- q. Interconnected Voice over Internet Protocol (VoIP) Provider: Pursuant to 47 C.F.R. § 9.3, an interconnected VoIP provider is a company which provides a VoIP service that uses Internet Protocol (IP) or a successor protocol to (i) enable real-time, two-way voice communications; (ii) requires a broadband connection from the user's location; (iii) requires IP-compatible customer premises equipment; and (iv) permits users generally to receive calls that originate on the public switched telephone network (PSTN) and to terminate a call to the PTSN.
- r. Local Exchange: A telecommunications system providing service within a specified area within which communications are considered exchange messages except for those messages between toll points per D.96-10-066.
- s. Plain Old Telephone Service: Plain Old Telephone Service (POTS) is traditional analog voice transmission phone system implemented over physical copper lines.
- t. Small Business Customer: small business customers are those that purchase five or fewer lines.
- u. Telephone Corporation: Pursuant to Pub. Util. Code § 234, a telephone corporation includes every corporation or person owning, controlling, operating, or managing any telephone line for compensation within this state. This definition includes but is not limited to providers of VoIP and wireless services.
- v. Telephone Line: Pursuant to Pub. Util. Code § 233, a telephone line includes 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.
- w. URF Carrier: A Uniform Regulatory Framework (URF) carrier is a wireline carrier that has full pricing flexibility over all or substantially all of its rates and charges. This includes any ILEC that is regulated through the

Commission's URF, as established in Decision 06-08-030, and includes

CLECs and IECs.

- x. **URF CLECs:** Competitive local exchange carriers (CLECs) operating in territories formerly reserved for the URF ILECs and regulated under the URF.
- y. **URF ILECs:** URF ILECs are distinguished from GRC ILECs in that they are currently granted pricing flexibility through D.06-08-030.
- z. **Wireless Carrier:** A wireless carrier (also known as a Commercial Mobile Radio Service provider) is a carrier or licensee whose wireless network is connected to the public switched telephone network (PSTN). Per Commission decision D.94-10-031, wireless carriers are required to file a Wireless Identification Registration with the Director of the Commission's Communications Division (CD).
- aa. **Trouble Report:** Any oral or written notice by a customer or customer's representative to the telephone or which indicates dissatisfaction with telephone service, telephone qualified equipment, and/or telephone company employees.

1.4 Information available to the Public.

The public utility telephone corporation shall maintain, available for public inspection at its main office in California, copies of all reports submitted to this Commission in compliance with these rules. These copies shall be made available for two years. The public utility telephone corporation shall identify the location and telephone number of its main office in California on its Internet website and shall provide information on how to contact it. A copy of these reports will also be maintained and be available for public inspection at the Commission's San Francisco and Los Angeles offices. Copies shall also be made available to interested parties for a nominal fee to cover the cost of processing and reproduction. The availability shall be limited to reports provided by the local serving company.

1.5 **Production** of Records.

All reports required by these rules shall be kept for ten years after the last day of the calendar year and made available to representatives, agents, or employees of the Commission upon reasonable notice.

1.6 Reports to the Commission.

The public utility telephone corporation shall furnish to the Commission, at such times and in such form as the Commission may require, the results or summaries of any measurements required by these rules. The public utility telephone corporation shall furnish the Commission with any information concerning the utility's facilities or operations which the Commission may request and need for determining quality of service.

1.7 Deviations from any of these Rules.

In cases where the application of any of the rules incorporated herein results in undue hardship or expense to the public utility telephone corporation, it may request specific relief by filing a formal application in accordance with the Commission's Rules of Practice and Procedure, except that where the

relief requested is of minor importance or temporary in nature, the Commission may accept an application and showing of necessity by letter.

1.8 Revision of Rules.

Public utility Telephone corporations subject to these rules and other interested parties may individually or collectively file with this Commission a petition for rulemaking pursuant to Pub. Util. Code § 1708.5 for the purpose of amending these rules. The petition shall conform to the requirements of Rule 6.3 of the Commission's Rules of Practice and Procedure.

2. **MINIMUM STANDARDS OF VOICE SERVICE MEASURES**

General. These rules establish minimum standards and uniform reporting levels for the installation, maintenance, and **customer service for communications services**. The service measures established **for voice services** are as follows:

- Installation Standard
- POTS Outage Repair Standard
- VoIP Outage Repair Standard
- Wireless Community Isolation Outage Repair Standard
- Customer Service Standard
- **Customer Trouble Reports**
- **Mean Opinion Score**

2.1 **Installation Standard** – Applies to **facilities-based interconnected VoIP carriers**, GRC ILECs and URF ILECs.

- a. Description. Installation Standard requires communications telephone corporations to 1) establish basic service within five business days of when a customer places an installation service order and 2) fulfill 100 percent of these service orders. This standard applies to residential and small business customers.
- b. Minimum Standard. Five business days.
- c. Exemption. Exclude declared state of emergency days by the Governor.
- d. Reporting Unit. Individual service order level.
- e. Reporting Frequency. Reports shall be compiled monthly and reported quarterly.
- f. Base Fine. For service orders that are not fulfilled within five business days, assess a base fine amount of \$5 per day for each additional day as an automatic customer credit.
- g. Environmental and Social Justice Consideration. For service orders in a DAC or Communications AAC that are not fulfilled within five business days, apply a base fine amount of \$10 per day for each additional day as an automatic customer credit.
- h. Noncompliance Severity Consideration. None.

2.2 **POTS Outage Repair Standard** – Applies to GRC ILECs, URF ILECs, and URF CLECs that provide POTS voice service.

- a. Description. POTS Outage Repair Standard requires telephone corporations to restore outage tickets within 24 hours. Outage tickets

include both individual outages and community isolation outages. The outage duration is expressed in clock hours and minutes, between the time of reported loss of service and when service is restored. This standard

applies to residential and small business customer outage tickets.

- b. Minimum Standard. Restore outage tickets within 24 hours.
- c. Exemption. Exclude declared state of emergency days by the Governor.
- d. Reporting Unit. POTS Outage Repair Standard is measured at the individual access line level.
- e. Reporting Frequency. Reports shall be compiled monthly and reported quarterly.
- f. Base Fine. For outage tickets that are not repaired within 24 hours, assess a base fine amount of \$5 for each additional day as an automatic customer credit for each customer.
- g. Environmental and Social Justice Consideration. For outage tickets in a DAC or Communications AAC that are not repaired within 24 hours, apply a base fine amount of \$10 per day for each additional day as an automatic customer credit for each customer.
- h. Severity Consideration. Apply multipliers to increase fine amount for extended outages. Refer to table below for details.

POTS Outage Repair Standard				
Outage Duration	24 to 48 hours	Above 48 to 72 hours	Above 72 to 96 hours	Above 96 hours
Multiplier	1x	2x	3x	4x

2.3 **VoIP Outage Repair Standard** – Applies to facilities-based interconnected VoIP carriers, URF ILECs, GRC ILECs, and URF CLECs that provide VoIP voice service.

- a. Description. VoIP Outage Repair Standard requires telephone corporations to restore outage tickets within 24 hours. Outage tickets include both individual outages and community isolation outages. The outage duration is measured in clock hours and minutes between the time of reported loss of service and when service is restored. This standard applies to residential and small business customers.
- b. Minimum Standard. Restore outage tickets within 24 hours.
- c. Exemption. Exclude declared state of emergency days by the Governor.
- d. Reporting Unit. VoIP Outage Repair Standard is measured at the individual access line level.
- e. Reporting Frequency. Reports shall be compiled monthly and reported quarterly.
- f. Base Fine. For outage tickets that are not repaired within 24 hours, assess a base fine amount of \$5 for each additional day as an automatic customer credit for each customer.
- g. Environmental and Social Justice Consideration. For outage tickets in a

DAC or Communications AAC that are not repaired within 24 hours, apply

a base fine amount of \$10 per day for each additional day as an automatic customer credit for each customer.

- h. Noncompliance Severity Consideration. Apply multipliers to increase fine amount for extended outages. Refer to table below for details.

VoIP Outage Repair Standard				
Outage Duration	24 to 48 hours	Above 48 to 72 hours	Above 72 to 96 hours	Above 96 hours
Multiplier	1x	2x	3x	4x

2.4 **Wireless Community Isolation Outage Repair Standard** – Applies to facilities-based telephone corporations that provide wireless voice service.

- a. Description. Wireless Community Isolation Outage Repair Standard requires telephone corporations to restore community isolation outage tickets within 24 hours. The outage duration is measured in clock hours and minutes between the time of reported loss of service and when service is restored. This standard applies to residential and small business customers.
- b. Minimum Standard. Restore outage tickets within 24 hours.
- c. Exemption. Exclude declared state of emergency days by the Governor.
- d. Reporting Unit. Wireless Community Isolation Outage Repair Standard is measured at the individual access line level.
- e. Reporting Frequency. Reports shall be compiled monthly and reported quarterly.
- f. Base Fine. For outage tickets that are not repaired within 24 hours, assess a base fine amount of \$5 for each additional day as an automatic customer credit for each customer.
- g. Environmental and Social Justice Consideration. For outage tickets in a DAC or Communications AAC (based on the impacted customer's place of primary use) that are not repaired within 24 hours, apply a base fine amount of \$10 per day for each additional day as an automatic customer credit for each customer.
- h. Noncompliance Severity Consideration. Apply multipliers to increase fine amount for extended outages. Refer to table below for details.

Wireless Community Isolation Outage Repair Standard				
Outage Duration	24 to 48 hours	Above 48 to 72 hours	Above 72 to 96 hours	Above 96 hours
Multiplier	1x	2x	3x	4x

2.5 **Customer Service Standard** -- Applies to all telephone corporations, including but not limited to facilities-based POTS providers, facilities-based interconnected VoIP,

and facilities-based wireless carriers.

- a. Description. Customer Service Standard requires telephone corporations to adhere to these five criteria:

- i. Provide live agents to answer 80% of the customer service calls within 60 seconds and to answer 100% of the customer service calls within five minutes.
 - ii. Provide a chat component on the provider's webpage for customer service inquiries.
 - iii. Provide a postal mail component for customer service inquiries.
 - iv. Resolve billing-related inquiries by the next billing cycle.
 - v. Redirect outage-related inquiries to adhere to POTS Outage Repair Standard, VoIP Outage Repair Standard, or Wireless Community Isolation Outage Repair Standard.
- b. Standard. Adhere to all five criteria
 - c. Exemption. Not applicable.
 - d. Reporting Unit. Customer Service Standard is measured at the company level.
 - e. Reporting Frequency. Reports shall be compiled monthly and reported quarterly.
 - f. Base Fine. For each day of noncompliance, assess a base fine amount that is equivalent to the interest amount for late surcharge remittance.
 - g. Environmental and Social Justice Consideration. None.
 - h. Noncompliance Severity Consideration. None.

2.6 Customer Trouble Reports —Applies to telephone corporations, including but not limited to GRC ILECs, URF ILECs, facilities-based interconnected VoIP carriers, facilities-based wireless carriers, and to any facilities-based Carrier with fewer than 5,000 customers that is a COLR. Trouble reports apply to residential and business customers.

- a. Description. Service affecting, and out of service trouble reports, from customers and users of telephone service relating to dissatisfaction with telephone corporation services. Reports received will be counted and related to the total working lines within the reporting unit in terms of reports per 100 lines.
- b. Measurement. Customer trouble reports received by the utility will be counted monthly and related to the total working lines within a reporting unit.
- c. Minimum Standard Reporting Level. Report number of trouble reports per 100 working lines (excluding terminal equipment reports). Six trouble reports per 100 working lines for reporting units with 3,000 or more working lines, eight reports per 100 working lines for reporting units with 1,001-2,999 working lines, and 10 reports per 100 working lines for reporting units with 1,000 or fewer working lines.
- d. Reporting Unit. Exchange or wire center, whichever is smaller. A wire center with fewer than 100 lines should be combined with other central offices within the same location. A remote switching unit with fewer than 100 lines should

also be added to its host switch. URF CLECs that do not have exchanges or wire centers 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.

2.7 Mean Opinion Score – Applies to all facilities-based interconnected VoIP carriers and all facilities-based wireless carriers.

a. Description. Mean Opinion Score (MOS) based on R-factor (ITU-T Recommendation G.107) provides a scalar rating of transmission quality (from 0 to 100) to help ensure that users will be satisfied with end-to-end call. Applies to wireless and VoIP providers.

b. Measurement. Outlined in ITU-T G.107, to be carried out automatically using network equipment.

c. Minimum Standard Reporting Level. R-factor of 4.03 and up.

d. Reporting Unit. Reporting is at the level of the historical Rate Center. Network equipment within the rate center that is capable of mathematically calculating MOS should perform a MOS calculation, and the scores should be averaged across the entire Rate Center.

e. Reporting Frequency. Compiled monthly, reported quarterly.

3. QUARTERLY VOICE SERVICE MEASURES FILING

3.1 Reporting Units. Voice service measures shall be maintained by reporting units as defined in Section 2.

3.2 Reporting Requirements. Regarding the quarterly voice service measures report templates, CD staff shall determine all reporting requirements, including but not limited metadata fields, formatting, file type, and submission method. CD staff shall update the templates as necessary.

Quarterly voice service measures reports shall be submitted to CD within 45 days of the end of the reporting quarter.

Reports to the Commission regarding a provider's failure to meet the minimum standard shall state the actual levels of service the provider attained for each service measure and the months being reported.

3.3 Commission Staff Reports. CD staff may compile and post the minimum service standards and the performance of each telephone corporation on the Commission's website.

4. ANNUAL VOICE SERVICE MEASURES FILING

Advice Letter Tabulating Fine. The performance of any telephone corporation that does not meet the minimum standards shall submit annually, by February 15 of the following year, a Tier II Advice Letter that

shows by month each Service Quality measurement that it did not meet the minimum standards and the applicable fine.

The advice letter shall contain detailed calculations using MS Excel spreadsheets (or a format specified by the Communications Division) with explanations of how each fine was calculated and assumptions used in the calculation. CD will prepare a resolution for the Commission annually, and if the resolution is adopted, then fines shall be payable to the California Public Utilities Commission for deposit to the California General Fund.

The minimum annual fine shall be no lower than the registration fee for a CPCN.

5. **SERVICE OUTAGE REPORTING**

- a. Applicability. This section applies to:
 - i. **All** telephone corporations.
- b. Description. The Commission adopts **and utilizes** the FCC's Network Outage Reporting System (NORS) reporting requirements. **The Commission also adopts and utilizes the California Governor's Office of Emergency Services (Cal OES) requirement for telephone corporations to submit notifications for community isolation outages.**
- c. **NORS** Reporting Procedures:
 - (i) **Telephone corporations are required to** provide NORS reports for all service types, **including POTS, VoIP, and wireless.**
 - (ii) Concurrent reports shall be submitted to CD and the **Public Advocates Office** or their successor divisions when the carrier files its reports with FCC's NORS system. Carriers shall submit a report to the Commission when the communication disruption or outage meets the FCC's reporting threshold and that disruption or outage involves communications in California, regardless of whether the affected communications in California independently meet the FCC's reporting threshold. Reports shall be filed with the CD **in a manner of CD's choosing.**
 - (iii) Final NORS reports shall be made confirming that service has been **fully** restored.
- d. **Cal OES** Reporting Procedures:
 - (i) **Telephone corporations are required to provide community isolation outage notifications to Cal OES for all service types, including POTS, VoIP, and wireless.**
 - (ii) **The Communications Division may request, through a standard template, the underlying data, including but not limited to individual access line information, of these outage notifications.**
- e. Confidentiality. **NORS and Cal OES** reports submitted to the Commission pursuant to these rules shall be treated as confidential in

accordance with Pub. Util. Code § 583 and General Order 66-D.

- f. **Retention of Records.** All service outage reporting shall be retained for ten years.

6. WIRELESS COVERAGE MAPS– Applies to all facilities-based telephone corporations that are **registered as** wireless carriers **or service providers**, and have been granted a CPCN or a WIR.

6.1 Description: Wireless coverage maps shall show where wireless phone users **can** expect to receive signal strength adequate to place and receive calls when outdoors under normal operating conditions.

6.2 Requirements. Wireless carriers shall provide coverage maps on their websites and at retail **store** locations.

- a. Wireless carriers shall provide coverage maps in printable format on their websites and **also** in printable or pre-printed format at retail **store** locations **so** that customers can take **a printed copy** with them. Wireless carrier representatives at retail **store** locations shall implement procedures to make available **printable coverage map** during **the customer ordering process** depicting approximate wireless service coverage **at the customer's physical address location** applicable to the wireless service rate plan(s) being sold.
- b. Wireless carriers shall provide coverage maps depicting wireless service coverage applicable to the wireless service offered rate plan(s). All coverage maps shall include a clear disclosure of **equipment constraints with regards to wireless data transmission standards**.
- c. **Wireless carriers shall provide the latest coverage maps to CD capable of verifying coverage at exact address, preferably using Geographical Information System shapefiles.**

7. STAFF INVESTIGATIONS AND ADDITIONAL REPORTING REQUIREMENTS

Commission staff may investigate any reporting unit that does not meet a minimum standard reporting level and any major service interruption. Staff may recommend the Commission institute a formal investigation into a carrier's performance and alleged failure to meet the reporting service level for six or more consecutive months.

Carriers that fail to meet any standard for two consecutive months or more shall file with the Communications Division, or its successor, a Corrective Action Plan for each month that the service quality measures are not met that explains the reason(s) for missing the standard(s) and the actions that the company will take to correct the causes and improve performance to a level that meets adopted measures and standards.

8. AUTOMATIC CUSTOMER CREDIT RECORDS

If applicable, telephone corporations shall report the number and total amount of **automatic customer credits** by month. This data should be

compiled monthly and reported quarterly in a separate form filed with the quarterly **voice** service **measures** reports.

9. ALTERNATIVE PROPOSAL FOR MANDATORY CORRECTIVE ACTION

In support of a request to suspend the fine, carriers may propose, in their annual fine filing, to invest no less than twice the amount of their annual fine in a project (s) which improves service quality in a measurable way within 2 years. The proposal must demonstrate that 1) twice the amount of the fine is being spent, 2) the project (s) is an incremental expenditure with supporting financials (e.g. expenditure is in excess of the existing construction budget and/or staffing base), 3) the project (s) is designed to address a service quality deficiency and, 4) upon the project (s) completion, the carrier shall demonstrate the results for the purpose proposed.

Carriers **must receive approval from Communications Division, or its successor, to ensure they have picked appropriate target projects to invest funds. Communications Division or its successor may reject target projects or select other projects for investment.**

10. CUSTOMER NOTIFICATION

10.1. To inform customers of carrier performance, carriers shall annually provide customer notification detailing their performance from the previous year. The notice should have data consistent with the data contained in the Annual Voice Service Measures Filing, detailed in Section 4. The notice should be provided to customers in the billing cycle following the Annual Voice Service Measures Filing. This notice shall contain, at minimum:

- a. Total outages: the cumulative number of outages experienced by customers across the carrier's network in California.
- b. Total outage user-days: the total number of user-days wherein service was disrupted due to an outage. 24 outage hours, experienced by any number of cumulative subscribers, shall constitute one outage user-day.
- c. Average outage user-days: the average number of outage user-days experienced by a customer. I.e. the above number divided by the total number of users of the service.
- d. Total fine assessed: the total amount of fines that the carrier paid due to provisions of this General Order.

11. COMMISSION STAFF REPORTS

CD staff will compile and post the minimum service standards and the performance of each telephone corporation on the Commission's website. The website content will include data contained in the Quarterly Voice Service Measures Filing (detailed in Section 3), the Annual Voice Service Measures Filing (detailed in Section 4), Automatic Customer Credit Records (detailed in Section 8), and Customer Notification (detailed in Section 10).

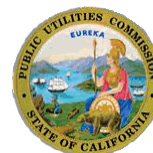
APPENDIX E

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

Opening Comments of the Public Advocates Office
on the Proposed Decision Adopting
General Order 133-E

Public Version



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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Proceeding
to Consider Amendments to General
Order 133.

Rulemaking 22-03-016

**OPENING COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE
PROPOSED DECISION ADOPTING GENERAL ORDER 133-E**

(PUBLIC VERSION)

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May 12, 2025

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I. INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

Pursuant to Rule 14.3 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure, the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these comments on the Proposed Decision (PD) of Commissioner Darcie Houck on the Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133.¹

Cal Advocates generally supports the PD. Expanding service quality requirements beyond Plain Old Telephone Systems (POTS) to include Voice over Internet Protocol (VoIP) and wireless voice services would enhance the safety and security for voice customers. Additionally, requiring that customers' receive automatic credits for services outages ensures that they pay only for the services that are actually provided.

However, as discussed below, the PD should be revised to: (1) include a definition of what constitutes reporting of a service outage in recognition of advancements in communications technology; (2) establish service quality metrics for interconnected VoIP or wireless services beyond service outages; and (3) revise the reporting requirements to ensure that those requirements capture repeat service issues.

II. DISCUSSION

A. The PD should be revised to define how to report POTS or VoIP service outages for purposes of creating an outage ticket.

Proposed General Order 133-E (GO 133-E), Rule 2.2.a states:

The POTS and VoIP Outage Repair Standard requires telephone corporations to restore outage tickets within 24 hours. The outage duration is expressed in hours and minutes, between the time of reported loss of service and when service is restored, less the hours and minutes that elapse during an allowable exemption event where applicable. This standard applies to residential and small business customer outage tickets.²

While this standard identifies the timeframe to restore a service outage for a POTS or VoIP line, it needs to be clarified to define what constitutes a "reported loss of service" for

¹*Proposed Decision of Commissioner Houck Decision Adopting General Order 133-E (PD)*, issued April 11, 2025.

² PD, Appendix A, Rule 2.2.a.

purposes of creating an outage ticket. While in some cases it may be possible for customers to use a wireless device to call their POTS or VoIP service provider and report the service outage, or use a home or wireless broadband connection to log on to the service provider's website and file an outage report, both of these scenarios require the customer to have additional working equipment and services.

The definition for reported service outage should cover situations where the customer is facing a service outage and is therefore unable to report that outage. The current draft of General Order 133-E provides that the duration of a customer's service outage begins when the customer notifies the service provider of a loss of service.³ However, there is no explanation regarding how customers can report a service outage when they have no service.

Each version of General Order 133, dating back to 1992, included a definition for Trouble Report.⁴ General Order 133-D defines a Trouble Report as "Any oral or written notice by a customer or customer's representative to the telephone utility which indicates dissatisfaction with telephone service, telephone qualified equipment, and/or telephone company employees."⁵ Customer Trouble Reports are further defined under Minimum Telephone Service Measures as "service affecting, and out of service trouble reports from customers and users of telephone service relating to dissatisfaction with telephone company services."⁶

In proposed General Order 133-E, the Commission has changed the reporting requirements for service providers from Trouble Reports to the Quarterly Report submission but GO 133-E fails to provide adequate clarity or guidance regarding what it means to report a service outage. A clear, expansive definition of what it means is necessary because the historic requirements do not reflect advancements in available technology, which substantially alter the options for reporting service outages. The options to report service outages should include not only customer phone calls to report an outage but also customer notification through a service provider's outage website. More importantly, outage reporting should also include the service provider's use of the communications equipment itself to provide notices of service outages.

³ PD, Appendix A, Rule 2.2.a.

⁴ See: General Order 133-B Rule 1.3.i, General Order 133-C Rule 1.3.u, and General Order 133-D Rule 1.3.v.

⁵ D.16-08-021 General Order 133-D § 1.3.v.

⁶ D.16-08-021 General Order 133-D § 3.3.a.

The measurement of service outage duration should not depend on a customer's actions, but when service is lost. The Commission should expand the definition of how an outage is reported to include the service provider's automated equipment error notifications for VoIP services. This would remove the need for customer action as a necessary precondition to detect a service outage. Expanding the definition would expedite the response time of the service provider as notice would be at the time of disruption, not when that disruption was noticed by a customer. Also, it would simplify outage reporting to the Commission as service providers could rely on the data already available to them.

By definition, a VoIP service must be connected to a broadband network.⁷ This means the equipment managing the VoIP service is therefore connected to the service provider's broadband network. It also means that equipment managing that network can be remotely accessed by the service provider.⁸ Further, that same equipment can provide data logs on the status of the equipment and the status of the connections to the network.⁹ The service provider can review reported issues and respond accordingly at the time of the notification from the equipment with remote support or, if necessary, dispatch personnel to a location to manage an outage issue, possibly before the customer even knows they have a service outage.

The basis for Cal Advocates' recommendation regarding an expanded definition of "reported service outage" is two-fold in that it would provide clarity in the rules for when an outage duration begins and encourages service providers to take action as soon as an issue is detected using the tools at their disposal.

The PD acknowledges that, "from the customer's perspective all outages center around whether they can make or complete a phone call and is not dependent on technology."¹⁰ During

⁷ California Pub. Util. Code § 239(a)(1)(B).

⁸ <<BEGIN COMCAST CONFIDENTIAL>>

<<END COMCAST CONFIDENTIAL>>

⁹ <<BEGIN COMCAST

<<END COMCAST CONFIDENTIAL>>

¹⁰ PD at 78.

a service outage, the inability to make or receive a call can be a life-or-death matter. As proposed GO 133-E addresses service quality issues for new technologies, the Commission should not apply the methodology used in previous versions of General Order 133 to report service outages. To do so would fail to account for the capabilities of the advanced telecommunications equipment that is used in VoIP services. The underlying technology of VoIP solutions is capable of more than POTS systems were at the time when the original General Order 133 was instituted. The rules are designed to,¹¹ and should, evolve to incorporate those changes.

Cal Advocates recommends Appendix A of the PD be revised to include the following definition in Rule 1.3:

Reported Service Outage – (a) Any notice received by a service provider either oral or written from a customer or customer’s representative to the telephone utility which indicates dissatisfaction with telephone service, telephone qualified equipment, and/or telephone company employees. (b) An automated notification from the service provider’s network-connected equipment to the service provider that informs the service provider of a service disruption or outage on their network.

B. The PD should be revised to apply metrics to the actual quality of the service being provided.

The Assigned Commissioner’s Scoping Memo and Ruling sought insight as to the service quality metrics that should be extended to wireless and interconnected VoIP services and whether specific metrics should apply to one type of technology but not another.¹² The PD addressed these issues by extending the existing service quality requirements to interconnected VoIP¹³ and wireless services¹⁴ and by establishing a separate metric for wireless from those of POTS and interconnected VoIP. However, the PD errs by failing to recognize that the technical differences between POTS and VoIP and wireless necessitate different metrics.

¹¹ PD, Appendix A, Rule 1.

¹² Assigned Commissioner’s Amended Scoping Memo and Ruling (July 22, 2022) at 2-3.

¹³ PD at 83.

¹⁴ PD at 89.

As highlighted in Cal Advocates' comments in response to the Staff Report, applying the POTS standards to VoIP calls neglects the differences in the underlying technology and the effects on call quality.¹⁵ Proposed GO 133-E measures service quality for a POTS or VoIP connection based on the binary determination of whether service is or is not available. This binary approach to service quality ignores the fact that the service must also be reliable for the customer during calls. The Commission can do this by applying the Mean Opinion Score, derived from an international standard,¹⁶ as the minimum service quality requirement for all calls operating on packet-switched networks.

1. The PD must recognize that historical standards are not enough to ensure that customers receive the same service quality when they use newer technology.

Proposed General Order 133-E does not include prescriptive requirements on voice-service providers for service quality during the calls that are placed. This lack of a requirement is likely because General Order 133 rules were first established when POTS was the only type of communications service available. POTS technology has not required a voice-quality standard, and the primary reason for that is the underlying technology for POTS.

POTS systems use circuit switching to establish voice communications from one customer to another. In connecting one caller to another, there is a dedicated, unique communication path to and from a given customer that the service provider keeps open specifically for that call, even when there is no signal traveling along the voice path.^{17,18} This stems from the engineered design of the telephone systems that guarantee the necessary dedicated bandwidth to complete each call, even if no call was taking place.¹⁹ That circuit-switching approach also applies to calls subject to TDM (time-division multiplexing), even though the physical cabling itself is host to multiple signals, there is reserved capacity in the

¹⁵ *Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Issuing Staff Proposal*, filed September 3, 2024 at 7-9.

¹⁶ ITU-T G.107 (June 2015 in force): The E-model: a computational model for use in transmission planning. <https://www.itu.int/rec/T-REC-G.107>.

¹⁷ Benjamin, S.M., et al, *Telecom Law and Policy*, Third edition, 2012, Carolina Academic Press, at 943 & 718.

¹⁸ Benjamin, S.M., et al, *Telecom Law and Policy*, Third edition, 2012, Carolina Academic Press, at 718.

¹⁹ Nuechterlein, J., Weiser, P., *Digital Crossroads*, Second Edition, 2013, The MIT Press, at 168.

form of dedicated time slots for any given call to a specific location, whether anyone is talking or not.²⁰ For more modern POTS transmissions, digital voice data is transferred within the network, however, the architecture remains circuit-switched so that the call is still carried over a dedicated circuit from end-to-end.²¹

These circuit-switched networks are optimized to support reliable and consistent voice quality. Consequently, it was not critical to establish a voice-quality standard in prior versions of General Order 133. However, by expanding the service quality rules to cover interconnected VoIP and wireless voice services, GO 133 must now update the rules to reflect that evolution in technology to maintain service quality.

As opposed to circuit switching networks, VoIP and wireless communication systems use packet switching technology which divides the signal between callers into segments, or packets, of data. These packets are then routed from one user to another determined by the internet protocol (IP) address included as part of the packet information. The given signal path to a user receiving a call is not reserved, as it was in the POTS circuit-switched network. Instead, a packet-switched network looks at the data contained in the packets to find the ultimate destination IP address and can then travel through multiple different paths on the network to reach that end point. This capability allows packet-switched communication to be more efficient. It allows the network to consider available bandwidth on the network, the network design and configuration, and the exchanges between networks to determine the best signal path from origin to destination. It can also result in dramatically reduced call quality for customers because it introduces the possibility of signal delay as the call goes between equipment,²² or it can result in signal degradation of the call when the network has a high amount of traffic.

The possibility of delays or signal degradation of a voice signal traveling on a broadband (packet switching) network may seem a minor issue, given the delay is often less than a few milliseconds and the signal might only degrade for a brief period. In reality, the effect of the signal degrading is dependent on the activity on the network. Because broadband networks are

²⁰ Nuechterlein, J., Weiser, P., *Digital Crossroads*, Second Edition, 2013, The MIT Press, at 28.

²¹ Sicker, D., *The End of Federalism in Telecommunication Regulations?*, *Northwestern Journal of Technology and Intellectual Property*, Volume 3, Issue 2 Spring, at 134-135.

²² Benjamin, S.M., et al, *Telecom Law and Policy*, Third edition, 2012, Carolina Academic Press, at 949.

being used for both access to websites and voice calls, comparing these shows the consequences of signal degradation on a packet switching network.

Loading a website on a browser while experiencing network delay or signal degradation, may take a few extra seconds for the website to load. Such a delay may not have a substantial impact on receiving necessary information, which might just be a simple dinner recipe. By contrast, voice calling is a real-time communication, and any delay or degradation in voice communications could result in missed critical information, such as a dinner guest's food allergy. Unlike the high reliability of dedicated circuit-switching network for POTS lines, the reliability of a packet-switched network technology's service quality for real-time communication faces many more challenges and many more opportunities to fail, all of which are controlled by the service provider. The VoIP service provider may implement such means as port blocking, application-level gateways, network filtering and policing, and deep packet inspection.²³ The service provider also controls the equipment and its configuration which directly affects the available signal paths, network redundancy, and functionality such network traffic differentiation.

2. The Commission should apply existing international standards for service quality to packet-switched communications.

To combat these technical challenges and ensure reliable voice communication over VoIP networks, the Commission should adopt a Mean Opinion Score (MOS) standard.²⁴ As explained in Cal Advocates' comments, the MOS standard is already implemented by several VoIP equipment manufacturers and vendors and is widely used in voice service network management, monitoring, and troubleshooting.²⁵ Though the MOS might seem to incorporate a subjective measurement rating, it is based on the International Telecommunications Union Standardization Sector (ITU-T) Recommendation G.107.²⁶

²³ Technical Working Group, BITAG, *VoIP Impairment, Failure, and Restrictions* (May 1, 2014) at 8-12. <https://ssrn.com/abstract=2701482>.

²⁴ *Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Issuing Staff Proposal* at 7-9.

²⁵ *Comments of the Public Advocates Office on the Administrative Law Judge's Ruling Issuing Staff Proposal* at 7-9.

²⁶ ITU-T G.107 (June 2015 in force): The E-model: a computational model for use in transmission
(continued on next page)

ITU-T Recommendation G.107 provides an algorithm and computation model that can be used by transmission planners to estimate customer satisfaction with the end-to-end transmission performance of the network. The calculation determines the rating value for the quality of the call²⁷ based on a scale of 100—with 100 being excellent, and 0 being extremely poor quality.²⁸ The standard provides a relational diagram²⁹ and chart³⁰ between the calculated rating value and estimated Median Opinion Score (MOS_{CQE}), allowing for an easy determination of expected service quality.

The calculation³¹ of the transmission measures the initial signal-to-noise ratio and subtracts various impairments that further degrade the signal as it goes through its transmission path. Then it adds a compensation factor based on user benefits such as mobility as opposed to fixed location calling.

Were the Commission to adopt such service quality standards, it would not be the first regulatory body to do so. In Europe, the Body of European Regulators for Electronic Communications (BEREC) published *Guidelines detailing Quality of Service Parameters*.³² Under these guidelines, BEREC notes that “the most widely mandated existing quality of service indicators [for voice services] across the Member States include...Call set-up time; Unsuccessful call rate; Speech transmission quality; Response time for calls to the operator, customer service and directory assistance.”³³

(continued from previous page)
planning. <https://www.itu.int/rec/T-REC-G.107>.

²⁷ R-Factor is based on the E-model developed by a group within the European Telecommunications Standards Institute called “Voice Transmission Quality from Mouth to Ear” (ITU-T Recommendation G.107 at 3). The result of any calculation with the E-model in a first step is a transmission rating factor R, which combines all transmission parameters relevant for the considered connection (ITU-T Recommendation G.107 at 4).

²⁸ ITU-T Recommendation G.107 at 15.

²⁹ ITU-T Recommendation G.107 at 16.

³⁰ ITU-T Recommendation G.107 at 16.

³¹ Calculation of the transmission rating factor, R (ITU T Recommendation G.107 at 4).

³² *BEREC Guidelines detailing Quality of Service Parameters*, March 7, 2024 [BEREC Guidelines detailing Quality of Service Parameters](#).

³³ *BEREC Guidelines detailing Quality of Service Parameters*, March 7, 2024 at 8.

General Order 133-E must account for the fact that circuit switching networks are no longer the only way in which voice communications are provided to customers. The continuing decrease in customers for POTS (circuit-switched) services and the increasing number of customers for VoIP and wireless services (packet-switched)³⁴ demonstrate the need for General Order 133-E to set forth service quality standards that fit the technology currently in use.

The Commission could incorporate this metric into General Order 133-E, Rule 2 by adding an additional bullet point to the Minimum Standard of Voice Service Measures called “Digital Voice Call Service Quality.” The rule addressing that bullet would be a new Rule 2.6. It would apply to all interconnected VoIP service providers and nationwide facilities-based wireless carriers, including all relevant subcategories under Rule 2.5, and be expressed as follows:

Digital Voice Service Providers are required to engineer and maintain their communications network to meet minimum standards using the Mean Opinion Score. If the digital voice service quality on a VoIP or wireless network drops to 60 or below for a 24-hour period, it equates to a Service Outage on the VoIP network or a Community Outage on the wireless network. At which point the Service Outage Repair Standard would apply.

C. The PD should revise the reporting requirements to ensure that customers reporting repeat service issues captured.

The PD directs service providers to file Quarterly Reports on their service quality performance.³⁵ Service providers must also submit a Corrective Action Plan (CAP) if they “fail to repair 90% of the access line outages within 24 hours in a calendar month for six or more months within a calendar year.”³⁶

This proposed combination of filings creates an inadvertent gap in service quality. While a service provider may resolve an issue reported by customers within 24 hours, that same customer may report a new service outage to the service provider if the problem recurs. General

³⁴ 7.5 million interconnected VoIP subscriptions and 48.35 million wireless subscriptions and 2.1 million switched access line subscribers in California. FCC Voice Telephone Services report, state-level subscriptions for California released November 8, 2024 Available at: [Voice Telephone Services Report | Federal Communications Commission](#) Last accessed May 1, 2025.

³⁵ PD, Appendix A, Rule 3.2.

³⁶ PD, Appendix A, Rule 4.

Order 133-E, as written, incentivizes the service providers to restore reported service outages within the 24-hour period to remain compliant. Though this resolution solves the immediate need for the customer by restoring service, it is not guaranteed to address underlying issues in the communications network that could be related to a need to repair, replace, or upgrade infrastructure or equipment.

The CAP requirement is an implicit recognition that there are ongoing issues that service providers must address in meeting the standards created in these rules. However, there is no defined requirement within either the Quarterly Report or the Corrective Action Plan that addresses repeat issues from the same customer. In such cases, the Commission will not be aware of any underlying systemic issues if the service provider meets the performance metric required by the rules. The customer would continue to face service quality issues and would not see an improvement in service quality until the underlying network problem was resolved by the service provider.

Cal Advocates recommends that the Commission include in its reporting requirements information on repeat outages. This information could be added as a requirement to the newly established Quarterly Report. Cal Advocates recommends that proposed General Order 133-E, Rule 3.2.d. be revised to add the following:

Repeat Outages: Service-affecting and out-of-service trouble reports that were either (1) submitted by the same customer or user, relating to dissatisfaction with the service provider's services within 90 days after a previous outage ticket was closed for the same, or similar, issue; or (2) triggered by the service provider's network equipment, relating to failures with the service provider's services within 90 days after a previous outage ticket was closed for the same, or similar, issue.

This information could also be used as a metric in a required CAP. If there is an area where customers encounter repeat service issues, the service provider could be required to provide a CAP as to how they will address the underlying issues.

Establishing a Repeat Outage requirement as a component of the Quarterly Report would allow the Commission to identify specific areas of the network that lack appropriate maintenance because the Commission could see when a certain geographic area is making frequent and repeated calls to a service provider. This transparency would ensure that service providers do

not solely apply a band-aid: merely restoring service without addressing a deeper, underlying issue.

III. CONCLUSION

Cal Advocates supports the PD, which expands the rules on service quality to improve voice services for customers throughout California, and requests that the PD should be revised as proposed in these Opening Comments.

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APPENDIX F

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

Reply Comments of the Public Advocates Office
on the Proposed Decision Adopting
General Order 133-E

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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Order Instituting Rulemaking Proceeding
to Consider Amendments to General Order
133.

Rulemaking 22-03-016

**REPLY COMMENTS OF THE PUBLIC ADVOCATES OFFICE
ON THE PROPOSED DECISION ADOPTING GENERAL ORDER 133-E**

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I. INTRODUCTION

Pursuant to Rule 14.3 of the California Public Utilities Commission's (Commission) Rules of Practice and Procedure, the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these reply comments on the Proposed Decision (PD) of Commissioner Darcie Houck.¹ These reply comments address the misinterpretations of the proposed rules and the misstatements of law submitted by other parties in their opening comments.

II. DISCUSSION

A. **The Customer Service Standard requiring 90% of calls be answered by a live person within 60 seconds² is unclear and requires clarification but calls for removing all customer service requirements go too far.**

Many parties take issue with the Customer Service Standard.³ In particular, the parties raised a myriad of questions and issues on the requirement that a live person answer calls within 60 seconds, 90% of the time.⁴ Cal Advocates agrees that this is a strict requirement that requires clarification and reconsideration.

¹ *Proposed Decision of Commissioner Houck Decision Adopting General Order 133-E (PD)*, issued April 11, 2025.

² PD, Appendix A, Rule 2.5.a.ii.

³ See *Opening Comments of Pacific Bell Telephone Company D/B/A AT&T California (U 1001 C)*; *AT&T Enterprises, LLC (U 5002 C)*; *Teleport Communications America, LLC (U 5454 C)*; *AT&T Mobility LLC (New Cingular Wireless PCS, LLC (U 3060 C)*; *AT&T Mobility Wireless Operations Holdings, Inc. (U 3021 C)*; and *Santa Barbara Cellular Systems, Ltd. (U 3015 C)*) (Collectively AT&T) on Proposed Decision adoption General Order 133-E, (AT&T) Filed May 12, 2025 at p. 5-7; *Comments of the California Broadband & Video Association on Proposed Decision adopting General Order 133-E*, (CBVA) Filed May 12, 2025 at p. 10-14; *Opening Comments of Cellco Partnership D/B/A Verizon Wireless (U 3001 C) on Proposed Decision*, (Verizon) Filed May 12, 2025 at p. 2-10; *Opening Comments of Consolidated Communications of California Company (U 1015 C) and Consolidated Communications Enterprise Services, Inc. (U 7261 C) on Proposed Decision of Commissioner Houck*, (Consolidated) Filed May 12, 2025 at p. 3-5; *Opening Comments of Calavaeras Telephone Company (U 1004 C)*; *Cal-Ore Telephone Co. (U 1006 C)*; *Ducor Telephone Company (U 1007 C)*; *Foresthill Telephone Co. (U 1009 C)*; *Happy Valley Telephone Company (U 1010 C)*; *Hornitos Telephone Company (U 1011 C)*; *Kerman Telephone Co. (U 1012 C)*; *Pinnacles Telephone Co. (U 1013 C)*; *The Ponderosa Telephone Co. (U 1014 C)*; *Sierra Telephone Company, Inc. (U 1016 C)*; *The Siskiyou Telephone Company (U 1017 C)*; *Volcano Telephone Company (U 1019 C)*; *Winterhaven Telephone Company (U 1021 C)* (Collectively Small LECs) On Proposed Decision of Commissioner Houck, (Small LECs) Filed May 12, 2025 at p. 2-6.

⁴ PD, Appendix A, Rule 2.5.a.ii.

The PD mentions the historic use of an interactive voice response (IVR) or automatic response unit (ARU) while raising concerns about the number of menus a customer might go through to reach a live person.⁵ However, Proposed General Order (GO) 133-E makes no mention of the permissibility of IVR or ARU going forward. Cal Advocates recommends the Commission allow for the continued use of IVR or ARU, provided that the option to speak to a live person be prompted at each menu the customer encounters. Once the customer selects the option to speak to a live person, that is when the 60 second clock should begin.

Proposed GO 133-E Rule 2.5 is likely to result in service providers needing to hire more people and train them, resulting in cost increases to customers to offset that financial burden.⁶ The Staff Proposal recommendation is to maintain the 80% of calls be answered within 60 seconds and add a second tier of 100% of calls answered within 5 minutes.⁷ Cal Advocates suggests adopting those elements of the Staff Proposal to improve customer access to live personnel while minimizing the costs to service providers and, ultimately, customers.

B. The Service Outage Automatic Customer Credit and fine requirements are neither punitive nor duplicative, but the formula should be updated.

The Service Outage Automatic Customer Credit⁸ is designed to make customers whole when services they pay for are not provided. To restore the customer and fine the service providers for failure to perform is neither duplicative nor punitive. However, to address the comments which claim that the Commission is awarding damages to customers,⁹ a minor modification to the formula could be made. Rather than implementing a rule requiring a base 1/30th credit of the monthly bill to the customer for a

⁵ PD at 129.

⁶ See AT&T at 5-6; Verizon at 7-8; Consolidated at 4-5; Small LECs at 4-5.

⁷ PD at 130-131.

⁸ PD, Appendix A, Rule 2.2.f.

⁹ See AT&T at 11-12; CalBroadband at 2; Consolidated at 5-6.

qualifying service outage,¹⁰ the Commission should update the rule to state that the base automatic credit is $1/X$ of the monthly bill, where X is the total number of days in the month, rather than a baseline of 30. If a customer were to be without service in February on the first, tenth, and nineteenth days of the month, each for 24 hours, the customer would get a credit for 3 of the 28 days, or $3/28$. If the same thing were to happen in March, it would be a credit for 3 of the 31 days, or $3/31$. This would resolve the concerns raised regarding customer credits awarding damages.

C. The Service Quality fine and penalty mechanisms are compliant with California Law.

The PD's penalty system, including the use of General Fund Fines and Automatic Customer Credits, is lawful. The amount of the fines is lawful because, as the PD correctly notes, under Public Utilities Code § 2107, the Commission has authority to impose penalties for violations of its decisions, rules, or requirements—with a penalty of not less than \$500, and not more than \$100,000, for each offense.¹¹ Moreover, under Public Utilities Code § 2108, each violation is a separate and distinct offense, with continuing violations calculated as a separate and distinct offence for each additional day the violation continues.¹²

Furthermore, the use of Automatic Customer Credits is lawful under authorities like Public Utilities Code § 453.5, which states that the Commission will order rate refunds “to be distributed . . . on an equitable pro rata basis.” Of note, the statute contemplates rate refunds not merely on a pro rata basis; instead, the statute requires refunds be distributed on an *equitable* pro rata basis.¹³ The Automatic Customer Credits are refunds on an equitable pro rata basis because they “will ensure that those directly impacted by outages receive direct relief,” as the PD rightly states.¹⁴

¹⁰ PD, Appendix A, Rule 2.2.f.

¹¹ PD at 12.

¹² PD at 12.

¹³ “Just; consistent with principles of justice and right.” Black’s Law Dictionary (12th ed. 2024).

¹⁴ PD at 109.

D. Service providers grossly misinterpret the Customer Service online bot/chat requirement.

Cal Advocates supports the addition of a chat bot requirement to the Customer Service Standard.¹⁵ Although the language in the rule is clear, service providers seem to misinterpret the plain language and overstate the burden.¹⁶

The rule requires service providers “provide the *option* to speak to a trained company representative within the first ten seconds of connecting to customer service.”¹⁷ Service providers interpret this as meaning that they must provide a live person within 10 seconds. This is a misinterpretation of the plain language of the rule and the Commission should maintain the language as written.

E. The Commission is not preempted or prohibited from requiring service quality standards on Voice over Internet Protocol (VoIP) or wireless.

Cal Advocates supports the comprehensive discussion and ruling regarding the Commission’s authority to regulate the service quality of VoIP in the PD.¹⁸ The PD ultimately concludes that it has asserted jurisdiction to regulate service quality standards of VoIP and wireless and these rules do not conflict with federal law.¹⁹ The PD additionally goes on to accuse CTIA, AT&T, and Verizon of continuously misstating the law on the topic of the Commission’s authority to regulate service quality of wireless services, and accuses industry parties of “simply [recycling] arguments”.²⁰ Somehow, this does not stop AT&T,²¹ USTelecom,²² and CTIA²³ from again raising these same

¹⁵ PD, Appendix A, Rule 2.5.a.iii.

¹⁶ See AT&T at 6; CalBroadband at 13; Verizon at 6.

¹⁷ PD, Appendix A, Rule 2.5.a.iii, emphasis added.

¹⁸ PD at 10-12, 60, 85-89, 93-95, 106, 152-159, 176 and Conclusion of Law (COL) 3-23.

¹⁹ PD at COL 3-23.

²⁰ PD at 153-159.

²¹ PG&E at 2, footnote (fn.) 6; 11.

²² *Response of USTelecom – The Broadband Association on the Decision Adopting General Order 133-E* at 7-9.

²³ *Comments of CTIA on the Proposed Decision* at 9, fn. 41.

arguments in opening comments. These comments should be rejected again, and the ruling in the PD should be approved.

III. CONCLUSION

Cal Advocates supports the PD, and requests that the PD be revised as proposed in our opening and reply comments.

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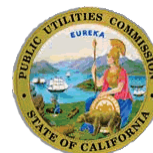
May 27, 2025

APPENDIX G

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

The Public Advocates Office Reply Comments on the
Administrative Law Judge's Ruling Regarding
Comments on Topics Discussed at April Workshop



BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Proceeding to Consider Changes to the
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Rules.

Rulemaking 24-06-012

**THE PUBLIC ADVOCATES OFFICE REPLY COMMENTS ON THE
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June 27, 2025

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<i>Avco Cmty. Devs., Inc. v. S. Coast Reg’l Com.</i>	
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<i>New York State Telecommunications Association, Inc. v. James</i>	
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<i>NY Telecommunications, et al. v. James, Att’y Gen. of NY,</i>	
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<i>Mozilla Corp. v. FCC</i>	
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I. INTRODUCTION

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits these reply comments pursuant to the May 19, 2025, *Administrative Law Judge’s Ruling Regarding Comments on Topics Discussed at April Workshops* (Ruling). These reply comments respond to select opening comments filed by industry parties on June 13, 2025, and recognize parties’ comments that reinforce Cal Advocates’ position.

II. DISCUSSION

A. Carriers of Last Resort (COLRs) May Fulfill the COLR Obligation Via a Wireless Network.

CTIA argues that “the Commission may not require a wireless provider to serve involuntarily as a COLR, because such a requirement would constitute rate and entry regulation precluded by 47 U.S.C § 332(c)(3)(A).”¹ AT&T goes further and argues that “because the Federal Communications Act denies the Commission jurisdiction to impose tariffing requirements on wireless services,” mobile wireless “cannot be a state-tariffed basic service” at all.^{2 3} Setting aside whether section 332(c)(3)(A) raises concerns about a Commission mandate to serve as a COLR, which may entail rate regulation,⁴ section 332(c)(3)(A) does not eliminate a COLR’s discretion to choose the mode of technology by which it fulfills its obligation to provide basic service. The section does not prohibit a COLR from voluntarily choosing to fulfill the COLR obligation via a wireless network.

¹ *Comments of CTIA on Administrative Law Judge’s Ruling Regarding Comments on Topics Discussed at April Workshops*, June 13, 2025 (Opening Comments of CTIA) at 2.

² *Pacific Bell Telephone Company d/b/a AT&T California’s Opening Comments on Administrative Law Judge’s Ruling Regarding Comments on Topics Discussed at the April Workshops*, June 13, 2025 (Opening Comments of AT&T) at 10 (citing to 47 U.S.C. § 332(c)(3))(italics added).

³ AT&T also states that “For decades the FCC has prohibited federal tariffs for competitive services like mobile wireless.” AT&T Comments at 10. However, it is unclear how the FCC’s regulatory actions related to federal tariffs informs what is at issue in this proceeding. Opening Comments of AT&T at 9.

⁴ See *The Public Advocates Office Comments on the Administrative Law Judge’s Ruling Regarding Comments on Topics Discussed at April Workshops*, June 13, 2025 (Opening Comments of Cal Advocates) at 2 and 6, FN 19.

B. A New Basic Service Definition That Includes a Broadband Component Applicable to COLRs at the Time of Withdrawal⁵ Falls Within the Scope of this Proceeding and the Commission’s Jurisdiction.

CalBroadband incorrectly asserts that the February 4, 2025 Assigned Commissioner’s Scoping Memo and Ruling (Scoping Memo) “limits the role of Broadband in this proceeding to that of ‘broadband availability when evaluating COLR withdrawal.’”⁶ In contrast, the Scoping Memo not only acknowledges that it is appropriate for the Commission to consider broadband availability when it evaluates COLR withdrawal, but also recognizes that that “current COLR rules are technology neutral and voice services can be provisioned using broadband, including VoIP service.”⁷ As such, the Scoping Memo recognizes that the COLR obligation to provide basic voice service could be fulfilled via broadband, a central issue in this proceeding. It follows that an update to the basic service definition related to broadband falls squarely within the scope of this proceeding.

CalBroadband further asserts that a revision of the basic service definition that imposes broadband service-related requirements would also exceed the “Commission’s authority, and likely be subject to preemption.”⁸ However, this is not so. The Second Circuit’s 2024 opinion in *New York State Telecommunications Association, Inc. v. James* (NYSTA) held that state rate regulation of broadband is not impliedly preempted by federal law because: 1) state rate regulation of broadband is not conflict-preempted by the Federal Communications Commission’s (FCC) 2018 order classifying broadband as an information service; and 2) there is no field preemption of state rate regulation by the

⁵ *Revised Proposal of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Changes to the Commission’s Carrier of Last Resort Rules* (Revised Proposal of Cal Advocates) at 17-19.

⁶ *Opening Comments of the California Broadband & Video Association on the Administrative Law Judge’s Ruling Regarding Comments on Topics Discussed at April Workshops*, June 13, 2025 (Opening Comments of CalBroadband) at 8.

⁷ *Assigned Commissioner’s Scoping Memo and Ruling*, February 4, 2025 (Scoping Memo) at 6-7.

⁸ Opening Comments of CalBroadband at 8.

Communications Act.² The NYSTA decision incorporates the D.C. Circuit’s 2019 Mozilla determination and the Ninth Circuit’s 2022 ACA Connects determination that the FCC has no statutory authority to preempt common carrier–style regulations of broadband under Title I.¹⁰ Further, the Sixth Circuit’s January 2, 2025 decision in *In re MCP No. 185* solidified the classification of broadband as an information service under Title I.¹¹ Therefore, California is free to regulate broadband.¹²

C. The Commission Should Rectify COLR Denial of Basic Service to Customers.

Cal Advocates agrees with Joint Commenters’ and EQUAL’s comments that the Commission should adopt additional policies to address customer complaints of systemic COLR failures to fulfill the COLR obligation.¹³ Joint Commenters identified multiple public comments that report AT&T’s refusal to provide service to customers within its service territory.¹⁴ The Participation Hearing (PPH) transcript also indicates a similar breach on the part of Frontier, reportedly transferring at least one customer off of basic service. During the Santa Rosa PPH, Vicki Sievers recounted:

Last week I was talking with my younger friend, Genine, on her Frontier-provided voice over internet phone when that phone went dead, really dead. Two years ago Genine went

² *New York State Telecommunications Association, Inc. v. James* (2d Cir. 2024) 101 F.4th 135, cert. denied *sub nom. NY Telecommunications, et al. v. James, Att’y Gen. of NY*, No. 24-161, 2024 WL 5112294 (U.S. Dec. 16, 2024)(NYSTA).

¹⁰ NYSTA at 155 citing *Mozilla Corp. v. FCC* (D.C. Cir. 2019) 940 F.3d 1, 76-86 and *ACA Connects v. Bonta* (9th Cir. 2022) 24 F.4th 1233, 1241–45.

¹¹ *In re MCP No. 185* (6th Cir. Jan. 2, 2025) No. 24-3449, 2025 WL 16388 (*Ohio Telecom Association v. FCC*).

¹² Cal Advocates previously presented this argument to Carolyn Chen, Advisor to Commissioner John Reynolds, in an ex parte communication that took place on January 21, 2025. *The Public Advocates Office Notice of Ex Parte Communication*, January 24, 2025 at 2-3.

¹³ *Opening Comments of The Utility Reform Network and Center for Accessible Technology on the Administrative Law Judge’s Ruling Regarding Comments on Topics Discussed at April Workshops* (Opening Comments of Joint Commenters) at 9. *Comments of Empowering Quality Utility Access for Isolated Localities (“EQUAL”) to Administrative Law Judge’s Ruling Regarding Comments on Topics Discussed at April Workshops* (Opening Comments of EQUAL) at 6.

¹⁴ Opening Comments of Joint Commenters at 9-10.

for fibered internet never realizing, never informed, that she would lose her trusty legacy phone. “It’s been a nightmare,” she told me. “God I miss my real landline. Now I have dropped calls, periodic dead phone, crackling on the line, interference with Wi-Fi, multiple service calls, no recourse when the power goes out. I often need to repeat dial to correct -- to connect at all.” And she went on. How will the Commission ensure that this rulemaking will not set up unknown numbers of Californians for nightmares like Genine’s?¹⁵

As Joint Commenters state, “A customer served by a COLR, who is therefore entitled to receive service, should not have to attend a PPH or reach out to local media to have their phone service restored or installed.”¹⁶ Customers rely on the Commission to hold telecommunications carriers accountable. By adopting the policies identified by Joint Commenters¹⁷ to address customer complaints, the Commission can uphold the guarantee of universal service. Cal Advocates recommends that the Commission adopt Joint Commenters’ suggested remedies to force COLRs to comply with the COLR obligation to provide basic service to any consumer within the service territory who requests it.

D. The Commission Should Reject Providers’ Recommendations Which Limit the Basic Service Definition.

1. The Commission Should Include Resiliency in the Definition of Basic Service.

AT&T and Consolidated claim that disaster and resiliency considerations should be excluded from the basic service definition and should instead be applied industry

¹⁵ Public Comment of Vicki Sievers, Reporters’ Transcript, Santa Rosa, California, April 30, 2025 at 364:20-365:8.

¹⁶ Opening Comments of Joint Commenters at 11.

¹⁷ Opening Comments of Joint Commenters at 11-12.

wide.¹⁸ CalBroadband claims that the inclusion of resiliency “. . . could also conflict with other Commission decisions, particularly those related to resiliency and disaster response.”¹⁹

The resiliency requirements established in Decision (D.) 20-07-011 and D.21-02-029²⁰ apply to all facilities-based wireline and wireless service providers.²¹ All COLRs are already required to participate in the resiliency decisions to provide 72-hour backup power in High Fire-Threat Districts (HFTDs) and submit communication resiliency plans to the Commission.²² The inclusion of resiliency requirements in the basic service definition applicable across the state and not just in HFTDs, would ensure that there is a consistent level of service that protects public safety in emergencies. COLRs are the only service providers in a service territory that are mandated to offer a specific level of service to any customer that requests it and are in a unique position to offer network resiliency to benefit public safety. The resiliency requirements should be universal across all telecommunications carriers and adopted in the basic service definition to protect public safety in emergencies.

AT&T argues that resiliency should not be included in the basic service definition because less than 5 percent of households in AT&T’s California service territory subscribe to COLR basic service and the decisions made in this proceeding will not affect the other 95 percent of households.²³ However, because the COLR is required to stand

¹⁸ Opening Comments of AT&T at 21 (“Resiliency and disaster response are critically important issues, and any appropriate changes should apply to the entire communications industry to protect all affected households”). Opening Comments of Consolidated at 5 (“Issues relating to system resiliency and backup power are best handled through industrywide proceeding”).

¹⁹ Opening Comments of CalBroadband at 7.

²⁰ Decision (D.) 20-07-011, *Decision Adopting Wireless Provider Resiliency Strategies* and D.21-02-029, *Decision Adopting Wireline Provider Resiliency Strategies* require facilities-based wireline and wireless service providers to provide 72-hour backup power in HFTDs and submit resiliency plans to the Commission.

²¹ D.20-07-011, Conclusion of Law (COL) 1 at 132; D.21-02-029, COL 3 at 97.

²² AT&T, Frontier, and Small LECs have filed resiliency plans with the Commission as part of the requirements from D.20-07-011 and D.21-02-029.

²³ Opening Comments of AT&T at 20.

ready to provide basic service to anyone in the service area, the inclusion of the 72-hour backup power requirements in the basic service definition would ensure this life-saving infrastructure is in place throughout the service area.²⁴ This broad application would effectively establish resilient networks in case of emergencies and disasters. Even if less than 5 percent of households that subscribe to basic service in AT&T’s service territory are affected, that number amounts to roughly 579,472 customers.²⁵ Of those customers, 115,048 are located in HFTDs, 18,998 are located in floodplains, and 7,729 are located in tsunami hazard areas – all of which benefit from 72-hour backup power in case of emergencies and natural disasters.²⁶ As discussed in Cal Advocates’ Opening Comments, a substantial number of California customers live in areas prone to natural disasters.²⁷ Therefore, it is critical that all customers in COLR service territories have resilient networks with a minimum requirement of 72-hour backup power in HFTDs and, as Joint Commenters claim, this safety protection should be expanded to apply to the entire state.²⁸

²⁴ See D.12-12-038, Ordering Paragraph (OP) 2 at 56 (“Any service provider seeking to qualify as a carrier of last resort or for California Lifeline support must offer basic telephone service in accordance with the basic service elements and related requirements of Appendix A.”); D.96-10-066, Appendix B, Adopted Universal Service Rules 1.F (“Carrier of Last Resort (COLR): A carrier who provides local exchange service, and stands ready to provide basic service to any customer requesting such service within a specified area.”)

²⁵ A.23-03-003, *Amended Application of Pacific Bell Telephone Company D/B/A AT&T California (U 1001 C) for Targeted Relief from its Carrier of Last Resort Obligation and Certain Associated Tariff Obligations* (AT&T Amended Application), May 17, 2023 at Attachment D4.

²⁶ AT&T Amended Application at Attachment D4.

²⁷ Opening Comments of Cal Advocates at 9 (“4,029,456 Californians live in HFTDs. 1,287,013 Californians live in flood zones”).

²⁸ Opening Comments of Joint Commenters at 14 (“resiliency requirements...should be expanded to apply to the entire state”).

2. Broadband Can Meet the Definition of Basic Service.

AT&T, CalBroadband, and Consolidated incorrectly state that broadband cannot meet the definition of basic service.²⁹ Consolidated states that “Broadband Internet access service is not a voice service, and the definition of basic service focuses on voice features.”³⁰ AT&T states that broadband service does not offer the required elements of basic service.³¹ The Commission should reject these claims.

Joint Commenters correctly point out that whether broadband service can meet the definition of basic service depends upon the type of broadband technology offered to the customer.³² Basic service can be met on a technology-neutral basis.³³ As long as the provision of broadband service includes a voice-grade connection and meets the elements of basic service,³⁴ a service provider can offer broadband service as a form of basic service. As a voice-grade service, VoIP technology can make E911 calls and is compatible with the California Relay Service.³⁵ Moreover, the Commission updated California LifeLine protections to include broadband bundled with voice.^{36 37}

²⁹ Opening Comments of AT&T at 21; Opening Comments of CalBroadband at 7; Opening Comments of Consolidated at 5.

³⁰ Opening Comments of Consolidated at 5.

³¹ Opening Comments of AT&T at 21.

³² Opening Comments of Joint Commenters at 16.

³³ D.12-12-038, Appendix A.

³⁴ D.12-12-038, *Decision Adopting Basic Telephone Service Revisions*, Appendix A.

³⁵ See Internet Protocol Relay Service (IP Relay), *How to Make a Relay Call*, Cal Connect. Available at: <https://caconnect.org/relay/>.

³⁶ Opening Comments of Cal Advocates at 13.

³⁷ D.20-10-006, *Decision Establishing Specific Support Amounts and Minimum Service Standards for California LifeLine and Authorizing Replacement of Federal Support for Wireline Participants*, COL 17 at 31 (“The Program should offer subsidies for Voice over Internet Protocol service bundled with fixed broadband service, so long as such Voice over Internet Protocol service connects to the Public Switched Telephone Network and meets E-911 obligations.”).

AT&T states existing COLRs should not be obligated to deploy broadband throughout their service territories to continue offering basic service.³⁸ However, Cal Advocates' position is that the obligation to deploy broadband basic service should only arise as a condition of authorization to withdraw from the COLR obligation.³⁹ The massive public benefit of allowing COLR withdrawal in exchange for broadband deployment is that deployment of broadband at speeds of at least 100/20 Mbps ensures there is sufficient access to modern communications technology⁴⁰ and increased competition in an area. The area where a COLR withdraws is therefore well-served with access to safe and reliable telecommunications technology that is resilient in the face of emergencies and disaster situations.

E. The FCC Broadband Maps Cannot Provide Voice Coverage at the Address Level, the Only Reliable Indicator of Adequate Wireless Voice Service.

CTIA asserts that the FCC broadband maps are sufficient and also claims that “[w]ireless providers make coverage maps available at the address level;”⁴¹ and “[w]ireless providers have a . . . strong incentive to provide accurate maps for existing customers.”⁴² Furthermore, both CTIA and AT&T cite the FCC requirement to submit data for the National Broadband Maps and recommend that the Commission also rely on this work.⁴³ The Commission should reject this recommendation, as these broadband maps do not accurately represent wireless voice service availability in California.

Cal Advocates strongly disagrees that the FCC National Broadband Map shows that there is adequate voice coverage available for California customers. That map, along

³⁸ Opening Comments of AT&T at 22.

³⁹ Revised Proposal of Cal Advocates at 17.

⁴⁰ *Initial Proposal of the Public Advocates Office on the Order Instituting Rulemaking Proceeding to Consider Changes to the Commission's Carrier of Last Resort Rules* (Initial Proposal of Cal Advocates) at 15-18.

⁴¹ Opening Comments of CTIA at 2-4.

⁴² Opening Comments of CTIA at 3.

⁴³ See Opening Comments of CTIA at 4; Opening Comments of AT&T at 2.

with the map published by AT&T on their website claiming to show available services, attempts to use broadband access as a proxy for voice service, lacks the granularity required to demonstrate voice coverage at the address level, and does not address one of the most important factors of basic service – being able to call 911 from inside the home.⁴⁴

1. Broadband Data is not a Proxy for Voice Service.

COLR basic service must be available inside customers' homes so that they can call 911 at home in the event of an emergency. The maps referenced by CTIA and AT&T and discussed above do not evidence available wireless voice coverage in the home. Instead, the maps use tiers of service as proxies for voice coverage. For example, on the FCC National Broadband Map (see Figure 1.1 and Figure 1.2), one enters an address to see the fixed broadband and mobile broadband services available at that location.⁴⁵ The map displays the percentage of the area served by the national carriers AT&T, T-Mobile, Verizon, or USCellular. The FCC National Broadband Map also states whether the available service is 3G, 4G LTE, or 5G-New Radio (5G-NR) for the specific location. While this information may create an inference of available voice service, it conflates voice connectivity with broadband connectivity.

⁴⁴ *About the FCC National Broadband Map*, FCC. Available at: <https://broadbandmap.fcc.gov/about>.

⁴⁵ FCC National Broadband Map. Available at: [Home | FCC National Broadband Map](#).

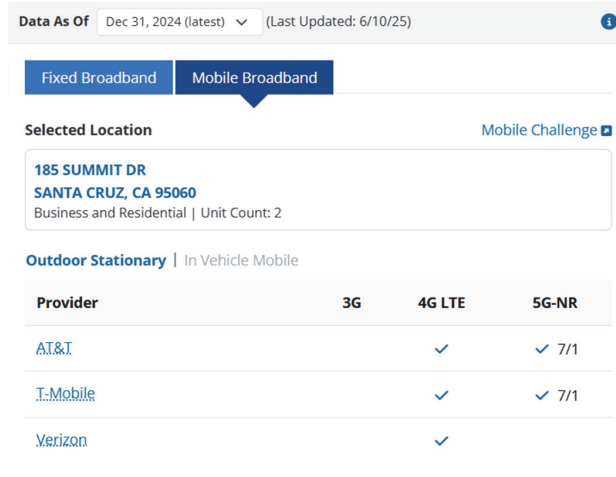


Figure 1.1. The FCC National Broadband Map data for Mobile Broadband types of services available at 185 Summit Drive in Santa Cruz, CA.

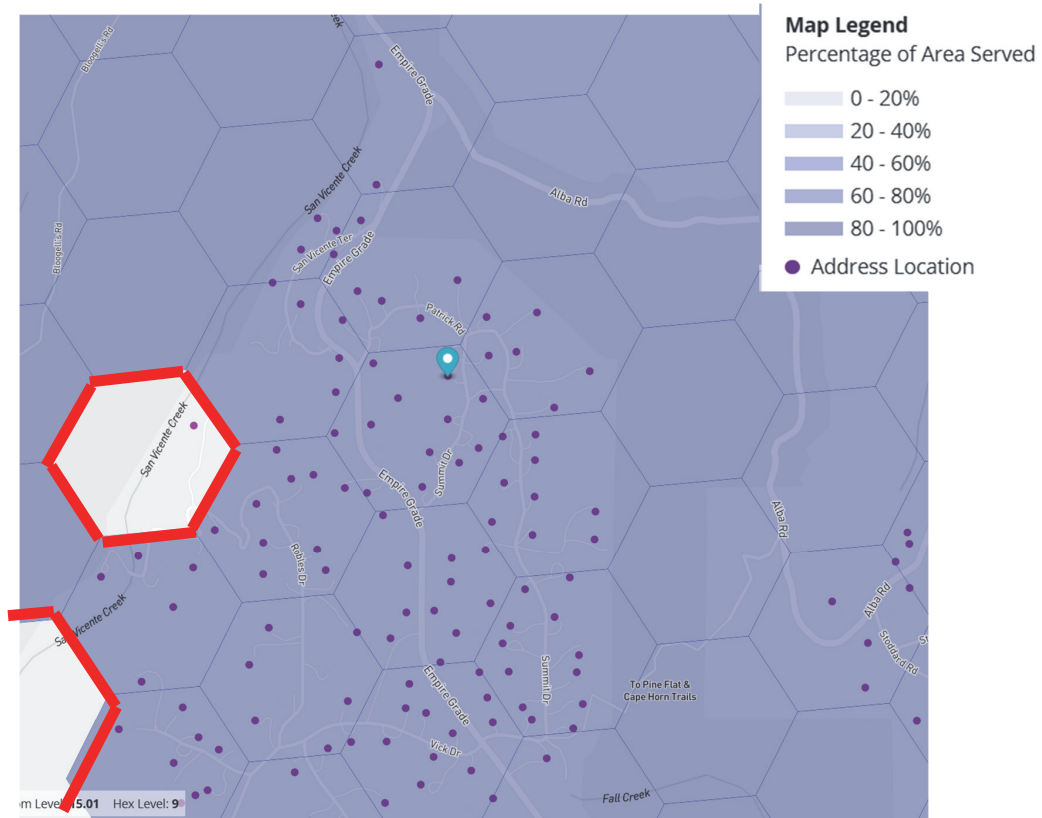


Figure 1.2. The FCC National Broadband Map data for Mobile Broadband types of services available at 185 Summit Drive in Santa Cruz, California. Red outlines added for emphasis. All areas outside of the red hexagons and shaded darkly are considered to be 80-100% served by the FCC map.

The key difference between data and voice is the extent to which they depend on consistent uninterrupted connectivity. A lack of continuous reliability may not be as detrimental for data transmission because the consequence of intermittent breaks in signal is slowed transmission which results in browser pages loading more slowly or delayed text messages. For voice transmission, intermittent breaks in transmission are likely to result in dropped calls or a failure to connect the call at all. Both carriers and consumers may accept dropped packets when transmitting data via mobile broadband. However, as a matter of public policy, California cannot accept the same for voice communications. This is particularly true in the emergency context of a 911 call where the dropped call could result in grievous harm including lost lives.

Each wireless carrier assigns different transmission frequencies throughout a region. There is no one uniform set of transmission standards because wireless carriers own the rights to a fragmented set of licenses. Furthermore, each frequency, whether it is a low or high frequency, impacts the range of the cell tower as well as its ability to penetrate obstacles. These differences therefore impact the availability and reliability of mobile voice coverage and can vary throughout the state.

The National Telecommunications and Information Administration (NTIA) United States Frequency Allocation Chart⁴⁶ shows that mobile service providers own and operate spectrum in the Ultra High Frequency (UHF) spectrum⁴⁷ up through the microwave spectrum. The operating frequency dictates the physical properties and limitations of the waveform and consequently the distance and reliability of the signal. Certain frequencies are better suited for voice transmission because they are less likely to encounter interference which results in a dropped call. Other frequencies are better suited for data because intermittent coverage would not degrade the service being accessed, such as video streaming. Carriers allocate their frequencies in recognition of these differences

⁴⁶ National Telecommunications and Information Administration United States Frequency Allocation Chart. Available at: <https://www.ntia.doc.gov/files/ntia/publications/2003-allochrt.pdf>.

⁴⁷ Ultra high frequency spectrum is from 3MHz to 30GHz.

and their applicability to voice service versus data service.⁴⁸ The FCC National Broadband Map data is assembled based on the submissions of the service providers per statute.⁴⁹ However, the focus of the statute is on data speeds, not reliable voice coverage.⁵⁰ Neither the FCC nor any state agency has created a mobile voice coverage map that takes into account the variables that determine availability and reliability.⁵¹

2. Both Industry and FCC Maps Lack Sufficient Granularity to Accurately Predict Available Voice Coverage.

The industry's own direct to customer marketing similarly overstates available voice coverage. For example, the maps that AT&T makes available to customers allow the entry of a particular address to display available AT&T service at that location. However, the information provided, whether a given area has 5G+, 5G, 4G LTE service or a partner providing service in that area, only creates an inference of available voice service. In fact, AT&T disclaims the accuracy of its own map and states, "This map displays approximate *outdoor coverage*. Actual coverage may vary. Coverage isn't guaranteed and is subject to change without notice."⁵² The disclaimer reveals that the map does not show the true availability of voice service. Instead, it shows that at a minimum measurement of signal, a certain area may have 5G rather than 4G LTE service which says nothing about the reliability of that service.⁵³

⁴⁸ Common usage of the frequency ranges by mobile service providers: 600MHz – 5G, sometimes phone and data; 700MHz – voice and 4G LTE data; 850MHz – voice and data; 1700MHz – phone transmission; 2100MHz – phone reception; 1900MHz – voice and data; 2800MHz/3900MHz – 5G. *2020 VERSION: What frequencies are used by different cell phone companies?* The Solid Signal Blog, Stuart Sweet, September 9, 2020. Available at: [2020 VERSION: What frequencies are used by different cell phone companies? - The Solid Signal Blog](#).

⁴⁹ 47 C.F.R. § 1.7004(c)(3).

⁵⁰ 47 C.F.R. § 1.7004(c)(3)(i).

⁵¹ Such a map could be created, but it would require the collection of signal propagation data from the wireless carrier industry.

⁵² AT&T Wireless Coverage Map (emphasis added). Available at: <https://www.att.com/maps/wireless-coverage.html>.

⁵³ AT&T Wireless Coverage Map. Available at: <https://www.att.com/maps/wireless-coverage.html>.

Wireless providers license the use of a wide range of wireless frequencies from the FCC, but as noted above, not all spectrum is equal for all purposes. Lower frequencies are able to reach further distances and penetrate obstacles such as foliage and the walls of homes.⁵⁴ Higher frequencies can carry larger amounts of data but are shorter ranged and subject to interference and less capable of reaching residents in their homes.⁵⁵ The Commission should not rely on the FCC broadband data as reliable evidence of available voice coverage because it does not show which transmission frequencies are being used or which signal types, data or voice, are available in which location.

Furthermore, the FCC attempted to address the need for improved wireless coverage mapping when it created the FCC's Mobile Coverage Map.⁵⁶ Unfortunately, that map has not received an update since 2021. The Mobile Coverage Map data required that service providers report available connectivity separately for voice⁵⁷ and data services.⁵⁸ However, that map bears little relationship to either the FCC National Broadband Map or the map used by AT&T to advertise services.

⁵⁴ Sundeep Rangan, Theodore S. Rappaport & Elza Erkip, *Millimeter Wave Cellular Wireless Networks: Potentials and Challenges*, arXiv preprint arXiv:1401.2560 (2014)(Millimeter Wave Cellular Wireless Networks). Available at: <https://arxiv.org/pdf/1401.2560>.

⁵⁵ Millimeter Wave Cellular Wireless Networks.

⁵⁶ FCC Mobile LTE Coverage Map. Available at: [Mobile LTE Coverage Map | Federal Communications Commission](#).

⁵⁷ Voice service in this map was considered serviced if there was a 90% probability of coverage at the edge of the area with a maximum resolution of 100 meters.

⁵⁸ Data service in this map was considered served if there was 5 Mbps download and 1 Mbps upload speeds.

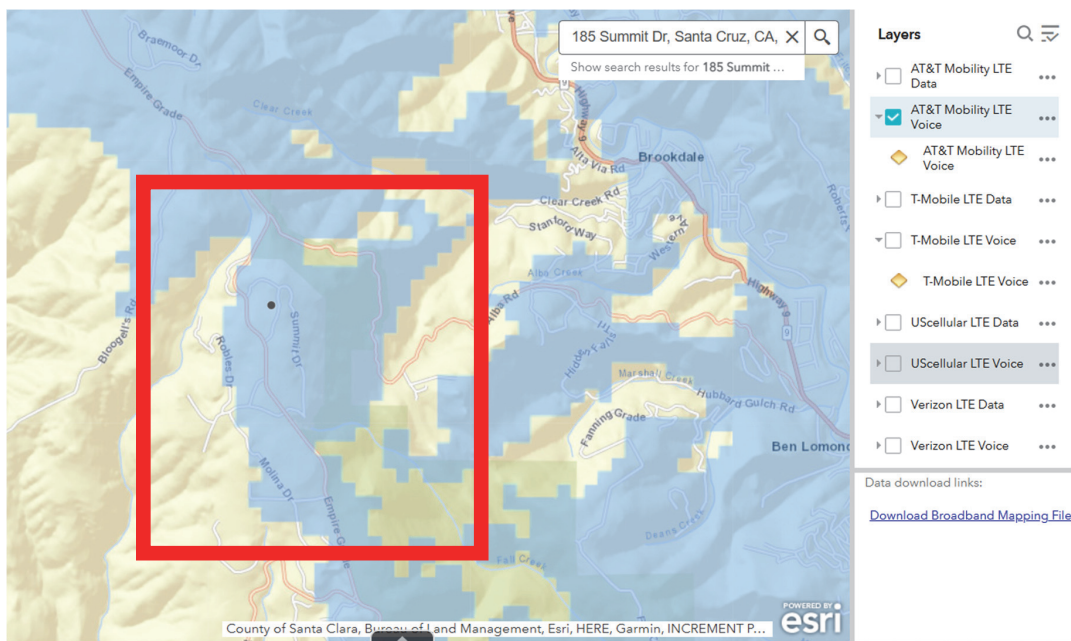


Figure 3.1. The FCC Mobile Coverage Map showing AT&T 4G LTE Voice coverage. Red rectangle added for emphasis to highlight the approximate area shown in Figure 1.2.

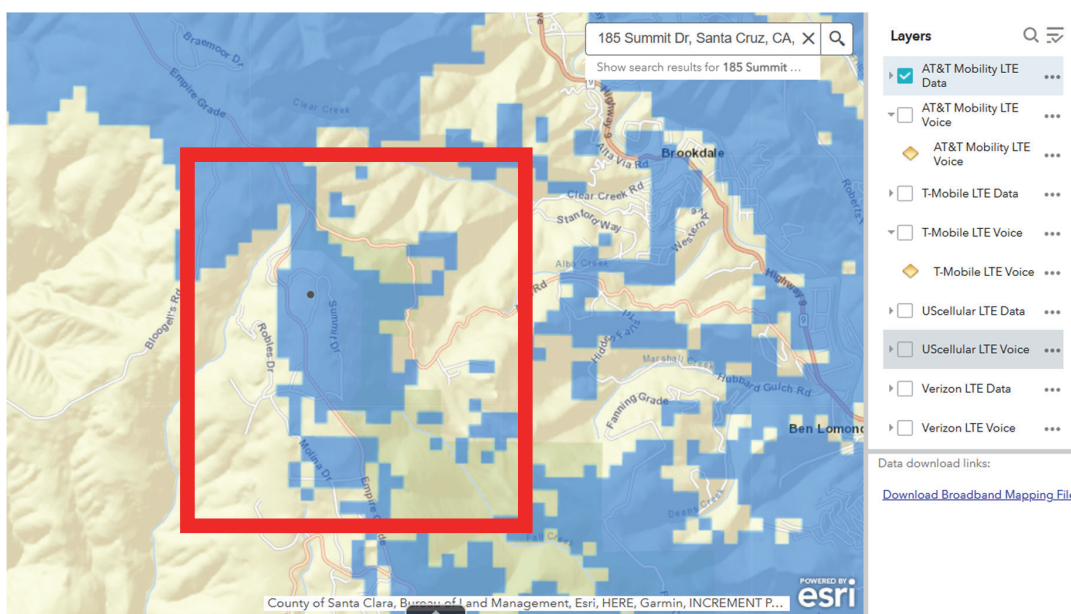


Figure 3.2 The FCC Mobile Coverage Map showing AT&T 4G LTE Data coverage. Red rectangle added for emphasis to highlight the approximate area shown in Figure 1.2.

COLRs rely upon the copper-based Plain Old Telephone Service (POTS) network to fulfill their obligation to provide reliable voice communications to a customer's home. The basic service requirements attendant to the COLR obligation are focused on the ability to make and receive voice communications in the home, not data service. The FCC broadband data maps do not serve as a proxy for accessible in-home voice service. If the Commission relies on that data as a proxy, it would mistakenly conclude an incalculable number of residents have voice service via wireless at home. The Commission would have to collect a different set of data, namely signal propagation data, from every cellular tower to formulate an understanding of the true level of wireless voice coverage available to residents.

The FCC National Broadband Map shows the percentage of the area served by the national carriers and the type of service available.⁵⁹ For example, the map may reflect that 80-100% of an area is covered by 4G LTE or 5G service. However, the map does not show whether the coverage is data service or voice service. Misplaced reliance on these maps could provide an erroneous justification for a COLR to abandon the obligation to provide basic service without adequate voice coverage, not just minimal mobile data coverage, to take its place.

Furthermore, mobile providers have the ability to map voice coverage on a more granular basis. For example, the location 185 Summit Drive referenced above is a serviceable address located near the proposed site in an existing AT&T application to the City of Santa Cruz to install a new tower to improve wireless services in that area.⁶⁰ During the public hearings, AT&T's engineer submitted a series of propagation images and a letter explaining the images.⁶¹ The images show what coverage actually exists and

⁵⁹ See Figures 1.1 and 1.2

⁶⁰ Santa Cruz County Planning Commission Application Number 221049, *AT&T Mobility Proposed Base Station (Site No. CCL05741)* filing (AT&T Proposed Base Station). Available at: <https://www2.santacruzcountycalifornia.gov/planning/plnmeetings/PLNSupMaterial/PC/agendas/2024/20240327/007a.pdf>.

⁶¹ AT&T Proposed Base Station at 28-39.

what coverage would be after the installation of the new tower.⁶² It distinguishes between where voice service can be reliable inside the home, where it can be reliable outdoors, and where it is unreliable. Exhibit 1 shows the existing coverage. Exhibit 3 shows what the coverage would be if the tower was installed and the antenna was mounted at 140' high.

Existing LTE 700 Coverage

Exhibit 1

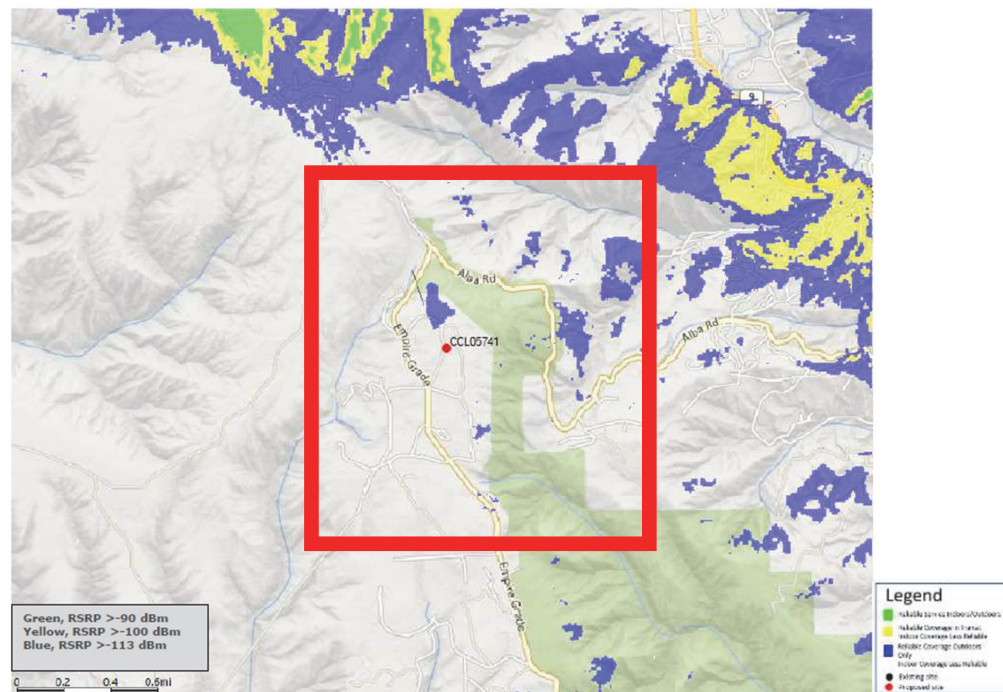


Figure 4.1. Presentation slide submitted to City of Santa Cruz by AT&T showing existing LTE coverage (from Fall 2023) of the same area in all above images. Red rectangle added for emphasis to highlight the approximate area shown in Figure 1.2. As is shown, there is nearly zero coverage in the area, with the darkest blue portions showing limited outdoor coverage available.

⁶² AT&T Proposed Base Station at 32 and 34.

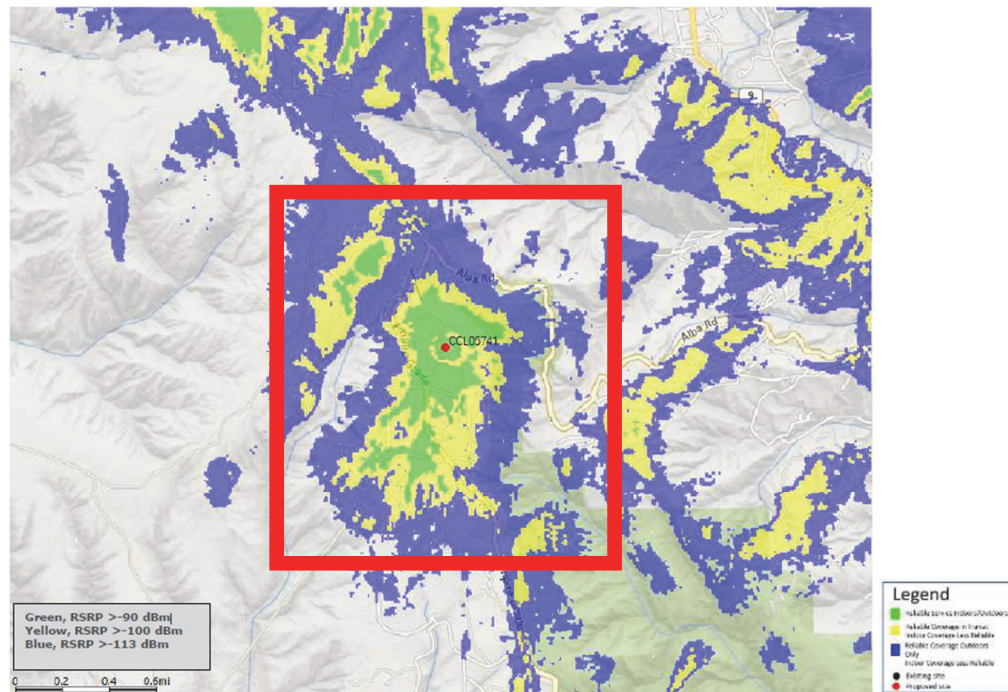


Figure 4.2. Presentation slide submitted to City of Santa Cruz by AT&T showing estimated LTE coverage (from Fall 2023) of the same area in all above images once the proposed tower is installed at 140' elevation. Red rectangle added for emphasis to highlight the approximate area shown in Figure 1.2. As is shown, the lightest areas surrounding the red dot will provide improved coverage both inside a vehicle and, at best, the first floor of a residence. The darker area provides unreliable coverage outdoors.

These images demonstrate that AT&T knows voice coverage is limited in the area. Nonetheless, the maps on AT&T's website and the data that AT&T has reported to the FCC which is reflected in both the National Broadband Map and the FCC Mobile Coverage Map, do not show this limited voice coverage. Further, the images demonstrate that AT&T has the tools to show the Commission actual, real-world voice coverage while accounting for geographic surroundings such as mountains, hills, and forests that can interfere with wireless voice access.

The limits on voice coverage shown in the tower maps are described by the AT&T engineer in his accompanying letter:

“The green shaded areas⁶³ of the map depict acceptable inbuilding coverage. In-building coverage means customers are able to place or receive a call on the ground floor of a building. The yellow shaded areas depict areas within a signal strength range that provide acceptable in-vehicle service coverage. In these areas, an AT&T customer should be able to successfully place or receive a call within a vehicle. The blue and white shading depicts areas within a signal strength range in which a customer might have difficulty receiving a consistently acceptable level of service. The quality of service experienced by any individual customer can differ greatly depending on whether that customer is indoors, outdoors, stationary, or in transit. Any area in the yellow, blue, or white category is considered inadequate service coverage and constitutes a service coverage gap.”⁶⁴

These images demonstrate that voice coverage is limited in the area. Nonetheless, the data that AT&T has reported to the FCC, which is reflected in both the National Broadband Map and the Mobile LTE Coverage Map, does not show this limited voice coverage. Further, the images demonstrate that AT&T has the tools to show the Commission what real-world voice coverage would look like by using topographically accurate maps.

The FCC National Broadband map accepts a high probability of error that is completely incompatible with ensuring residents retain access to critical services such as 911 and E911 access inside their homes. For example, the FCC National Broadband Map only requires a “coverage probability of not less than 90%”⁶⁵ and the accuracy needed to

⁶³ This equates to a minimum signal strength of -90dBm. In consumer terms, this can equate to between 2-3 bars of coverage. (See <https://www.wilsonamplifiers.com/blog/how-to-read-cell-phone-signal-strength-the-right-way>) However, bars of coverage are an unreliable standard to use for this measurement because, as discussed, voice and data transmissions operate on different frequency bands and the device may show significantly more bars of coverage, but lack adequate connectivity for voice calls.

⁶⁴ AT&T Proposed Base Station at 30.

⁶⁵ 47 C.F.R. § 1.7004(c)(3)(ii).

reach within 100 meters of the location identified.⁶⁶ These maps do not reliably demonstrate that there is voice coverage equivalent to what an existing basic service customer presently receives. No map of that type has been created yet by the FCC or a state commission.⁶⁷

3. FCC Reporting Only Requires Estimated Outdoor Coverage.

The FCC National Broadband Map, much like the direct-to-customer marketing maps discussed above, is not a reliable source of accurate data for mobile voice coverage because it does not account for any data related to coverage inside the home. The FCC requires that the submitted data “depict outdoor coverage, to include both on-street or pedestrian stationary usage, and in-vehicle mobile usage.”⁶⁸ COLRs have heretofore fulfilled the obligation to provide basic service via a POTS connection to the home that would allow customers to place phone calls at home. However, the maps that CTIA and AT&T recommend to demonstrate coverage do not require that service functions inside of a customer’s home.

To the contrary, the engineer’s letter accompanying AT&T’s Santa Cruz tower map states that, “[t]he green shaded areas of the map depict acceptable inbuilding coverage. In-building coverage means customers are able to place or receive a call on the ground floor of a building.”⁶⁹ This means that the mobile providers have the capacity to make a reasonable estimation of what signal coverage is required to ensure there will be service inside customers’ homes, despite the fact that they are not currently required to report that data to the FCC or the Commission.

The service providers are required to account for terrain and clutter, “factors like tree density, buildings, and other topographical and environmental influences on network

⁶⁶ 47 C.F.R. § 1.7004(c)(3)(iii).

⁶⁷ As discussed above, to create an accurate map of wireless voice coverage, the Commission would need to collect signal propagation data from all cell towers belonging to all wireless carriers.

⁶⁸ 47 C.F.R. § 1.7004(c)(5).

⁶⁹ AT&T Proposed Base Station at 30.

coverage.”⁷⁰ However, if there are too many objects interfering with the wireless waveform between the closest antenna and the customer, even the approximation of the outdoor signal in the maps could be grossly inaccurate.⁷¹

F. The Commission Cannot Delegate COLR Oversight Functions to a Private Entity as AT&T Proposes.

1. AT&T’s Proposed Verification Process Replaces the Commission With a Private Third-Party.

AT&T proposes that, “[t]o address the issue of verification of wireless coverage, the Commission should adopt a consumer-centered, independent challenge process.”⁷² Pursuant to AT&T’s proposed process, after the Commission removes the COLR requirement in well-served areas, the former COLR’s basic service customers are “given an opportunity to oppose the COLR’s assertion that the customer’s location is well-served and to request. . .a third-party review.”⁷³ Within 30 days, “the third-party reviewer [determines] whether the customer’s location is well-served. . .based upon the preponderance of the evidence.”⁷⁴ The Commission should reject this proposal.

In AT&T’s proposed private adjudication process, a consumer who may have lost the guarantee of telecommunications service in error must seek recourse from a third-

⁷⁰ Opening Comments of AT&T at 28.

⁷¹ As an example, a customer inside their home needs to call 911. The customer sees there are bars of coverage on their phone, but mobile service may be available from a high frequency license or a low frequency license from the provider. The operating frequency they are using in this customer’s area determines the physical properties and limitations of the waveform. A lower frequency and higher frequency signal could be transmitted equally, but their ability to penetrate walls will be different. In practice this means that if this customer’s voice service is operating on a low frequency, the customer could be able to make or receive a call while inside their home. However, if the customer is only covered by a high frequency service, then it is unlikely to penetrate exterior walls, making it unusable inside the home to call 911 at a time of emergency. See K.C. Allen, N. DeMinco, J.R. Hoffman, Y. Lo, P.B. Papazian, *Building Penetration Loss Measurements at 900 MHz, 11.4 GHz, and 28.8 GHz*, NTIA Report 94-306, May 1994 at 5-7 and 25-32.

⁷² Opening Comments of AT&T at 31.

⁷³ Opening Comments of AT&T at 31-32.

⁷⁴ Opening Comments of AT&T at 31-32.

party. Rather than the Commission, which is a constitutionally created⁷⁵ and democratically appointed⁷⁶ body, a private entity reviews evidence submitted by the consumer and the COLR, applies a formal evidentiary standard to the evidence, and determines whether an ordinary, likely unrepresented,⁷⁷ citizen's evidence preponderates over that of a goliath corporation. If this does not occur in the context of an evidentiary hearing, it is reasonable to assume that it occurs within some kind of privatized adjudicatory process due to the requirement of an evidentiary determination.⁷⁸

The process described by AT&T here does not state how the private adjudicator is selected, contracted, and paid. However, California Assembly Bill (AB) 470, Telephone Corporations: Carriers of Last Resort, introduced on February 6, 2025,⁷⁹ and sponsored by AT&T,⁸⁰ does provide those details. In the April 22, 2025 version of AB 470, the reviewer is initially selected, paid for, and contracted by the COLR.⁸¹ The Commission's role is limited to choosing between the three COLR-selected reviewers.⁸² Both AB 470 and the process described by AT&T are silent as to the appellate process and the consumer's rights, or lack thereof, to appeal.

⁷⁵ *People v. W. Air Lines* (1954) 42 Cal. 2d 621, 634 (The Commission is "a regulatory body of constitutional origin, deriving certain of its powers by direct grant from the Constitution which created it.").

⁷⁶ Cal. Const., art. XII, §1.

⁷⁷ See Blake, *Middle-Class Americans Can't Afford to Lawyer Up*, Newsweek, January 24, 2024. Available at: [Middle-Class Americans Can't Afford to Lawyer Up - Newsweek](#).

⁷⁸ See, for example, the public "trial by declaration." *Trial by Written Declaration*, California Courts Self-Help Guide. Available at: [Trial by written declaration | California Courts | Self Help Guide](#).

⁷⁹ Assembly Bill (AB) 470, (McKinnor, 2025-2026 Reg. Sess.) Telephone Corporations: Carriers of Last Resort (AB 470).

⁸⁰ See *CSAC Opposes AB 470: Bill Threatens Critical Telecommunications Access Across Counties*, California State Association of Counties, April 10, 2025 ("a bill sponsored by AT&T"). Available at: [CSAC Opposes AB 470: Bill Threatens Critical Telecommunications Access Across Counties - California State Association of Counties](#); See also *Assembly Standing Committee on Communications and Conveyance hearing on Assem. Bill No. 470*, Cal Matters Digital Democracy, April 30, 2025 at 9:32 to 11:26 (witness testimony of Terri Nikole Baca, Vice President of Legislative Affairs for AT&T California). Available at: [AB 470: Telephone corporations: carriers of last resort. | Digital Democracy](#).

⁸¹ AB 470 as amended April 22, 2025 (4/22/25 AB 470), § 2, art. 1.5, §§ 2878.2(b).

⁸² 4/22/25 AB 470, § 2, art. 1.5, §§ 2878.2(b).

2. AT&T's Proposed Delegation of the Commission's Authority is Improper.

In D.11-04-035, the Commission held that “an improper delegation of authority will be found where a government has ‘surrendered’ control and/or delegated its power to make fundamental policy or final discretionary decisions.”⁸³ AT&T’s verification process implicates the Commission’s governmental functions and police power. Article XII of the California Constitution reserves for the Commission the powers to fix rates and establish rules for public utilities; to hold hearings and issue orders; and to examine records, issue subpoenas, administer oaths, and take testimony, among other powers.⁸⁴ The Public Utilities Code charges the Commission with a statutory duty to ensure that public utilities charge just and reasonable rates and provide adequate, efficient, just, and reasonable service;⁸⁵ to permit public utility customers to testify at any hearing if they are affected by a proposed rate change (or underlying alteration of any classification, practice, or rule that could result in any new rate);⁸⁶ to entertain customer complaints of public utility violations of the law or the Commission’s orders and rules;⁸⁷ and to fix, by order after hearing, insufficient, unlawful, unjust, unreasonable rates or classifications (or rules, practices, or contracts affecting such rates or classifications).⁸⁸ The regulation of utilities is a function traditionally associated with the police power of the states and government entities may not delegate their governmental functions or right to exercise their police power.⁸⁹

⁸³ D.11-04-035 at 6.

⁸⁴ Cal. Const., art. XII, §§ 2 and 6.

⁸⁵ Public Utilities Code (Pub. Util. Code), § 451.

⁸⁶ Pub. Util. Code, § 454.

⁸⁷ Pub. Util. Code, § 1702.

⁸⁸ Pub. Util. Code, § 728.

⁸⁹ D.11-04-035 at 5 (citing *Arkansas Elec. Co-op. Corp. v. Arkansas Pub. Serv. Comm’n* (1983) 461 U.S. 375, 378; and *Avco Cmty. Devs., Inc. v. S. Coast Reg’l Com.* (1976) 17 Cal. 3d 785, 800-801).

3. AT&T's Proposed Replacement of the Commission with a Private Adjudicator Risks a Denial of Due Process.

This privatization and delegation of the CPUC's adjudication of customer challenges creates due process concerns for customers at risk of losing essential telecommunications services. As summarized by the California Supreme Court:

The essence of due process is the requirement that a person in jeopardy of serious loss be given notice of the case against him and opportunity to meet it. The opportunity to be heard must be afforded at a meaningful time²⁰ and in a meaningful manner. To ensure that the opportunity is meaningful, the United States Supreme Court and this court have identified some aspects of due process as irreducible minimums. For example, whenever due process requires a hearing, the adjudicator must be impartial.²¹

In the context of arbitration agreements where adjudication of disputes is privatized and binding, the California Supreme Court has held that such agreements are lawful only if they, among other requirements, provide for neutral arbitrators.²² If the private adjudicators described by AT&T here are indeed initially selected by the COLR and are contracted and paid by the COLR, they would have a financial incentive to please the COLR so as to continue to be selected and receive payment for services rendered. This relationship raises doubts as to whether the entity would be impartial and the lack of an impartial neutral under these circumstances risks a denial of due process.

²⁰ The timing of the review is also problematic since it would occur after the consumer has already lost the guarantee of basic service from the COLR. Opening Comments of AT&T at 31 ("Under such a process, the Commission would remove the COLR requirement in well-served areas, as determined using whichever governmental broadband map is based on the most recently collected data. However, customers of a COLR basic service would be notified and given an opportunity to oppose the COLR's assertion that the customer's location is well-served and to request the COLR or the Commission for a third-party review.").

²¹ *Today's Fresh Start, Inc. v. Los Angeles Cnty. Off. of Educ.* (2013) 57 Cal. 4th 197, 212 (internal citations omitted).

²² *Ramirez v. Charter Commc'ns, Inc.* (2024) 16 Cal. 5th 478, 504 (citing *Armendariz v. Foundation Health Psychcare Services, Inc.* (2000) 24 Cal.4th 83, 102).

4. AT&T's Discussion of a Proposed Verification Process in Washington Does Not Support its Position.

In contrast to what AT&T has proposed, and contrary to what AT&T claims,²³ at the April 4 Workshop, Washington Utilities and Transportation Commission Telecommunications Section Manager Sean Bennett described a presently unadopted and very different process.²⁴ If the Washington Commission adopts this process, Washington consumers could challenge whether a service is available and either the service provider would accept the consumer's assertion as true and reverse course, or the service provider would perform boots-on-the ground testing to verify service availability.²⁵ The proposed Washington verification process does not support or legitimize AT&T's proposed private adjudication process.

The Commission should reject AT&T's proposed verification process. The determination of whether a consumer in fact has phone service must remain with the Commission.

G. The Commission Should Study the Specialized Needs of People with Disabilities in this Proceeding.

Cal Advocates endorses Joint Commenters' comments regarding how the Commission should acquire "better, customer-centered data on the needs of people with

²³ See Opening Comments of AT&T at 31, FN 93 (citing to April 4 Workshop Video at 1:28:20–1:28:54)(characterizing the process as “a similar process. . .by which the public can challenge the accuracy of the mobile wireless service availability data used in the state’s discontinuance petition process.”).

²⁴ April 4 Workshop Video at 1:28:09 - 1:29:25 (“...[T]here essentially is a process built into this where a consumer can challenge if one of those 5G services aren’t available. And if they do challenge that, either the company would be able to accept their statement and consider it as CCL, which means they would have to go back for commission approval, or Century Link would be able to do a mobile strength benchmark test either inside that location if the consumer is willing, or if they aren’t willing, at the closest available public land. That benchmark has not yet been established. As I mentioned when I first started talking, this is pending a settlement agreement that the Commission has not yet decided, so it could look like this if it’s accepted without condition, or there could be conditions, or it ultimately could be denied.”).

²⁵ April 4 Workshop Video at 1:28:09 - 1:29:25.

disabilities” to fully inform this proceeding.⁹⁶ Specifically, Cal Advocates supports Joint Commenters’ recommendation which urges the CPUC to “select an entity with the proper expertise and qualifications to design and conduct a formal study regarding the communications needs of people with disabilities.”⁹⁷ Cal Advocates agrees that none of the parties have the specialized expertise necessary “to develop a methodology to collect that data.”⁹⁸ Such specialized expertise must include the notice and transition support telecommunications relay service (TRS) customers need when networks modernize from analog to internet protocol (IP)-based communications systems. Cal Advocates welcomes the opportunity to work with other Committee members and Commission staff in the selection of a qualified survey entity and oversight of the survey effort itself.⁹⁹

H. The Commission Should Request Financial Data from AT&T Regarding the True Cost of Maintaining its POTS/TDM Networks in California.

AT&T states that in 2023, it spent “more than a billion dollars per year in California on its TDM network and associated legacy services.”¹⁰⁰ AT&T California has not provided any verifiable data as to the cost of maintaining its POTS/TDM networks in California. AT&T classifies spending on its POTS/TDM networks as a “diversion of capital” which is “significant,”¹⁰¹ without providing a true accounting of those expenditures. AT&T has also failed to provide any cost comparative data. Had AT&T done so, the Commission would know “the cost difference for a COLR to maintain a

⁹⁶ Opening Comments of Joint Commenters at 30.

⁹⁷ Opening Comments of Joint Commenters at 31.

⁹⁸ Opening Comments of Joint Commenters at 31.

⁹⁹ Cal Advocates holds a representative seat and an alternate seat on the Telecommunications Access for the Deaf and Disabled Administrative Committee (TADDAC). See Pub. Util. Code, § 280(a). The TADDAC was chartered by R.03-03-014, Modification of D.03-06-070 Regarding The Deaf And Disabled Telecommunications Program.

¹⁰⁰ Opening Comments of AT&T at 34.

¹⁰¹ Opening Comments of AT&T at 34.

copper network to deliver basic service and meet General Order 133-D service quality requirements compared to doing so over” fiber optic or wireless network facilities.¹⁰²

The Commission should request from AT&T: 1) the financial and operational information necessary to determine the true annual cost of maintaining the POTS/TDM network, and 2) the comparative cost information AT&T has not submitted. The Commission should determine what it would cost AT&T to construct and operate “fiber optic” and “wireless” networks that deliver GO 133-D service quality requirements. This information would help support the Commission’s decision-making about the relative costs of network modernization.

III. CONCLUSION

Cal Advocates respectfully requests that the Commission adopt the recommendations in these Reply Comments, its June 13 Opening Comments, and its prior filings in this proceeding to date.

Respectfully submitted,

/s/ KATE TURNER

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June 27, 2025

¹⁰² Opening Comments of AT&T at 34.

APPENDIX H

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

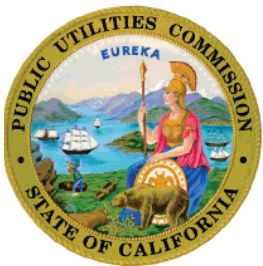
Description:

Direct Testimony of Joshua Srago
on Public Safety

Public Version

Docket Number	:	A.25-07-016
Exhibit Number	:	Cal Adv – 04
Commissioner	:	Matthew Baker
Administrative Law Judge	:	Jamie Ormond
Project Manager	:	Antoinette M. Floyd
Expert Witness	:	Joshua Srago


PUBLIC ADVOCATES OFFICE



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California Public Utilities Commission

PUBLIC

DIRECT TESTIMONY OF JOSHUA SRAGO

ON PUBLIC SAFETY

Application 25-07-016

San Francisco, California

February 11, 2026

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1

MEMORANDUM

2 This testimony is prepared by Joshua Srago of the Public Advocates Office at the
3 California Public Utilities Commission (Cal Advocates) under the general supervision of
4 Program & Project Supervisor, Antoinette Floyd. Attachment A to this testimony
5 presents a statement of qualifications from Joshua Srago. Cal Advocates is represented
6 by attorney Noah Stid in this proceeding.

7 In preparing this testimony, Cal Advocates has reviewed the Joint Application of
8 Charter Communications, Inc., Charter Communications Holdings, LLC, and
9 Cox Enterprises, Inc. for Approval Pursuant to Public Utilities Code Section 854 of the
10 Indirect Transfer of Control of Cox California Telcom, LLC (U-5684-C)
11 (Joint Application or A.25-07-016). Cal Advocates has also reviewed the responses of
12 Charter Communications, Inc., Charter Communications Holdings, LLC, and
13 Cox Enterprises, Inc. to discovery requests, as well as publicly available information.
14 For purposes of this testimony,

- 15 • **“Charter”** refers to Charter Communications, Inc., and
16 Charter Communications Holdings, LLC, including,
17 without limitation, all parent, subsidiary, and affiliated
18 companies.
- 19 • **“Cox”** refers collectively to Cox Enterprises, Inc. (CEI),
20 Cox Communications, Inc., Cox Communications
21 California, LLC, and Cox California Telcom, LLC as
22 identified in Exhibit C to the Joint Application; and
- 23 • **“Proposed Transaction”** means the transfer of control of
24 CEI’s subsidiary, Cox Communications, Inc., to
25 Charter Communications, Inc., including the transfer of
26 control of Cox Communications California, LLC and
27 Cox California Telcom, LLC.

28 This testimony focuses on analyzing the public safety risks of approving the
29 Proposed Transaction.

30 Although every effort was made to comprehensively review, analyze, and provide
31 the Commission with recommendations, the absence from this testimony of analysis or

- 1 recommendation on any particular item contained within the Joint Application, the
- 2 proceeding's Scoping Ruling, or data request responses does not constitute either
- 3 acceptance of, or agreement with, the information in the Joint Application.
- 4 Cal Advocates reserves the right to supplement this testimony.

I. INTRODUCTION

Public Safety is central to all Commission considerations.¹ In the telecommunications space alone the Commission has two active proceedings that would inform the public safety requirements applicable to the Joint Applicants regardless of whether this application is approved or rejected,² and the Assigned Commissioner expressly included the public safety impacts of the Proposed transaction in his review of this proceeding.³ It is under this lens that the Joint Application is examined. In reviewing the Proposed Transaction, the Commission must consider whether it presents inherent public safety risks outside of a failure to comply with Commission rules as they exist today or as they may exist in the future. Cal Advocates has investigated the Joint Application and Proposed Transaction for public safety impacts. Through its investigation, Cal Advocates has determined that the mobile telephone service offerings from each of the Joint Applicants pose discrete and unique public safety risks. The Joint Applicants provide mobile voice telephone service via a Hybrid-MVNO (mobile virtual network operator) model that does not neatly fall under the Commission's service quality or resiliency rules. This has a public safety impact because emergency calls could be impacted.

II. SUMMARY OF RECOMMENDATIONS

To mitigate the risks associated with the mobile telephone service offerings, the Commission must determine whether mobile phone calls placed using Wi-Fi calling while connected to broadband internet service via a carrier-provided wireless access point qualifies as a facilities-based VoIP (Voice over Internet Protocol) service or a nomadic VoIP service. Cal Advocates recommends that such calls should be considered

¹ The Public Utility Commission's mission statement places safety as its first priority: "We empower California through access to safe, clean, and affordable utility services and infrastructure."

² R.22-03-016 Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133 and R.25-07-014 Order Instituting Rulemaking to Update Communications Emergency Preparedness and Network Resiliency Program.

³ *Assigned Commissioner's Scoping Memo and Ruling*, issued December 9, 2025, at 4.

1 facilities-based wireline VoIP calls subject to the same requirements as other
2 facilities-based wireline VoIP services, such as the service quality rules of
3 General Order (GO) 133. This classification is appropriate because each of the
4 Joint Applicants functions as a facilities-based broadband and VoIP services provider and
5 both have touted the consumer benefit of the mobile phone services in a post-merger
6 environment.⁴

7 However, while they offer consumers a mobile telephone service, each of the
8 Joint Applicants is actually an MVNO,⁵ and therefore exempt from the same rules that
9 govern facilities-based wireless service providers. In reality, the Joint Applicants are a
10 Hybrid-MVNO that offers mobile voice and data using the wireless access points that
11 they provide to customers that are connected to their facilities-based broadband networks.
12 It is when the wireless customer is not connected to one of these wireless access points
13 that the mobile voice and data traffic transmitted and received by the customer utilizes
14 the licensed network of the Joint Applicants' facilities-based wireless network partner.
15 As the Joint Applicants are using their facilities-based broadband network for the
16 transmission of the voice and data traffic when the customer is connected to one of these
17 wireless access points, those calls should be treated as a call placed on a facilities-based
18 network and subject to the same Commission regulations as facilities-based wireline
19 VoIP services. This procedure would extend existing service quality, network
20 redundancy and emergency calling protections to customers who place calls through a
21 Hybrid-MVNO network.

⁴ Federal Communications Commission (FCC) WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 38.

⁵ An MVNO is a company that offers wireless mobile phone service to consumers but does not own the underlying network infrastructure to over which the service is offered, instead licensing the use of the wireless spectrum and network infrastructure from a facilities-based wireless mobile phone company, such as AT&T, Verizon, or T-Mobile.

1 **III. ANALYSIS**

2 Each of the Joint Applicants offers consumers broadband internet service, VoIP
3 phone service, and a mobile telephone service. Each service is already subject to existing
4 Commission rules linked to public safety. However, the mobile telephone services
5 offered by the Joint Applicants do not fit neatly under the same rules as their broadband
6 and VoIP services, nor do they fit directly under the mobile telephone rules the
7 Commission has implemented. By looking at the way in which they provide mobile
8 telephone service, it is clear that there is a public safety risk the Commission must
9 address to ensure compliance with the intent of the rules – ensuring access to 911 voice
10 services.

11 **A. The Commission’s Existing Public Safety Rules.**

12 The Commission has several decisions that govern different aspects of public
13 safety. GO 133 governs service quality requirements⁶ for Plain Old Telephone Systems
14 (POTS), for VoIP services, and is currently awaiting a second phase of the proceeding
15 that will address wireless telephony and broadband services following the adoption of the
16 most recent rules.⁷ Also currently in progress is the Commission’s Resiliency
17 Proceeding⁸ seeking to update the rules related to Communications Emergency
18 Preparedness and Network Resiliency Program. The Resiliency program was defined by
19 two prior Commission decisions⁹ that established the original benchmarks.

20 This combination of rules sets forth important public safety requirements for
21 communications providers, including:

- 22 • 72-hour backup power requirements for network facility
- 23 sites in Tier 2 and Tier 3 High Fire Threat Districts;

⁶ GO 133-E service quality requirements include installation of service, restoration of service after an outage, and customer service requirements.

⁷ See Petition 21-10-003 Order Instituting Rulemaking Proceeding to Consider Amendments to General Order 133, March 23, 2022, at 17, and Rulemaking 22-03-016 Decision Adopting General Order 133-E, August 28, 2025 at 106.

⁸ R.25-07-014.

⁹ D.20-07-011 and D.21-02-029.

- Network redundancy;
- Network hardening;
- Service installation timelines when requested by customers;
- Service restoration timelines when there is a service outage;
- Installation of temporary facilities during emergency;
- Communication and coordination with other utilities, emergency responders, and the public;
- Submission of Emergency Operations Plans and Communications Resiliency Plans for all network facilities or sites to the Commission; and
- Customer Service response requirements.

This collection of Commission public safety regulations provides important protections to customers by ensuring that carriers provide their customers with consistent and reliable access to communications services.

B. Mobile Services Offered by Joint Applicants Fall into a Scope Gap Under Commission Rules.

Both Charter and Cox disclose that they offer their fixed broadband customers the option to sign up for mobile telephone services.¹⁰ Neither Charter nor Cox is a facilities-based mobile telephone company. Each is an MVNO that licenses the use of the Verizon mobile network to resell mobile services to their internet and television subscribers.¹¹

¹⁰ FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 72.

¹¹ FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 37, Cite to DR from Cox – licensing use of Verizon Network.

1 One of the public benefits that Joint Applicants claim is the use of the Charter
2 wireline broadband service over the wireless access points that Charter and Cox rent to
3 customers for in-home use.¹² In the Joint Applicants' filing with the FCC, they claim
4 "the vast majority – approximately 87% - of Spectrum Mobile [(Charter)] traffic flows
5 over more than 43 million Wi-Fi access points."¹³ When asked how much of that traffic
6 was mobile voice traffic, Charter was unable to provide any viable statistics related to
7 mobile voice calls that transmitted using Wi-Fi calling capabilities.¹⁴ Cox provided a
8 more direct answer, and coincidentally presented the exact same percentages that Charter
9 did with regards to mobile data versus mobile voice traffic.¹⁵ Based on these responses
10 to Cal Advocates' data requests, each of the Joint Applicants is aware that customers are
11 using their networks for voice calling but neither is doing enough monitoring or
12 measurement of the use of their network to ensure the calls are protected.

13 The reason to be concerned about this mobile voice traffic is that any voice traffic
14 that utilizes the Wi-Fi calling feature available on most modern mobile devices would not
15 be transmitted using the facilities-based wireless service that both Charter and Cox are
16 licensing. Instead, this voice transmission would be using the facilities-based *wireline*
17 networks of Charter and Cox. While those networks are subject to the Commission's
18 public safety requirements for communications providers identified above, the calls from
19 mobile devices would not be unless that traffic were properly classified as a VoIP
20 transmission. The Commission must determine whether the mobile device placing a call
21 over the wireline network constitutes a VoIP call, and is subject to the protections

¹² FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 38.

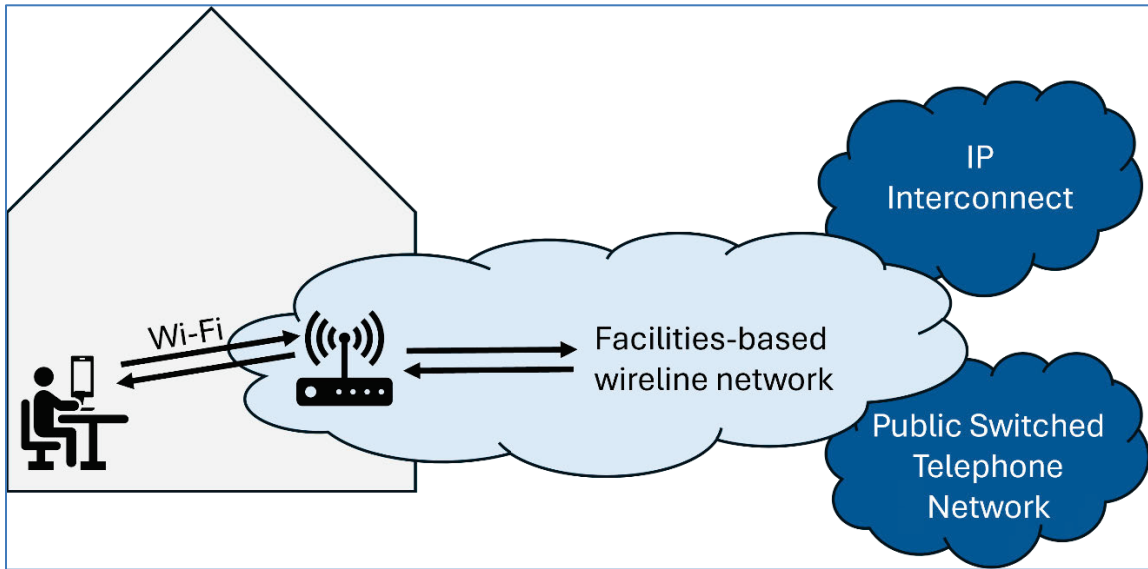
¹³ FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 38.

¹⁴ Exhibit B-2 Charter Narrative Response to Cal Advocates Data Request 03 Question No. 17.

¹⁵ Exhibit B-3 Cox Narrative Response to Cal Advocates DR-02 Question 2-15.

1 associated with other VoIP calls, or whether it constitutes a nomadic VoIP call, which
2 would exclude it from such protections¹⁶ made throughout the document.

Figure 1:
A mobile device connecting to in-home Wi-Fi to place a call.



3 These mobile services offered by Charter and Cox, under these conditions, do not
4 fit neatly under either a pure VoIP category,¹⁷ nomadic VoIP category,¹⁸ or a pure
5 wireless category.¹⁹ The mobile device can use a facilities-based wireless network not
6 owned by the company selling the service when the user is outside the home, and also use
7 a facilities-based wireline network owned by the company selling the service when the
8 user is inside the home, or near enough to any other wireless access point from the Joint
9 Applicants or their partner networks. This creates a Hybrid-MVNO service where the
10 reseller of the service has control of the network facilities under one set of conditions, but
11 not under others.

¹⁶ R.22-03-016 Decision Adopting General Order 133-E, August 28, 2025 at 98.

¹⁷ R.22-03-016 Decision Adopting General Order 133-E, August 28, 2025 at 98, fn. 237.

¹⁸ R.22-03-016 Decision Adopting General Order 133-E, August 28, 2025 at 98, fn. 238.

¹⁹ D.09-07-019 Decision Adopting General Order 133-C and Addressing Other Telecommunications Service Quality Reporting Requirements, July 16, 2009, at 5, fn. 12.

1 Additionally, if 87% of the traffic²⁰ is not flowing over the facilities-based
2 wireless network, but is instead flowing over the facilities-based wireline network, it is
3 unreasonable for the Commission to limit responsibility to only certain companies
4 believed to control the network²¹ and shift liability in the event of a service outage to the
5 facilities-based wireless provider, especially when the calls and data transmissions are not
6 even using that facilities-based wireless network the vast majority of the time.

7 Further, Joint Applicants claim there are 43 million wireless access points that
8 their mobile customers can connect to, but only 17 million of those are owned by
9 Charter.²² In response to data requests, Charter indicated that it has partnerships with

10 <<BEGIN CHARTER CONFIDENTIAL [REDACTED]
11 [REDACTED]. END CHARTER CONFIDENTIAL>>²³ Rather than relying on
12 the traditional wireless network infrastructure, Charter and its partners are effectively
13 creating a lower powered wireless network using their millions of access points located in
14 people's homes and businesses. It's reasonable to conclude that coverage could become
15 ubiquitous enough to where the post-merger entity would no longer need to license the
16 use of the Verizon network except in the least populated areas where no residential or
17 business customer using Charter- or partner-provided wireless access point to which the
18 mobile device would connect. By Charter not using facilities-based wireless networks,
19 and mobile calls not being classified as VoIP calls over wireline networks, service quality
20 and resiliency rules for emergency voice calls would not be applicable or enforced.

21 While the service coverage of Charter and its partners' wireless access points may
22 not reach as broadly as facilities-based carriers, it certainly presents a new method of
23 providing wireless service that manages to be neither a facilities-based wireline nor an

²⁰ FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 38.

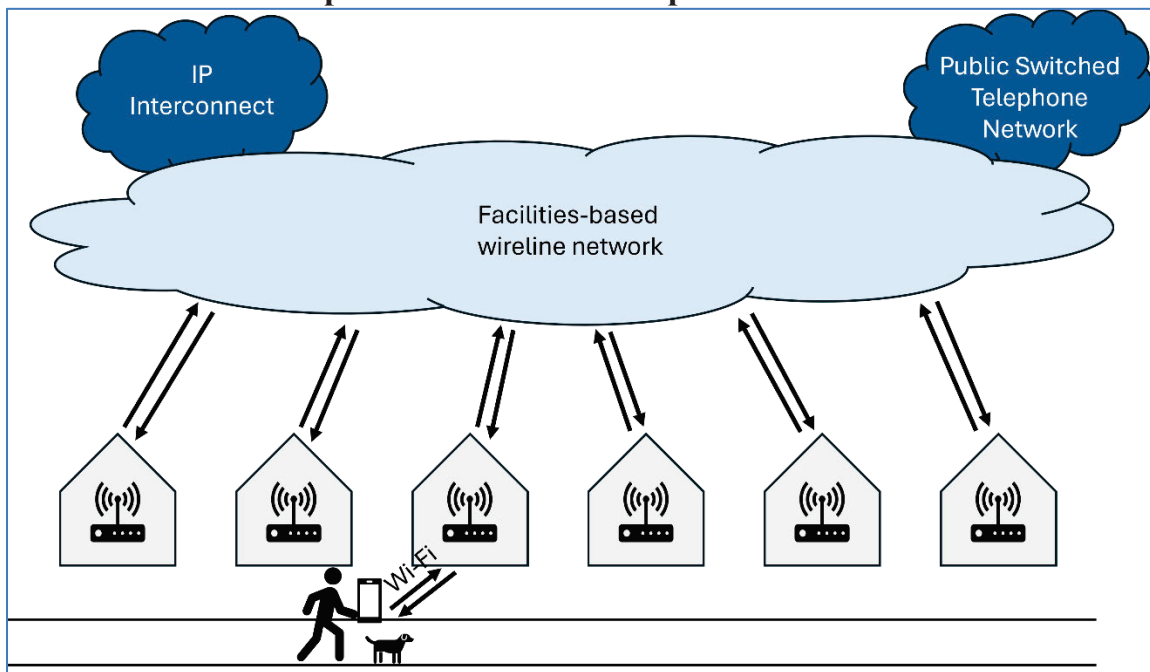
²¹ See R.22-03-016, Appendix A, GO 133-E, April 11, 2025 Section 2.3.a.

²² FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 38.

²³ Exhibit B-1 Charter Narrative Response to Cal Advocates Data Request 05 Question No. 11.

MVNO. This new Hybrid-MVNO network classification requires consideration of how the traffic is being managed as it is utilizing both the wireline and the wireless network to transmit voice and data.²⁴ If the customer has become reliant upon their mobile device to use the broadband connection and the in-home wireless access point, they have the same right to expect that service to work in the event of an emergency, as any VoIP customer would.

Figure 2:
A wireless customer's mobile device connecting to a wireless access point leased to customers from the same provider is able to use a partitioned portion of the Wi-Fi to place a call.



C. Hybrid-MVNO Networks Should Be Subject to Facilities-Based Rules.

The Commission must determine if mobile device calls over wireless access points connected to facilities-based wireline qualify as VoIP calls or nomadic VoIP calls. Due to the characteristics of these calls more closely aligning with VoIP calling, they should be classified as VoIP calls and subject to the same standards and Commission public safety regulations as VoIP calling. This result will protect Californians by applying

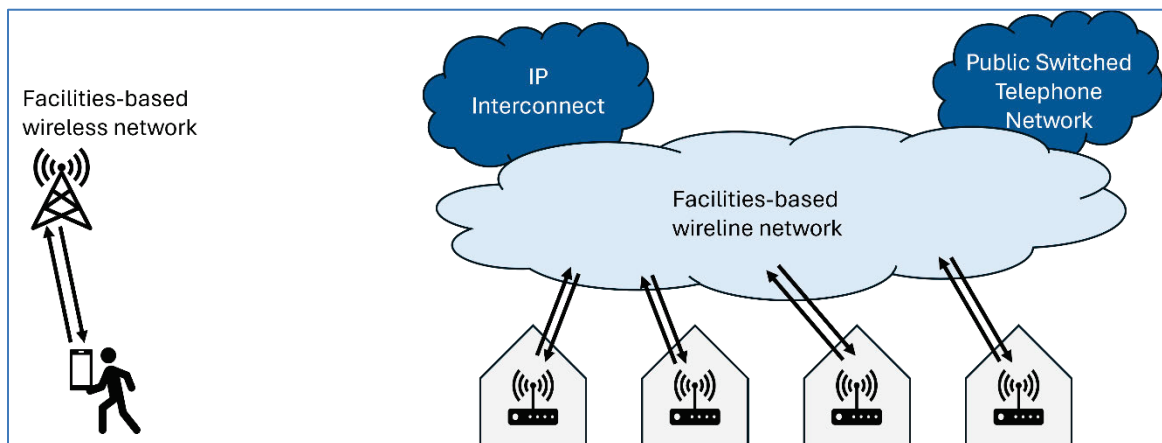
²⁴ Exhibit B-2 Response to Data Request No. 17, Exhibit B-3 Response to Question 2-15.

existing public safety rules to a growing share of calls from a mobile device made over wireless access points connected to facilities-based wireline.

Nomadic VoIP is a specialized type of communications medium. It is not device-dependent, it is software-based, and once the device running the software is connected to any network it can place a call. The device need not be in one specific location; it can be anywhere in the world on any network and can place or receive that call.

Mobile calling is similar in the one regard that the call can be placed or received anywhere, so long as the device is connected to the subscriber's network. A customer subscribed to AT&T uses AT&T's infrastructure. A customer subscribed to Verizon uses Verizon's infrastructure. With a Hybrid-MVNO, however, the customer is using the facilities-based wireline infrastructure when that network is readily available, such as at home connected to the customer's Wi-Fi, and only when it is not available will those calls be transmitted using the licensed MVNO network.

Figure 3:
When the mobile device is no longer in range of the wireless access points, the device will connect to the facilities-based wireless network.



Based on this functionality, a call using a mobile device connected to Wi-Fi is more akin to a VoIP call rather than nomadic VoIP. The connection is location specific and from a device associated with the specific account. A specific communications

1 network, controlled by a post-merger Charter and its partners,²⁵ is required in order to
2 transmit. When it connects to that network via wireless access point it is in a fixed
3 location on the facilities-based wireline network. Non-partner networks cannot be used
4 by the customer. The service is not based on the software that the device is running, but
5 the network to which the device is connected.

6 All of these factors demonstrate that the Hybrid-MVNO service that the
7 Joint Applicants are offering is equivalent to that of a VoIP phone service to the home,
8 only it has a failsafe network when the user leaves the network territory covered by the
9 wireless access points on the wireline network.

10 **D. The Risks to Consumers.**

11 The Hybrid-MVNO model of providing wireless mobile phone service creates a
12 risk to consumers because it leaves the determination of how to treat the traffic
13 transmitted to and from the mobile device while it is connected to the wireless access
14 points up to the carriers, in this case the Joint Applicants. This means that the voice
15 traffic from a mobile phone can be treated in the same manner as any other kind of data
16 traffic on the network, making it subject to the same bandwidth restrictions and rules
17 associated with streaming media, internet browsing, and social media rather than giving it
18 the appropriate priority of a VoIP call. This makes it so that 911 calls may be subject to
19 failure due to inadequate bandwidth or increased interference from other network data
20 traffic disrupting intelligibility during the call.

21 All traffic that moves across a network using internet protocol is digital traffic.
22 The traffic is broken up into packets that contain information about the type of traffic it
23 is, where it is coming from, and where it needs to be received.²⁶ The packets for a VoIP
24 call placed from a landline phone would include information that the call is voice-based
25 traffic. As a result, the carriers must treat such traffic with some amount of priority,

²⁵ Exhibit B-1 Response to Question No. 11.

²⁶ Rahul Awati, Kinza Yasar, and Andrew Zola, *What is a network packet?* February 21, 2025.
<https://www.techtarget.com/searchnetworking/definition/packet>. Last viewed January 27, 2026.

1 ensure bandwidth is properly allocated, and that it reaches its destination. If that traffic
2 was not treated with the unique properties it carries, then it could be subject to increased
3 interferences on the network.

4 Nomadic VoIP services, such as Zoom, Webex, or other software-based calling
5 platforms, are not given the same requirements as the VoIP call mentioned above.
6 Traffic from these options is treated the same as any other data being transmitted on the
7 network because of their packet identifiers, leaving them more susceptible to lag, digital
8 interference, call failures, and call drops. The Commission should not treat calls placed
9 from mobile devices while using Wi-Fi calling in the same manner.

10 **IV. CONCLUSION**

11 The Commission requested information on the risks to public safety associated
12 with this merger. As VoIP service providers, both Charter and Cox are subject to
13 existing public safety requirements for resiliency and service quality. As broadband
14 service providers they are subject to the requirements for resiliency and will be subject to
15 the service quality requirements when phase two of the proceeding concludes.²⁷ It is
16 their mobile services that pose the biggest public safety risk to customers because of the
17 way in which they provide the mobile services to customers. Joint Applicants are not a
18 pure MVNO, being solely reliant on a facilities-based wireless carrier to provide the
19 network infrastructure for all calls and data transmission. Instead, Joint Applicants have
20 developed what amounts to an alternative facilities-based wireless network utilizing the
21 wireless access points they lease to customers that are connected to their facilities-based
22 wireline network.

23 The Commission should address this new type of Hybrid-MVNO network by
24 determining that voice calls to and from mobile devices using Wi-Fi calling over these
25 types of networks are treated equivalently to wireline VoIP. The same infrastructure is in

²⁷ R.22-03-016 Decision Adopting General Order 133-E, August 28, 2025 at 106.

1 use for each of these calls. As Joint Applicants celebrate, they have the fastest growing
2 wireless customer base,²⁸ meaning that customers are subscribing to both the in-home
3 broadband service and the mobile telephony service.²⁹ By treating calls using Wi-Fi over
4 hybrid-MVNO networks as equivalent to wireline VoIP, the Commission can protect
5 consumers from potential corporate finger-pointing if networks go down during a
6 disaster.

²⁸ FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 37.

²⁹ FCC WC Docket No. 25-233, Joint Application for Consent to Transfer Control of Domestic and International Section 214 Authorizations Exhibit 1 Public Interest Statement, July 14, 2025 at 72.

ATTACHMENT A

Statement of Qualifications and Experience

STATEMENT OF QUALIFICATIONS AND EXPERIENCE
OF
JOSHUA SRAGO

My name is Joshua Srago. My business address is 320 W 4th St, Los Angeles, CA 90013. I am a Public Utility Regulatory Analyst V with the Public Advocates Office at the California Public Utilities Commission (Cal Advocates) in the Communications & Water Policy Branch.

I graduated from San Francisco State University with a Bachelor of Arts in Broadcast and Electronic Communicative Arts.

I graduated from Santa Clara University School of Law with a Juris Doctor.

I have over 16 years of communications system engineering experience.

I have designed communications systems integrating POTS, internet protocol communications, and fiber infrastructure.

I have worked for Cal Advocates for 10 months. While at Cal Advocates I have worked on the following proceedings: R.22-03-016 Service Quality, R.24-06-012 Carrier of Last Resort, and R.25-07-014 Resiliency.

I worked as a law clerk for Allen Hammond at Santa Clara University School of Law for two years specializing in telecommunications law and legal research.

I worked as a legal fellow at the Electronic Frontier Foundation for 8 months where I published a white paper on antitrust in the telecommunications industry.

I am a California State Bar certified attorney.

I hold a CIPP/US from the International Association of Privacy Professionals.

I have areas of expertise in communications technology, network-based communications, wireless communications, telecommunications law, and intelligent building design.

APPENDIX I

(to The Public Advocates Office
Opening Comments on the Order Instituting Rulemaking
in Rulemaking 26-02-017)

Description:

Total Approved LifeLine Wireless Subscribers in California
by Service Provider As Reported by
Maximus Health Human Services, Inc.

APPENDIX I

Total Approved LifeLine Wireless Subscribers in California by Service Provider

As Reported by Maximus Health Human Services, Inc.

Total Approved LifeLine Subscribers in California by Service Provider
As Reported by Maximus Health Human Services, Inc.

2025																
	Service Providers			January	February	March	April	May	June	July	August	September	October	November	December	
	OCN	CPCN	2025	2025	2025	2025	2025	2025	2025	2025	2025	2025	2025	2025	2025	
	Wireless Service Providers															
	473H	4451	166,755	154,258	155,712	150,889	146,177	141,828	138,585	140,387	142,366	144,469	144,995	153,983		
	136A	4458	21,858	29,919	38,997	49,253	69,973	82,711	101,276	124,547	159,858	172,652	179,590	187,181		
	6664	4327	73,938	75,348	78,497	86,864	91,847	95,563	98,620	100,105	100,105	96,144	81,859	75,164		
	262H	4436	73,402	69,500	60,900	70,523	81,487	97,672	109,944	78,842	58,022	57,048	56,160	55,648		
	973C	4423	63,615	53,304	48,927	45,027	41,518	40,809	40,207	33,291	28,233	23,219	20,324	17,781		
	207H	4372	79,782	87,196	93,067	96,917	99,551	99,882	95,296	98,453	103,125	106,174	102,407	99,645		
	211H	4411	3,310	4,964	7,398	10,225	11,950	14,937	15,385	16,619	19,464	21,743	21,809	29,229		
	973D	4442	14,053	13,128	12,479	12,274	12,087	11,303	9,733	8,501	7,593	6,957	6,547	6,208		
	4280	4380	652,714	674,942	684,846	690,926	694,286	691,871	676,551	674,707	685,268	680,497	665,167	684,057		
	585B	4231	217,290	228,623	234,834	241,968	249,534	250,127	249,576	250,050	234,454	238,208	237,478	232,998		
	509B	4457	60,694	47,224	35,073	27,538	23,866	25,293	49,749	57,321	58,675	53,632	48,060	41,176		
	631J	4476	12,111	10,776	8,752	7,073	5,441	5,164	4,819	4,411	3,890	3,398	3,308	3,197		
	012J	4499	83,390	62,952	53,536	45,431	40,936	36,035	29,797	23,218	18,639	17,600	16,931	19,503		
	003G	4447	38	38	70	122	204	235	298	294	304	289	304	317		
	490J	4533	36,635	43,001	50,216	57,682	65,651	74,853	80,902	86,126	90,951	102,365	105,953	100,924		
	742K	4565	147	823	1,761	2,936	3,909	6,453	11,833	16,352	16,306	10,900	7,442	7,340		
	Subtotal			1,559,732	1,555,998	1,565,065	1,595,648	1,638,417	1,671,805	1,709,514	1,711,739	1,727,257	1,735,295	1,698,374	1,714,351	