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| ORA Project Mgr. | : | Ana Maria Johnson |
| ORA Witness | : | Enrique Gallardo |

**Office of Ratepayer Advocates**
**California Public Utilities Commission**

# Office of Ratepayer Advocates Testimony Regarding Voice Service Quality and Reliability

San Francisco, California
June 1, 2016

# - PUBLIC VERSION -

## MEMORANDUM

This report was prepared by Enrique Gallardo of the Communications & Water Policy Branch of the Office of Ratepayer Advocated (ORA) under the general supervision of Program & Project Supervisor, Ana Maria Johnson.

A statement of qualifications of Enrique Gallardo is included in Attachment A to this testimony.

This supplemental testimony is comprised of a single chapter, examining the state of voice service quality and reliability.

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# EXECUTIVE SUMMARY

In response to the State of Competition Order Instituting Investigation (OII) 15-11-007, the Office of Ratepayer Advocates ("ORA") conducted a competition analysis to assess the level of consumer choice for voice and broadband services.[1] As stated in Dr. Lee Selwyn's March 15, 2016 testimony, "persistent service quality and customer service problems are indicative of a lack of effective competition"[2] The level of competition in the telecommunications market in California has resulted in poor service quality. The following testimony describes the state of voice service quality and reliability in California in recent years for wireline voice services (both traditional circuit-switched telephone service and Voice over Internet Protocol (VoIP)), as well as the customer satisfaction of wireline voice, wireless voice and Internet service.

Nationwide customer satisfaction surveys show that wireline voice and wireless voice service have had consistently poor customer satisfaction in recent years. Moreover, both Internet Service and multichannel video program distribution ("MVPD") service had even lower customer satisfaction ratings than wireline and wireless voice. The same companies that offer wireline and wireless voice service also often offer Internet and MVPD service. Thus, poor customer satisfaction is not an anomaly with these companies; unfortunately, it has become the standard of service.

Service quality reports from carriers mandated by the California Public Utility Commission ("CPUC" or "Commission") also demonstrate poor service quality, especially concerning the time it takes to repair service outages. The largest carriers subject to the Commission's service quality metrics – who served the vast majority of traditional wireline voice customers –consistently violated the minimum standard related to repair of service outages. Pacific Bell Telephone Company dba AT&T California ("AT&T") and Verizon California ("Verizon") (now Frontier California) violated this

[1] This analysis is contained in the concurrently served Direct Testimony of Lee L. Selwyn on behalf of ORA, served June 1, 2016.

[2] March 15, 2006 Direct Testimony of Dr. Lee L. Selwyn on behalf of ORA, p. 81.

1 standard every single month between 2010 and 2015. Other wireline carriers in
2 California also often violated the standard.[3] For many voice consumers in California, the
3 time it takes to repair service outages is measured in days, not hours.
4 There is also widespread violation of the Commission service quality standard
5 related to Answer Times. Many customers calling their carrier seeking answers or
6 assistance face excessive wait times. This is another indicator of widespread sub-
7 standard service quality.
8 Further information about major service outages is available relating to the Federal
9 Communications Commission's ("FCC"), Network Outage Reporting System ("NORS").
10 NORS reports are available only from those carriers who have recently been included in
11 change of control transaction applications before the CPUC.[4] These NORS reports
12 demonstrate many carriers who have an excessive quantity of major service outages, or
13 whose major service outages take an excessive amount of time to repair. Verizon in
14 particular had an excessive quantity of major service outages. The consistent standard of
15 service for Verizon in response to these major service outages was to leave customers
16 without service [redacted]
17 [redacted]
18 Much of the evidence related to the service quality and customer satisfaction of
19 wireline voice services in California points to consistently poor service quality. Such
20 persistently poor service quality could be a result of – and indicates – a lack of effective
21 competition in California.
22 Moreover, there is a lack of Commission monitoring of service quality data for
23 many carriers, which prevents a full perspective. VoIP and wireless carriers are currently

[3] Citizens Telecommunications Company of California ("Frontier – Citizens") and Charter Fiberlink ("Charter) consistently violated the OOS standard, while SureWest Telephone ("SureWest"), Frontier Communications of the Southwest, Inc. ("Frontier – Southwest") and Cox California Telecom L.L.C. ("Cox") only violated the standard infrequently.

[4] NORS reports from recent years are available from Charter, Comcast, Frontier, Time Warner Cable and Verizon. Unfortunately, reports from carriers such as AT&T California are not available. The Commission is considering whether to require access to NORS reports from all wireline (including VoIP) and wireless carriers in the service quality rulemaking, R.11-12-001.

1 not subject to the Commission's telecommunications service quality reporting
2 requirements. The Commission's service quality reporting reveals the poor service
3 quality of traditional wireline carriers; however, the Commission has much less
4 awareness of the service quality of VoIP and wireless carriers due to a lack of this
5 reporting. The Commission also does not monitor the service quality of broadband
6 service, so that there is even less perspective.

## VOICE AND INTERNET SERVICE QUALITY AND RELIABILITY

### INTRODUCTION

In re-opening a review of the state of competition in the telecommunications market, the Order Instituting Investigation states:

> The time seems ripe for us to ask whether competition is delivering the dependable, high-quality telecommunications services that are vital to California's people and economy. We find this investigation particularly timely as the Commission sharpens its focus on the safety and reliability of the State's essential infrastructure.[5]

Thus, service quality and reliability is an important aspect of the Commission's review of the state of competition in telecommunications. A lack of effective competition may result in poor service quality. As stated in ORA's March 15, 2016 testimony, "persistent service quality and customer service problems are indicative of a lack of effective competition."[6]

In the decisions implementing the URF, the Commission found that the voice market was competitive in California, and relied on competition to ensure that rates are "just and reasonable."[7] Thus, the Commission eliminated most rate regulation, relying instead on the "competitive market" to ensure reasonable rates. Under the reasoning of the URF decisions, a traditional wireline voice carrier with unreasonably high rates would soon lose business, as it faces competition not only from other traditional wireline voice carriers, but also from other modalities, such as wireless carriers and VoIP carriers.[8]

While the Commission held that competition alone might be sufficient to ensure reasonable rates, it does not similarly rely on competition to ensure service quality. The Commission found that it had a statutory duty to ensure reasonable service quality, and

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[5] Order Instituting Investigation 15-11-007, p. 1.

[6] March 15, 2006 ORA Direct Testimony of Dr. Lee L. Selwyn, p. 81.

[7] Decision (D.)06-08-030, p. 33.

[8] *See* D.06-08-030, pp. 128-30.

reliance on competition should not lead to the elimination of service quality regulations. However, as discussed above, persistent service quality problems may be indicative of the lack of effective competition.

There are widespread examples of poor service quality and reliability in California's wireline voice market, as demonstrated below. Moreover, poor service quality is also present in the market for wireless telephone service and for Internet service providers. This is significant because the URF decisions cite these services as competitive alternatives to traditional voice service. Traditional voice customers with poor service quality may perhaps turn to other modalities for an alternative to their voice service – but they will often find a similarly poor standard of service quality.

Section A below presents third-party customer satisfaction ratings to analyze the service quality of wireline voice service (both traditional and VoIP), wireless voice service and broadband service. Section B presents CPUC-mandated service quality metrics for traditional voice carriers – and in some cases, for VoIP carriers as well. Section C presents Federal Communications Commission ("FCC")-mandated reports on major service outages for some wireline carriers (both traditional and VoIP).

### A. Wireline and Wireless Telephone Service Providers – Along with Internet and Video Providers – Have Received Consistently Poor Customer Satisfaction Ratings.

Customer service ratings provide a measure of service quality and customer service. As will be demonstrated below, in recent years, telephone and broadband services have received poor customer satisfaction rankings. Both wireline and wireless telephone service receive among the lowest customer satisfaction ratings compared to other industries. In fact, the only industries that consistently receive customer satisfaction ratings below those of wireline and wireless service are Internet access and multichannel video program distribution ("MVPD") services.

Many of the same companies that provide telephone service also offer Internet access and MVPD services. The poor customer satisfaction of these companies across all

their services indicates that poor customer satisfaction is not an anomaly, but rather it is the standard of service for these companies. As discussed in Dr. Selwyn's June 1, 2016 testimony, many consumers in California lack an alternative to obtain such services and have no choice but to accept persistent poor service quality from their service provider.[9]

### 1. American Customer Satisfaction Index Ratings.

The American Customer Satisfaction Index (ACSI) conducts highly regarded national studies of customer satisfaction among hundreds of companies.[10] ACSI's customer satisfaction metrics are useful in that they are conducted across various industries (currently 43 industries), thus allowing cross-industry comparison. Moreover, each industry's customer satisfaction score can be compared to the benchmark of customer satisfaction across all industries – the "National ACSI score."

ACSI considers "Wireline Telephone Service" and "Wireless Telephone Service" as separate industries.[11] ACSI does not differentiate between traditional wireline and VoIP. Figure 1 below plots the raw ACSI score for wireline, wireless, MVPD and Internet service, as compared to the National ASCI score for all industries, from 2006 to 2015.[12] These four services have all consistently had customer satisfaction scores much lower than the cross-industry National ACSI score. In fact, all four services have consistently been among the bottom 20% of the approximately 45 industries ranked by ACSI in recent years.

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[9] *See* Direct Testimony of Lee L. Selwyn on behalf of ORA, served June 1, 2016, ¶¶ 56-59.

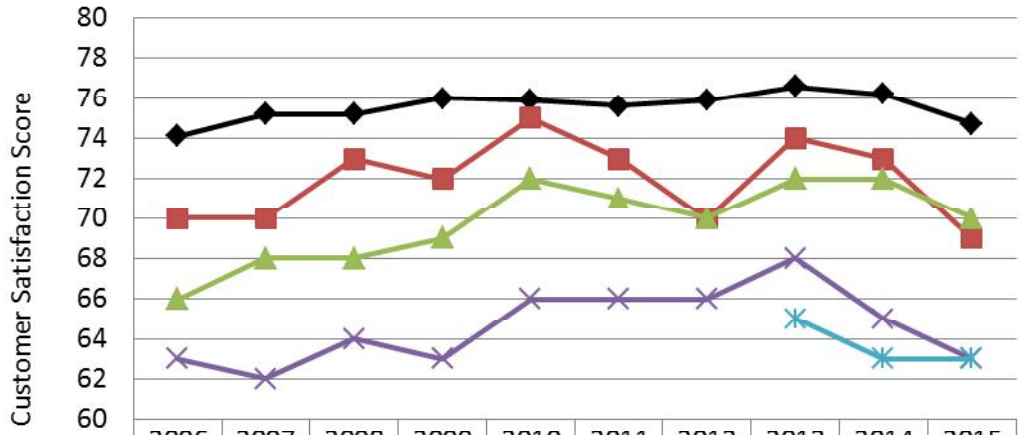
[10] ACSI surveys customers of companies and users of government services randomly via telephone and email and qualifies respondents for different companies and industries if they have recently purchased or used a product. ACSI conducts more than 70,000 interviews annually. ACSI does not differentiate between wireline voice service provided via traditional circuit-switched or VoIP technology.

[11] ACSI uses the term "Fixed-Line Telephone Service." In the interests of consistency, this term has been changed to "Wireline Telephone Service."

[12] The customer satisfaction scores for all industries since 1994 are available at http://www.theacsi.org/index.php?option=com_content&view=article&id=148&Itemid=213.

**Figure 1: ACSI Customer Satisfaction Scores of Select Industries**

**National, 2006 – 2015**




| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|
| National ASCI Score | 74.1 | 75.2 | 75.2 | 76 | 75.9 | 75.6 | 75.9 | 76.6 | 76.2 | 74.7 |
| Wireline Telephone | 70 | 70 | 73 | 72 | 75 | 73 | 70 | 74 | 73 | 69 |
| Wireless Telephone | 66 | 68 | 68 | 69 | 72 | 71 | 70 | 72 | 72 | 70 |
| MVPD | 63 | 62 | 64 | 63 | 66 | 66 | 66 | 68 | 65 | 63 |
| Internet Service | | | | | | | | 65 | 63 | 63 |

ACSI also developed a benchmark score for each industry (established in 1994 or whenever the industry first entered ACSI's ratings) to serve as a standard for assessing each industry's customer satisfaction over time. Wireline Telephone Service has demonstrated the largest decrease in customer satisfaction out of the 43 industries rated by ACSI, dropping by 14.8% compared to its individual industry benchmark (while the cross-industry National ACSI score was stable, dropping only by only 0.1%).[13] The downward trend in Wireline Telephone Service customer satisfaction largely occurred in the 1990s. Since the 2000s, Wireline Telephone Service's ACSI score has remained within the bottom 20% of the industries rated.

ACSI first introduced ratings for Wireless Telephone Service in 2004. The initial ACSI scores for Wireless Telephone Service were among the very worst of the industries,

[13] The national ACSI score is available at: http://www.theacsi.org/national-economic-indicator/us-overall-customer-satisfaction.

and then showed some limited improvement until stabilizing in 2010 but still ranking in the bottom 20% of industries ranked.

Table 1 below presents the rankings of Wireline, Wireless, MVPD and Internet access service in customer satisfaction scores, compared to the approximately 45 industries ranked. For example, in 2015, out of 43 industries ranked, MVPD and Internet had the 43rd and 42nd highest scores – in other words, these two industries received the two worst customer satisfaction scores out of the industries.

**Table 1: Rankings of ACSI Customer Satisfaction Scores for Select Industries National, 2010 – 2015**

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| **Total Industries Ranked** | **44** | **47** | **47** | **42** | **43** | **43** |
| Rankings of: | | | | | | |
| **Wireline Telephone Service** | 32 | 38 | 43 | 35 | 36 | 39 |
| **Wireless Telephone Service** | 38 | 43 | 42 | 38 | 38 | 37 |
| **MVPD** | 43 | 45 | 46 | 40 | 42 | 43 |
| **Internet Service** | NA | NA | NA | 42 | 43 | 42 |

From 2010 to 2015, Wireline, Wireless, Internet Service and MVPD all had very low customer satisfaction scores, ranking among the very bottom of the approximately 45 industries ranked.[14] Some of the same companies that offer Wireline Telephone Service also offer Wireless Telephone Service, MVPD and Internet Service. Thus, poor customer satisfaction is not an anomaly with these companies; it is the standard of service.

ACSI began to evaluate the Internet Service market in 2013. ASCI captures customer opinions about critical elements of the customer experience, including reliability, speeds, outages, video steaming, variety of plans, data security, billing and customer service. ACSI ranks the Internet Service market, as a whole, the worst

[14] "Internet Service Providers" was introduced in ACSI's ratings in 2013. ACSI uses the term "Subscription Television Service" to refer to MVPD.

performing of all 43 sectors tracked by the index. Unfortunately, the Internet Service market score has regressed since the inaugural evaluation, which suggests consumer satisfaction continues to decline. ACSI explains that, "[c]onsumers resent being locked into service contracts, and are not happy with what they see as unreliable service, slow broadband Internet speeds, and rising subscription prices."[15]

### 2. The Temkin Group Ratings of Customer Service.

The Temkin Group also rates the customer satisfaction of more than 100 companies in approximately 19 different industries nationwide. The Temkin Group offers ratings concerning various facets of customer interaction, including customer experience, loyalty, trust in the company, web experience, and customer service. The Temkin Group began offering separate ratings of "Customer Service" in 2012.[16]

Wireline telephone service is not among the industries rated by Temkin. However, Temkin rates Wireless Service, Internet access service and MVPD service.[17] Figure 2 below presents the individual raw Temkin Customer Service scores of these industries, along with the average Customer Service score across all industries. Wireless, MVPD and Internet service consistently fall far below the cross-industry average for customer satisfaction in the Customer Service rating.

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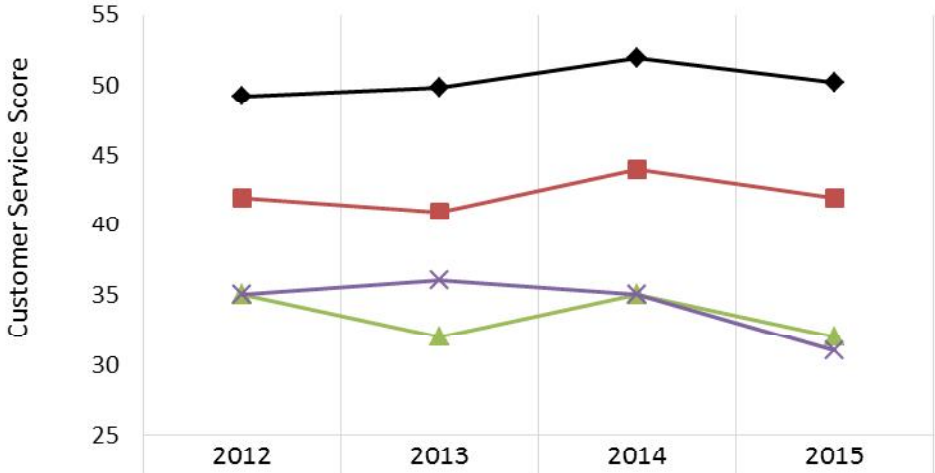
[15] ACSI, *ACSI Telecommunications and Information Report 2015* (June 2, 2015), p. 5. Available at https://www.theacsi.org/news-and-resources/customer-satisfaction-reports/reports-2015/acsi-telecommunications-and-information-report-2015/acsi-telecommunications-and-information-report-2015-download.

[16] The Temkin Group surveys approximately 10,000 U.S. consumers, asking them to identify companies that they have interacted with in the previous 60 days. The consumers are asked to rate their satisfaction with customer service on a 7 point scale from "Very dissatisfied" (1) to "Very Satisfied" (7). The percentage of 1-3 ratings are subtracted from 6-7 ratings to provide the Temkin Customer Service Rating. The customer service ratings are available at: http://temkinratings.com/temkin-ratings/temkin-customer-service-ratings-2015/.

[17] The Temkin Group uses the term "TV Service Providers" to refer to MVPD.

**Figure 2: Temkin Customer Service Scores of Select Industries**

**National, 2012 – 2015**




| | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| Average - All Industries | 49 | 50 | 52 | 50 |
| Wireless Telephone | 42 | 41 | 44 | 42 |
| MVPD | 35 | 32 | 35 | 32 |
| Internet Service | 35 | 36 | 35 | 31 |

From 2012 through 2015, these three industries (along with Health Insurance Plans), have received the *worst* Temkin Customer Service Ratings of the approximately 19 industries rated, as seen in Table 2 below.

**Table 2: Rankings of Temkin Customer Service Scores for Select Industries**

**National, 2012 – 2015**

| | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|
| **Total Industries Ranked** | **18** | **19** | **19** | **20** |
| Rankings of: | | | | |
| **Wireless Service** | 15 | 17 | 17 | 17 |
| **MVPD** | 17 | 19 | 19 | 19 |
| **Internet Service Providers** | 18 | 18 | 18 | 20 |

Thus, for example, in 2015, MVPD and Internet Service received the two worst scores of the 20 industries rated.

The consistently poor Temkin Customer Service Ratings in recent years for Wireless Service, Internet Service and MVPD mirror the consistently poor ACSI Customer Satisfaction scores in these industries. The Temkin and ACSI studies provide two independent and corroborating sources of evidence of poor consumer satisfaction in these three industries caused, at least in part, by substandard service quality.

### B. The Largest Wireline Telephone Carriers Have Consistently Violated Many Commission Service Quality Standards.

Wireline telephone carriers that utilize traditional telephone circuit-switched technology must report metrics to the Commission and meet minimum standards of service quality subject to General Order ("G.O.") 133-C. Failure to meet the minimum standards of service reflects sub-standard, poor service quality, as defined by the Commission.[18]

As part of the Commission's review of service quality standards, the Communications Division analyzed the performance of telecommunications carriers in meeting service quality standards, producing a report: California Wireline Telephone Service Quality Pursuant to General Order 133-C, Calendar Years 2010 through 2013" ("2014 Service Quality Report").[19] Below, ORA re-produces the data from the 2014 Service Quality Report, and supplements the analysis with G.O. 133-C data from 2014 and 2015.[20] ORA focuses on the five incumbent local exchange carriers regulated under URF (AT&T, Verizon, Frontier-Citizens, SureWest, and Frontier-Southwest –

[18] *See* D.09-07-019, pp. 23, 89 (Finding of Fact 5), 92 (Order ¶ 1). *See also* G.O. 133-C, §§ 1.1.a., 2.1.

[19] The OII in this proceeding identified the 2014 Service Quality Report as a resource that analyzed competition, and entered the report into the record of the proceeding. *See* OII 15-11-007, pp. 15-16, A-2. The 2014 Service Quality Report is available at http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M111/K579/111579788.PDF.

[20] G.O. 133-C includes five service quality metrics: Installation Intervals, Installation Commitments, Out of Service Repair Intervals, Trouble Reports, and Answer Times. Two of the metrics – Installation Intervals and Installation Commitments – are not required for carriers regulated by URF and thus will not be discussed here. The G.O. 133-C reports are available at http://www.cpuc.ca.gov/General.aspx?id=1107.

1 collectively the "URF ILECs"), as well as the two largest competitive local exchange
2 carriers regulated under URF (Cox and Charter) – collectively the "URF CLECs").[21]
3 G.O. 133-C requires carriers to meet service quality standards every month. As
4 will be demonstrated below, the Trouble Report standard was the only G.O. 133-C
5 service quality standard that the largest URF carriers consistently met. Carriers
6 consistently failed to meet the minimum standard of service quality for both the Out of
7 Service Repair Interval standard (restoring service to customers within 24 hours) and the
8 Answer Time measure. Failure to meet these standards is a demonstration of sub-
9 standard service quality to many California consumers.

10 1. **Trouble Reports.**

11 The metric "Customer Trouble Reports" describes the percentage of total working
12 phone lines for which there are service trouble reports from customers relating to
13 dissatisfaction with telephone company services. G.O. 133-C sets a standard that only
14 6% or less of working lines (for units with at least 3,000 lines) should have trouble
15 reports every month.[22] The Commission's 2014 Service Quality Report found that
16 AT&T, Verizon, Frontier/Citizens, SureWest, Frontier Southwest, Cox and Charter all
17 consistently met the Trouble Report minimum standard of service quality for practically
18 every month from 2010 through 2013.
19 The five URF ILECs (AT&T, Verizon, Frontier/Citizens, SureWest, Frontier-
20 Southwest) as well as Cox and Charter all consistently met the minimum monthly
21 standard in 2014 and 2015.

[21] Beginning in 2013, Charter was no longer required to report under G.O. 133-C, as it was no longer considered a URF CLEC, becoming instead a VoIP service provider. Frontier Southwest was considered a URF CLEC prior to 2013, and then became an URF ILEC.

[22] *See* G.O. 133-C, § 3.3.c. Units with 1001-2,999 working lines may have up to 8% trouble reports, and units with up to 1,000 working lines may have up to 10% trouble reports.

### 2. **Out of Service Repair Intervals.**

The Commission's Out of Service ("OOS") Repair Interval standard relates to the time it takes to restore service after an outage [23] The Commission's minimum standard on this metric requires that companies must repair at least 90% of all OOS reports every month within 24 hours.[24] The OOS is an important service quality standard that implicates service reliability and public safety. A long duration for service outages clearly compromise public safety. A service outage means that a subscriber may be unable to call 911 or otherwise seek access to public safety services. As the Commission recognized in implementing the OOS standard, "restoring service is critical given customers' reliance on their phones for summoning help in an emergency."[25] The OOS standard is even more important "as the Commission sharpens its focus on the safety and reliability of the State's essential infrastructure."[26]

As discussed above, G.O. 133-C requires that carriers meet the OOS standard every month. For easier analysis, Table 3 below shows the OOS Repair Intervals Measure – averaged out for an entire year – for the URF ILECs and the largest URF CLECs. The two largest incumbent local exchange carriers ("ILECs") in California, AT&T California and Verizon California, – that collectively operate approximately 88% of the lines covered by G.O. 133-C – failed to meet the minimum OOS standard for *every single month* from 2010 through 2015. This poor performance is demonstrated in the annual OOS Repair Intervals, where as little as 50% of AT&T's OOS reports were repaired within 24 hours in 2010.

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[23] *See* G.O. 133-C, § 3.4.a.

[24] *See* G.O. 133-C, § 3.4.c.

[25] D.09-07-019, p. 45.

[26] Order Instituting Investigation 15-11-007, p. 1.

**Table 3: Annualized Percentage of OOS Repairs within 24 Hours**

**California, 2010 – 2015 (Violation of the 90% Minimum Standard Shaded in Red)**

| Carrier | Type | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| **AT&T** | URF ILEC | 50% | 67% | 71% | 67% | 57% | 63% |
| **Verizon** | URF ILEC | 76% | 73% | 72% | 70% | 67% | 72% |
| **Frontier – Citizens** | URF ILEC | 78% | 82% | 83% | 91% | 81% | 76% |
| **SureWest** | URF ILEC | 85% | 95% | 93% | 94% | 93% | 90% |
| **Frontier - Southwest** | URF ILEC | 98% | 91% | 92% | 93% | 94% | 88% |
| **Cox** | URF CLEC | 94% | 93% | 93% | 93% | 91% | 89% |
| **Charter**[27] | URF CLEC | 80% | 88% | 85% | [redacted] | | |
| **Charter** | VoIP Provider | [redacted] | | | | | |

The next largest ILEC, Frontier (Citizens), only met the OOS standard for 2 months between 2010 and 2012, showed limited improvement in 2013, and then only met the standard for one month in the years 2014 and 2015. Of the five URF ILECs in California, only the two smallest – SureWest and Frontier (Southwest) – generally met the OOS standard – although even these carriers violated the standard for months at a time. Regarding the two largest URF CLECs, Cox met the monthly OOS standard until the latter half of 2015, while Charter Communications ("Charter") consistently failed to meet the standard.

The consistent violation of the OOS minimum standard of service quality by the largest URF carriers is cause for concern. The two largest URF carriers consistently provide sub-standard service quality related to outage repair.

G.O. 133-C also collects information on the duration of the outages submitted in the OOS reports. Although G.O. 133-C does not have a standard regarding the average

[27] Beginning in 2013, Charter was no longer required to report under G.O. 133-C, as it was no longer considered a URF CLEC, becoming instead a VoIP service provider. However, it's OOS data for the years 2013 through 2015 was obtained through discovery in Application 15-07-009. The data is from Charter's response to ORA Data Request 3-8 (*see* ORA Exhibit D-1 (Confidential)), and its related attachment Charter ORA 3-8.CONFIDENTIAL (*see* ORA Exhibit D-2 (Confidential)).

duration of OOS reports, this information may provide a fuller perspective on service outages. Table 4 below presents this information for the URF ILECs and Cox.

**Table 4: Average Duration of Outages in OOS Reports (in Hours)**

**California, 2010 – 2015**

| Carrier | Type | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| **AT&T** | URF ILEC | 36.0 | 23.4 | 21.0 | 22.5 | 33.9 | 30.1 |
| **Verizon** | URF ILEC | 21.4 | 46.3 | 37.9 | 23.4 | 26.3 | 21.7 |
| **Frontier – Citizens** | URF ILEC | 22.3 | 21.1 | 18.4 | 15.8 | 19.7 | 22.0 |
| **SureWest** | URF ILEC | 27.0 | 12.8 | 13.6 | 14.8 | 15.8 | 16.2 |
| **Frontier - Southwest** | URF ILEC | 11.4 | 12.4 | 13.7 | 14.1 | 18.9 | 17.6 |
| **Cox** | URF CLEC | 7.4 | 6.9 | 6.7 | 6.4 | 6.8 | 8.4 |

The largest carriers subject to G.O. 133-C – AT&T and Verizon – had outages that averaged well over 24 hours in duration in many years. For example, in 2011 the average outage for Verizon lasted almost [redacted] Thus, for the customers of these URF carriers, the time it takes to repair loss of service is measured in days, not hours.

VoIP telephone service providers do not report data subject to G.O. 133-C. However, as Charter and Time Warner Cable were all involved in recent change of control transaction applications, confidential data regarding their residential voice outages is available for analysis.[28] The outage data from these carriers reports the average time to repair outages.[29] Table 5 below presents data on these companies' outages.

[28] Although Comcast was also involved in a transaction application, the only usable data regarding outages Comcast provided to ORA was NORS reports, which will discussed further below.

[29] The outage data from these carriers may not be exactly similar to the outage data contained in G.O. 133-C reports. Nonetheless, the independent data reported by the companies can be reasonable compared to G.O. 133-C data on "Average Duration of OOS" to measure how these companies are performing. Data on the Mean Time to Restore Service for Charter is found in Charter's response to ORA Data Request 3-8 (*see* ORA Exhibit D-1 (Confidential)), and its related attachment Charter ORA 3-8.CONFIDENTIAL (*see* ORA Exhibit D-2 (Confidential)).. Data on the Mean Time to Restore Service

(continued on next page)

**Table 5: Mean Time to Restore Service (in Hours)**

**California, 2010 – 2015** [redacted]

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|
| **Charter** | [redacted] | | | | | |
| **Time Warner Cable** | | | | | | |

[redacted]

### 3. Answer Times.

The Answer Time metric involves how long it takes a customer to reach a live agent when they call. The Commission's minimum standard for service quality is that at least 80% of calls every month should reach a live agent within 60 seconds.[30] The 2014 Service Quality Report found the performance of the URF ILECs in the Answer Time metric concerning. These carriers continued to have mixed performance in Answer Times in 2014 and 2015. Table 6 below presents the percentage of calls answered before 60 seconds every year for most of the largest carriers.[31]

Verizon California failed to reach the minimum standard for every month between 2010 and 2015. AT&T California, Frontier (Citizens) and Frontier Southwest had mixed results. SureWest and Charter largely met the minimum standard, but failed to meet the standard in some months. Only Cox consistently met the minimum standard.

Thus, there is widespread violation of the minimum service quality standard related to Answer Times. Many customers calling their carrier seeking answers or assistance face excessive wait times. This is another indicator of widespread sub-standard service quality.

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for Time Warner Cable was obtained through discovery in Application 15-07-009. The data is from Time Warner Cable's response to ORA Data Request 3-13 (*see* ORA Exhibit D-3 (Confidential)), and its related attachment Time Warner Cable 3-13.CONFIDENTIAL (*see* ORA Exhibit D-4 (Confidential)).

[30] *See* G.O. 133-C, § 3.5.a.

[31] Neither Comcast nor Time Warner Cable provided data regarding Answer Times in response to discovery requests during their merger applications.

**Table 6: Answer Times, Percentage of Calls Answered Before 60 Seconds California, 2010 – 2015 (Violation of the 80% Minimum Standard Shaded in Red)**

| Carrier | Type | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|
| **AT&T** | URF ILEC | 78% | 79% | 88% | 88% | 78% | 88% |
| **Verizon** | URF ILEC | 70% | 60% | 65% | 69% | 64% | 72% |
| **Frontier – Citizens** | URF ILEC | 81% | 52% | 76% | 84% | 73% | 71% |
| **SureWest** | URF ILEC | 85% | 91% | 85% | 88% | 89% | 53% |
| **Frontier – Southwest** | URF ILEC | 89% | 81% | 76% | 83% | 73% | 71% |
| **Cox** | URF CLEC | NA | 86% | 82% | 86% | 90% | 86% |
| **Charter**[32] | URF CLEC | 89% | 90% | 85% | [redacted] | | |
| **Charter** | VoIP Provider | [redacted] | | | | | |

## C. Major Voice Service Outages Reported to the FCC

The FCC has established a reporting process, called the Network Outage Reporting System ("NORS"), regarding the most significant major service outages affecting large numbers of people. These NORS reports include many data points, including the duration of the outage, the number of affected users, the geographic area affected and the causes of the outage. The FCC uses such information to analyze communication vulnerabilities and share aggregate information with industry to help prevent future outages and preserve network integrity.

Telecommunications carriers using traditional circuit-switched network technology, as well as carriers using VoIP are both required to provide NORS reports regarding service outages that meet several criteria. The three categories of criteria that account for the majority of NORS reports are described below.

[32] Beginning in 2013, Charter was no longer required to report under G.O. 133-C, as it was no longer considered a URF CLEC, becoming instead a VoIP service provider. However, it's Answer Time data for the years 2013 through 2015 was obtained through discovery propounded in A.15-07-009. The data is found in Charter's response to ORA Data Request 3-8 (*see* ORA Exhibit D-1 (Confidential)), and its related attachment Charter ORA 3-8.CONFIDENTIAL (*see* ORA Exhibit D-2 (Confidential))

| NORS Reporting Requirements for Wireline and Interconnected VoIP Providers |
| --- |
| All wireline and interconnected VoIP service providers who experience **an outage of at least 30 minutes duration** on any facilities that they own, operate, lease, or otherwise utilize, to submit electronically a Notification to the FCC regarding an outage that potentially affects:<br>- a 911 Special Facility;[33]<br>- at least 900,000 user minutes of telephony, paging or interconnected VoIP service;<br>- 1350 DS3 minutes. |

1

2 Thus, the great majority of NORS reports deal with outages that affect: 1) a 911
3 Facility; 2) at least 900,000 user minutes; or 3) a DS3 network line.[34] Each of the three
4 criteria described above relates to a major service outage that is significant, for different
5 reasons. An outage that affects a 911 facility jeopardizes the ability of all customers
6 communicating with that facility to receive emergency assistance. Outages that affect
7 900,000 user minutes are generally the most widespread outages, as these outages affect a
8 large number of users for at least 30 minutes. Outages that affect DS3 network
9 connections also may have widespread impact, as DS3s are large trunk network lines that
10 provide trunk connections to smaller lines. Outages under the DS3 criteria often result in
11 users that lose service that are not included in the carriers' reports under "Users
12 Affected," as these users will be customers of another carrier that depend on the DS3
13 trunk line for service.
14 NORS reports include information about the duration of the outages. The FCC
15 has not established a benchmark or metric for the duration of outages that would indicate
16 poor service quality. However, G.O. 133-C establishes a *minimum* standard of repairing

[33] *See* 47 C.F.R. § 4.5(e) for a description of an outage that affects 911 special facilities.

[34] A DS3 is a network connection that transmits digital signals at a rate of 44.736 megabits per second. A DS3 is the equivalent to 28 T1 lines, or 672 standard phone lines. Large businesses, including service providers, such as Local Exchange Carriers (LECs), Competitive Local Exchange Carriers (CLECs), Interexchange Carriers (IXCs), and Wireless companies might purchase DS3 lines from a service provider to support a high capacity data and voice services to connect many end users to the Internet or a private network.

out of service ("OOS") reports 90% of all outages within 24 hours.[35] A customer without their voice service for an entire day would probably face hardships and this situation could affect their safety. Moreover, OOS reports in G.O. 133-C deal with all service outages, even those that affect only one customer. NORS outages only pertain to significant, widespread outages that affect thousands of customers. Thus, NORS outages that exceed 24 hours are a cause of concern.

Verizon, Charter, Time Warner Cable, Comcast and Frontier were all involved in recent change of control transaction applications, so that confidential data regarding their NORS outages is available.[36] This data highlights concerns with the high occurrence of these large outages and the time it takes to repair the outages.

### 1. Verizon

Between January 2010 and December 2014, Verizon reported [redacted] major outages in California that met the FCC NORS reporting threshold. This is an extremely large number of NORS outages, and these outages affected a significant amount of users (either wireline or VoIP users), as demonstrated in Table 7 below.[37]

[35] *See* G.O. 133-C § 3.4c.

[36] Unfortunately, data regarding AT&T's NORS outages is not available.

[37] This data was obtained through discovery in Application 15-03-005. The data was included in Verizon's Response to ORA Data Request 2, Question 27 (*see* ORA Exhibit D-5), and in Attachment Verizon ORA_VZ2.27_A1503005_VZ_20083_CONFIDENTIAL (*see* ORA Exhibit D-6 (Confidential)).

**Table 7: Verizon NORS Outages, Users Affected and DS3s Affected**

**California, 2010 – 2014** [redacted]

| Year | Total Number of Outages | Total Users Affected | Total DS3s Affected |
|---|---|---|---|
| 2010 | [redacted] | | |
| 2011 | | | |
| 2012 | | | |
| 2013 | | | |
| 2014 | | | |
| **Total (2010-2014)** | | | |

[redacted]

Thus, Verizon averaged [redacted] NORS outages every year between 2010 and 2014. The NORS outages affected an average of [redacted] users every year. Note that other users not included in this total were also affected, as DS3 lines experienced an outage may affect the service of a large number of users not reported in the carriers' NORS reports. Verizon averaged [redacted] DS3 lines affected by outages every year.

Verizon also provided data regarding the duration of its NORS outages. Figure 3 below presents the average duration of Verizon's NORS outages, with separate data for outages based on each of the three most significant reporting criteria. Because of the long duration of these outages, the metric reported is days, rather than hours.

**Figure 3: Verizon's NORS Voice Outages Average Duration by Reporting Criteria California, 2010 – 2014 (Duration in Days)** [redacted]

Overall, Verizon's outages each year averaged [redacted] Verizon's outages reported under the criteria of 900,000 user minutes affected – which signify the most widespread outages – lasted even longer, [redacted] or example. Verizon's poor response to its major service outages is a sign of poor service quality.

Thus, Verizon experienced an excessive number of major outages that met the NORS criteria in recent years, and took an excessive time to repair these outages.

### 2. Charter

Charter provided data regarding [redacted] NORS outages affecting its voice services (provided through VoIP

technology) in California for the period between January 2011 and August 2015.[38] Table 8 below provides the annual totals in the number of outages, the affected users, and the affected user minutes.

**Table 8: Charter NORS Voice Service Outages Annual Totals**

**California, Jan. 2011 – Aug. 2015** [redacted]

| | Total Number of Outages | Total Affected Users | Total Affected User Minutes |
|---|---|---|---|
| 2011 | [redacted] | | |
| 2012 | | | |
| 2013 | | | |
| 2014 | | | |
| 2015 | | | |
| **Total (2011-2015)** | | | |

[redacted]

As shown in Table 8 above, these outages affected [redacted] VoIP users for a total of [redacted] user minutes. For each year in which a full year data is available – 2011 to 2014 – Charter averaged [redacted] NORS outages, affecting an average of [redacted] users, for an average of [redacted] user minutes.

Figure 4 below presents the average duration of Charter's NORS outages. Charter's NORS outages showed a concerning trend, as its NORS outages [redacted]

[38] NORS data for Charter was provided in response to discovery in A.15=07-009. The data is found in the response to ORA Data Request 3, Question 11 (*see* ORA Exhibit D-1 (Confidential), including the related attachment Charter ORA 3-11.CONFIDENTIAL (*see* ORA Exhibit D-7 (Confidential)).

**Figure 4: Charter's NORS Voice Service Outages Average Duration California, 2011 – Aug. 2015 (Duration in Hours)** [redacted]

[redacted]

[redacted]

### 3. Time Warner Cable

Time Warner Cable did not provide a complete data set for its NORS outages in California for the years requested (2011 to 2015). In response to a data request in Application A.15-07-009, Time Warner Cable provided data regarding NORS outages affecting its voice services in the period between January 2014 and August 2015.[39] However, this data may not be a complete documentation of NORS-reportable outages, as the FCC cited Time Warner Cable in August of 2014 for failing to file a substantial number of reports pertaining to reportable wireline and VoIP outages.[40] The FCC required Time Warner Cable to pay a civil penalty of $1.1 million and implement a three-

[39] *See* Data regarding Time Warner Cable's NORS outages was obtained through discovery in Application 15-07-009. The data was provided in response to ORA Data Request 3, Question 11 (*see* ORA Exhibit D-3 (Confidential), and the related attachment Time Warner Cable 3-11 CA NORS 14-15.CONFIDENTIAL (*see* ORA Exhibit D-8 (Confidential)). One outage impacting multiple states, including California, was excluded from the analysis.

[40] *See* Order, *In the Matter of Time Warner, Inc*., FCC Document. No. DA 14-1126, Released Aug. 25, 2014, ¶1.

year compliance plan.[41] Thus, Time Warner Cable's NORS data prior to August 2014 may not be complete. Thus, Time Warner Cable's data must be viewed with the caveat that it may understate the true nature of its large service outages.[42]

As shown in Table 8 below, the [redacted] outages reported by Time Warner Cable in years 2014 and 2015 affected [redacted] users, for a total of [redacted] user minutes. Table 9 below provides the California annual totals for Time Warner Cable's outages, affected users, and affected user minutes.

**Table 9: Time Warner Cable NORS Voice Service Outage Annual Totals California, Jan. 2014 – Oct. 2015** [redacted]

| | Total Number of Outages | Total Affected Users | Total Affected User Minutes |
|---|---|---|---|
| 2014 | [redacted] | | |
| 2015 | | | |
| **Total (2014-2015)** | | | |

[redacted]

Table 10 below presents the average duration (in hours) of Time Warner Cable's NORS outages in California.

[41] *See id.*, attached Consent Decree, ¶¶ 11, 14.

[42] Note that Time Warner Cable outage data for 2015, the first full year that Time Warner Cable was subject to a NORS compliance plan, was [redacted]

**Table 10: Time Warner Cable NORS Voice Service Outages, Average Duration**

**California, Jan. 2014 – Oct. 2015** [redacted]

| Year | Average Duration (in Hours) |
|---|---|
| 2014 | [redacted] |
| 2015 | |
| **Average for** | |

[redacted]

### 4. Frontier

Prior to its purchase of Verizon, Frontier was a relatively small carrier. Frontier reported [redacted] major outages in between January 2010 and December 2014.[43] Table 11 below provides the California annual totals for Frontier's outages, affected users, and affected user minutes.

**Table 11: Frontier NORS Voice Service Outage Annual Totals**

**California, 2010 – 2014** [redacted]

| | Total Outages | Total Affected Users | Total Affected User Minutes |
|---|---|---|---|
| 2010 | [redacted] | | |
| 2011 | | | |
| 2012 | | | |
| 2013 | | | |
| 2014 | | | |
| **Total 2010 - 2014** | | | |

[redacted]

[43] NORS reports from Frontier include reports from both Frontier – Citizens and Frontier – Southwest service territory. NORS data for Frontier was provided in response to discovery in Application 15-03-005. The data is from a response to ORA Data Request 2, Question 23 (*see* ORA Exhibit D-9), including Attachment ORA Set 2 No 23- FCC outage reports.CONFIDENTIAL (*see* ORA Exhibit D-10 (Confidential).

Table 12 below provides information about the average duration of Frontier's NORS outages in California.

**Table 12: Frontier NORS Voice Service Outages, Average Duration California, 2010 – 2014** [redacted]

| Year | Average Duration (in Hours) |
|---|---|
| 2010 | [redacted] |
| 2011 | |
| 2012 | |
| 2013 | |
| 2014 | |
| **Average for 2010 - 2014** | |

[redacted]

The duration of Frontier's NORS outages showed a concerning trend, as its NORS outages in [redacted]

### 5. Comcast

In response to discovery request related to Application 14-04-013, Comcast provided data regarding its NORS outages for 2013 and 2014.[44] Table 13 below provides the California annual totals for Comcast's outages, affected users, and affected user minutes.[45]

[44] Prior to 2013, VoIP service providers were not required to provide NORS reports to the FCC.

[45] Data provided in response to ORA Data Request 3, Question 35 (*see* ORA Exhibit D-11 (Confidential), and the related attachment Comcast (ORA 3-35) Outage Report Voice.CONFIDENTIAL (*see* ORA Exhibit D-12 (Confidential).

**Table 13: Comcast NORS Voice Service Outage Annual Totals**

**California, 2013 – 2014** [redacted]

| | Total Number of Outages | Total Affected Users | Total Affected User Minutes |
|---|---|---|---|
| 2013 | [redacted] | | |
| 2014 | | | |
| **Total (2013-2014)** | | | |

[redacted]

Table 14 below presents information about the average duration of Comcast's NORS outages in California.

**Table 14: Comcast NORS Voice Service Outages, Average Duration**

**California, 2013 – 2014** [redacted]

| Year | Average Duration (in Hours) |
|---|---|
| 2013 | [redacted] |
| 2014 | |
| **Average for** | |

[redacted]

## CONCLUSION

The level of competition in the telecommunications market in California has resulted in sub-standard levels of service quality. Evidence from various independent sources demonstrates poor service quality of traditional voice service in California. Much of this evidence also demonstrates poor service quality of related modalities, such as VoIP, wireless and Internet service providers.

Surveys conducted by customer satisfaction ratings agencies consistently place wireline and wireless voice services among the bottom in customer satisfaction scores compared to other industries. Moreover, Internet service providers and MVPD have even lower customer satisfaction scores.

The Commission's service quality reports demonstrate that the largest traditional wireline carriers – AT&T and Verizon – as well as other carriers, have a slow repair time for service outages. For customers of these carriers, when they experience an outage, the time it takes to restore service is often measured in days, not hours. Verizon also demonstrates an excessive number of outages meeting the NORS reporting thresholds, and a poor response time to these major service outages. Unfortunately, information regarding AT&T's NORS outages is not currently available.

Unfortunately, VoIP, wireless and broadband carriers are not subject to the Commission's service quality reporting requirements. This is a significant gap in the Commission's ability to monitor service quality.

The above service quality analysis highlights the poor service quality service California consumers face today. A likely cause of the poor service quality is the lack of consumer choice and effective competition.

## Attachment A

### Statement of Qualifications of Enrique Gallardo

Enrique Gallardo received a Bachelors of Arts in Sociology in 1991 from the University of California at Berkeley. Mr. Gallardo received a Juris Doctor degree in 1997 from the University of California at Berkeley (Boalt Hall) School of Law. From 2001 to 2008, Mr. Gallardo was Staff Attorney with Latino Issues Forum. His work there involved participating in California Public Utilities Commission proceedings involving telecommunications and low-income programs, including performing analysis of telecommunications policies and low-income programs. From 2010 to 2014, Mr. Gallardo was Legal Counsel with the Greenlining Institute. At the Greenlining Institute, Mr. Gallardo participated in California Public Utilities Commission proceedings involving telecommunications and energy. His work included policy and program analysis, drafting and sponsoring testimony and drafting comments and briefs.

Since April 2015, Mr. Gallardo has worked as a Public Utilities Regulatory Analyst with the Office of Ratepayer Advocates ("ORA"), Communications and Water Policy Branch, in April 2015. Mr. Gallardo submitted testimony on behalf of ORA in Application 15-03-005, regarding the impact of the proposed Frontier Communications of America acquisition of Verizon California on employees, management, the 911 system and backup power policies. Mr. Gallardo also submitted testimony on behalf of ORA in Application 15-07-009, regarding the impact of the proposed Charter Communications acquisition of Time Warner Cable and Bright House Networks on voice service quality.