

Docket: : A.15-03-005  
Exhibit Number : ORA-  
Commissioner : C. Sandoval  
Admin. Law Judge : K. Bemserfer  
ORA Project Mgr. : Ana Maria Johnson  
ORA Expert : Dr. Ayat Osman  
Witness



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

**Office of Ratepayer Advocates Supplemental  
Testimony and Recommendations Regarding  
Service Quality on Voice Services**

**-PUBLIC-**

San Francisco, California  
September 11, 2015

## MEMORANDUM

This report was prepared by Dr. Ayat Osman of the Communications & Water Policy Branch of the Office of Ratepayer Advocated (ORA) under the general supervision of Program & Project Supervisor, Ana Maria Johnson. ORA is represented in this proceeding by legal counsel, Lindsay Brown. A statement of qualifications of Dr. Ayat Osman is presented in Attachment A to this testimony.

This supplemental testimony is comprised of the following chapters:

Chapter	Description
I	Voice Service Reliability and Public Safety
II	Comparison of Frontiers and Verizon's Customer Satisfaction Performance

# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	<b>1</b>
<b>INTRODUCTION</b> .....	<b>3</b>
<b>1. VOICE SERVICE RELIABILITY AND PUBLIC SAFETY</b> .....	<b>1-1</b>
VERIZON CONSISTENTLY FAILED TO MEET THE CPUC SERVICE QUALITY RULES .....	1-1
FURTHER EVIDENCE OF POOR VOICE SERVICE QUALITY PERTAINING TO VERIZON’S COPPER VOICE NETWORK .....	1-8
MAJOR VOICE OUTAGES ARE INDICATORS OF SERVICE RELIABILITY AND QUALITY OF SERVICE.....	1-12
<b>2. COMPARISON OF FRONTIERS AND VERIZON’S CUSTOMER SATISFACTION PERFORMANCE</b> .....	<b>2-1</b>
<b>3. CONCLUSION</b> .....	<b>3-1</b>

**Attachments**

**ATTACHMENT A: STATEMENT OF QUALIFICATION ..... A-1**

**ATTACHMENT B: ORA’ S RECOMMENDED CONDITIONS ..... B-1**

- 1. Frontier Should Implement a Multi-Year Strategic Plan ..... B-1
- 2. Frontier Should Provide an Annual Report to the CPUC and ORA for a Period of Five Years ..... B-3
- 3. Frontier Should Report on VoIP Major Outages..... B-3
- 4. Frontier Should Report on Outages that Do Not Meet the FCC NORS Reporting Criteria..... B-3
- 5. Frontier Should Report on Service Provisioning Metrics ..... B-4
- 6. Frontier Should Report on Verizon’s Service Quality Metrics ..... B-5
- 7. Frontier Should Report on Customer Complaints ..... B-5
- 8. Frontier Should Fund an Independent Survey Consultant to Measure Customer Satisfaction in California ..... B-6

**ATTACHMENT C: CORRECTION TO OSMAN CONFIDENTIAL REPLY TESTIMONY CHAPTER 1, SECTION E AND ATTACHMENT E ..... C-1**

1 **EXECUTIVE SUMMARY**

2 On March 18, 2015, Frontier Communications Corporation (Frontier), Frontier  
3 Communications of America, Inc. (U 5429 C) (“Frontier America”), Verizon California  
4 Inc. (U 1002 C) (Verizon California), Verizon Long Distance, LLC (U 5732 C) (Verizon  
5 LD), and Newco West Holdings LLC (collectively, Joint Applicants) filed an application  
6 seeking approval from California Public Utilities Commission (Commission or CPUC)  
7 for the sale and transfer of Verizon California, and Verizon LD’s customer account in  
8 Verizon California’s service territory to Frontier. If the transaction is approved, Verizon  
9 California’s physical assets will be transferred to Frontier and approximately 2.2 million  
10 customers of Verizon California will become customers of Frontier.

11 On July 02, 2015, the Assigned Commissioner issued an Amended Scoping Ruling  
12 outlining the issues that the Commission will consider to determine whether the proposed  
13 transaction is in the public interest. On July 28, 2015, I filed Reply Testimony addressing  
14 how the proposed transaction will impact the quality of service of voice services provided  
15 by the Joint Applicants in California, including traditional switched and Voice over  
16 Internet Protocol (VoIP).<sup>1</sup>

17 This Supplemental Testimony addresses the July 02, 2015 Assigned Commissioner  
18 Amended Scoping Ruling topics related to service quality including Public Utility (P.U.)  
19 Code 854 (c) (2) that require the proposed transaction to maintain or improve the quality  
20 of service to public utility ratepayers in the state. To conduct this assessment, ORA  
21 examined the Joint Applicants’ application, testimonies, responses to ORA data requests,  
22 information presented in the proceeding’s Public Participation Hearings (PPHs), and  
23 workshops, customer complaints filed at the CPUC, and publically available information  
24 on consumer satisfaction. I also analyzed historical and current performance of the Joint  
25 Applicants’ service quality metrics; including, but not limited to, type and number of  
26 outages, locations of outages, durations of outages, number of impacted users, response

---

<sup>1</sup>Osman, Reply Testimony, [A.15-03-005], July 28, 2015.

1 time to repair outages and trouble tickets, number of trouble tickets, number of customer  
2 complaints, and levels of customer satisfaction surveys.

3 To ensure the proposed transaction is in the public interest and California consumers  
4 receive reliable voice services, the Commission should adopt ORA’s proposed conditions  
5 as recommended in my July 28, 2015 Reply Testimony. Conditions proposed by ORA  
6 are transaction-specific and not intended to advance industry wide standards.

7 In determining if the proposed transaction is in the public interest, the Commission  
8 must consider if the acquisition will maintain or improve service quality and reliability.  
9 Furthermore, P.U. Code section 854(c)(8) calls for mitigation measures to “prevent  
10 significant adverse consequences” that may result from the transaction. As discussed  
11 below, Verizon and Frontier provided company-specific service quality metrics, which  
12 highlight problems and concerns echoed by consumers in their comments transcribed in  
13 the various proceeding’s PPHs and workshops held throughout the state, particularly as  
14 they relate to Verizon’s service quality performance.

15 To mitigate adverse consequences from the transaction, the Commission must  
16 rigorously monitor post-transaction, service quality and reliability across Frontier’s  
17 expanded service territory. It is also a case of public safety. Requiring Frontier to report  
18 on critical service quality metrics will allow the Commission to monitor public safety  
19 concerns by ensuring that safe and reliable service is being delivered to consumers.

20

1 **INTRODUCTION**

2 The July 02, 2015 Assigned Commissioner Amended Scoping Ruling outlined  
3 several issues the Commission will consider in determining if the proposed transaction is  
4 in the public interest.<sup>2</sup> This Supplemental Testimony demonstrates that the Joint  
5 Applicants fail to provide sufficient evidence to meet P.U. Code section 854 (c)(2)  
6 regarding voice services, and fail to provide clear responses to topics pertaining to voice  
7 services; these topics, outlined in the Amended Scoping Ruling, include:<sup>3</sup>

- 8 (1) What is the current physical condition of the Verizon landline network?
- 9 (2) How would the condition of Verizon’s network affect the proposed transaction in  
10 terms of service to customers... and investments needed to fulfill the obligations  
11 of a Carrier of Last Resort (COLR)?
- 12 (6) How capable is Frontier of absorbing 2.2 million additional customers currently  
13 served by Verizon’s landline services? ...
- 14 (8) What are the service quality and 911 implications of the transaction for Frontier’s  
15 existing and its newly acquired customers?
- 16 (14) What are the potential negative consequences of the proposed transactions? Are  
17 any conditions necessary or warranted to mitigate any such consequences?
- 18 (16) Is the proposed transaction in the public interest?

19 P.U. Code section 854(e) states that “The person or corporation seeking acquisition  
20 or control of a public utility organized and doing business in this state shall have, before  
21 the commission, the burden of providing by a preponderance of the evidence that the  
22 requirements of subdivision (b) and (c) are met.” The Joint Applicants fail to provide  
23 sufficient and compelling empirical evidence to meet the requirement of P.U. Code  
24 section 854 (c) (2), and to affirmatively address the specific topics in the Amended  
25 Scoping Ruling outlined above.

---

<sup>2</sup> Assigned Commissioner Amended Scoping Ruling, July 02, 2015, at 3.

<sup>3</sup> *Ibid.*, at 4-7.

1           The record in this proceeding provides clear evidence that service quality and  
2 reliability will likely suffer and consumers will likely be adversely impacted if the  
3 transaction is approved without mitigating measures. Specifically, such mitigating  
4 measures should include rigorous monitoring and tracking of service quality metrics and  
5 reliability performance outcomes. Frontier should provide the Commission with specific  
6 plans to resolve service quality outages, as well as the numerous issues consumers have  
7 voiced primarily in Los Angeles, Riverside, and San Bernardino counties.

1 **1. VOICE SERVICE RELIABILITY AND PUBLIC SAFETY**

2 Voice service outages provide a critical measure of service reliability and the degree  
3 of risk to public health and safety. Service outages and the time it takes service providers  
4 to repair outages are essential elements of the quality of service provided to customers.

5 In my July 28, 2015 Reply Testimony,<sup>4</sup> I provided findings on the Joint Applicants’  
6 current level of voice service outages, impacted users, and outages durations. My  
7 analysis indicates that voice service quality is lacking, particularly Verizon’s customers,  
8 and customers are at risk of not having safe and reliable voice services. This is  
9 highlighted by the large number of outages in certain locations and the long repair  
10 durations.

11 At the PPHs and Workshops in this proceeding, which were held in various locations  
12 across California, wireline consumers provided further evidence of Verizon’s poor  
13 maintenance practices, deteriorated infrastructure, and unreliable services and access to  
14 emergency services.

15 **Verizon Consistently Failed to Meet the CPUC Service Quality Rules**

16 CPUC Decision (D.) 09-07-019, which adopted General Order (G.O.) 133-C, states:  
17 “GO 133-C is consistent with the Commission’s statutory duty to ensure that telephone  
18 corporations provide customer service that includes reasonable statewide service quality  
19 standards, including, but not limited to, standards regarding network technical quality,  
20 customer service, installation, repair, and billing.”<sup>5</sup>

21 G.O. 133-C identifies Customer Trouble Reports and Out of Service (OOS) Repair  
22 Intervals as two of the five service metrics that measure a carrier’s “maintenance service”  
23 and provides customers with information on how carriers perform.<sup>6</sup> The OOS Repair

---

<sup>4</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Chapter 1.

<sup>5</sup> D. 09-07-0179 Conclusion of Law 4.

<http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M154/K320/154320362.PDF>

<sup>6</sup> G.O. 133-C, page 5.

1 Intervals metric is a direct measure of the time it takes a reporting carrier to restore out of  
2 service trouble reports that are *reported by customers*. The OOS Repair Intervals  
3 excludes Sundays, Federal holidays and tickets when maintenance is delayed due to  
4 “circumstances beyond carrier’s control,” such as outages caused by cable theft, third-  
5 party cable cut, customer-requested appointments, catastrophic events and widespread  
6 outages.<sup>7</sup> Thus, the OOS Repair Intervals metric measures a carriers’ maintenance  
7 service and its ability to restore outages due to circumstances within their control. The  
8 OOS Repair Intervals minimum standard (90% of repair tickets to be restored within 24  
9 hours) only applies to a limited subset of outages: outages that are reported by customers,  
10 and outages due to circumstances within carriers’ control.

11 Prolonged service outages and inadequate maintenance practices can lead to poor  
12 service quality and reliability performance outcomes, which can compromise public  
13 safety. Consistent failure to meet the OOS Repair Intervals minimum standard is a clear  
14 indication of poor maintenance practices, which would lead to neglected and deteriorated  
15 infrastructure.

16 In my July 28, 2015 Reply Testimony, I provided Frontier’s and Verizon’s G.O. 133-  
17 C OOS Repair Intervals.<sup>8</sup> Frontier and Verizon did not meet the minimum standard of  
18 90% of OOS repair tickets to be restored within 24 hours in 2014. Furthermore, Verizon  
19 has consistently failed to meet the standard for the OOS Repair Intervals for the years  
20 2010 through 2014.<sup>9</sup>

---

<sup>7</sup> *Ibid*, pages 7-8.

<sup>8</sup> Note that Frontier met that OOS Repair Interval standard for 2010 through 2013, based on annual average results, but did not meet the standard in 2014, although the number of Frontier’s working lines decreased by about 25% from about 147,000 lines in 2010 to 110,000 in 2014. See Osman, Reply Testimony, [A.15-03-005], Chapter 1, July 28, 2015, page 1-5 to 1-8.

For more information, see CPUC Telecommunication Carriers’ Service Quality Reports (<http://www.cpuc.ca.gov/PUC/Telco/Consumer+Information/Telecommunications+Service+Quality+Reports htm>)

<sup>9</sup> Verizon’s average annual results indicated steady deterioration in OOS Repair Interval ranging from 73% in 2010 to 68% in 2014, even though the average number of Verizon’s working lines decreased by 43% from about 2.6 million to 1.5 million lines during that period. See Osman, Reply Testimony, [A.15-03-005], Chapter 1, July 28, 2015.

1           Additionally, Frontier and Verizon have not provided sufficient empirical evidence  
2 to address the July 2, 2015 Amended Scoping Ruling on the topics regarding the current  
3 physical conditions of Verizon’s landline network, and whether the proposed transaction  
4 will “maintain or improve the quality of service to public utilities ratepayers in the state.”

5           Verizon witness, Mr. McCallion, stated in his Opening Testimony that “[a]s Verizon  
6 has explained in the pending service quality rulemaking, its network is in good  
7 condition.”<sup>10</sup> Mr. McCallion claimed that the “best indicator of overall network quality  
8 is the “network trouble report,” and asserted that Verizon California has consistently met  
9 or exceeded the standard for trouble reports.<sup>11</sup> Mr. McCallion did not specifically  
10 address the requirements of P.U. Code section 854(c)(2). Instead, he referred to Frontier  
11 witnesses’ testimony, stating:

12                           “Indeed, as Section 854(c) (2) of the Public Utilities Code  
13                           makes clear, the only relevant service quality issue in this  
14                           transfer of control proceeding is whether Frontier will  
15                           “maintain or improve the quality of service to public utility  
16                           ratepayers in the state” as a result of the Transaction. The  
17                           Frontier witnesses explain that Frontier satisfies this  
18                           standard.”<sup>12</sup>

19           Despite Verizon’s claim that the network is in good condition, current evidences on  
20 the record proves otherwise. A recent CPUC Decision (D. 15-08-041) found that the  
21 examination of the networks of AT&T California and Verizon California remain  
22 necessary because these companies have consistently failed to meet existing service  
23 quality metrics.<sup>13</sup> D. 15-08-041 states that:

24                           “Given the absence of significant improvement in the  
25                           carriers’ performance during the pendency of this  
26                           proceeding, there is no evidence on which to conclude that  
27                           the ordered study is no longer needed. Simply put, the  
28                           Commission needs empirical data about the state of the

---

<sup>10</sup> McCallion, Opening Testimony, A.15-03-005, May 11, 2015, page 5.

<sup>11</sup> *Ibid.*

<sup>12</sup> *Ibid.*, page 6.

<sup>13</sup> D.15-08-41. Note that the infrastructure study has ordered two years ago in D. 13-02-023.

1 network as it is deployed today, and as it is likely to exist  
2 tomorrow.”<sup>14</sup>

3 D. 15-08-041 also refutes Verizon’s arguments that Trouble Reports are an adequate  
4 measure of service quality and that Verizon’s infrastructure is healthy.<sup>15</sup> The Decision  
5 finds that the Out of Service Repair Interval metric is relevant to assessing the health of  
6 the network, and refutes Verizon’s argument that the *Out of Service measure is irrelevant*  
7 *to conclusions about the network health*.<sup>16</sup> D. 15-081-041 states that:

8 “... in claiming that only one service quality measurement  
9 is sufficient to determine the health of the network  
10 infrastructure and disregarding other measures, AT&T and  
11 Verizon are implicitly asking the Commission to defer to  
12 the regulated entities on the standards that those entities  
13 should meet, and to overturn another existing Commission  
14 decision, D.09-06-019, which adopted the current service  
15 quality measurements and standards.”  
16 “To summarize, all existing service measures and standards  
17 remain in place at this time, and cannot be simply  
18 disregarded at the regulated entity’s request.”<sup>17</sup>

19 Of concern is that Verizon does not implement a proactive and systematic  
20 preventative maintenance practice. When Administrative Law Judge (ALJ) Colbert asked  
21 Verizon about a systematic way that Verizon use to review and check on its facilities, the  
22 Engineering Director for Verizon Wireline in State of California, Mr. Riley, stated that  
23 “[t]hat type of system is not in place.”<sup>18</sup>

24 In another workshop, when ALJ Colbert asked a CWA member if there is a system  
25 or procedure in place for Verizon employees to report on faulty equipment and/or  
26 corroded wires. A CWA representative stated that there is such a system for reporting  
27 problems but fixing the problems depends on whether they allow the budget to do that.

---

<sup>14</sup> *Ibid*, page 9.

<sup>15</sup> *Ibid*, page 14.

<sup>16</sup> *Ibid*, page 14.

<sup>17</sup> *Ibid*, page 15.

<sup>18</sup> Reporter’s Transcript, Long Beach PPH, August 10, 2015, Vol. 8 at 551.

1 She stated in “most cases as long we're going through drought time, that doesn't happen.  
2 They worry about it when we have rains because that's when the problems arise.”<sup>19</sup>

3 Despite ample evidence in the record to date regarding Verizon’s poor network  
4 conditions and service quality performance, none of the Frontier witnesses provided  
5 specific plans or timeline for improving Verizon’s service quality results to meet the  
6 Commission’s standards. Instead, Frontier simply claimed that “Frontier will bring to  
7 California the same commitment to improving the quality of service that is evidenced in  
8 Frontier’s previous acquisitions, thus fulfilling the second factor under Section 854  
9 (c).”<sup>20</sup> This claim cannot be accepted at face value, and cannot be relied on to find that  
10 the proposed transaction, without the adoption of mitigating conditions, is in the public  
11 interest, as it relates to service quality, reliability, and public safety.

12 At the Long Beach PPH, Commissioner Sandoval and Commissioner Peterman  
13 asked Frontier about its plans to address Verizon’s network conditions including  
14 maintenance plans to come up to standards and the timeline required to do so. Frontier’s  
15 responses were vague, despite claims by Frontier that it has been diligent in assessing  
16 Verizon’s network. Frontier did not provide a direct answer to any clear maintenance  
17 plans post-transaction or any details on the capital investment or timeline needed to  
18 improve Verizon’s network or infrastructure.<sup>21</sup>

19 *Commissioner Sandoval:* “... given how that particular  
20 consideration of price was developed, does that price take  
21 into account network investments that you believe are  
22 needed first just for maintenance to come up to standard  
23 and then, second, for any expansion and improvements? So  
24 let's address the maintenance part first. Does the price take  
25 into account the need to invest in maintenance?”<sup>22</sup>  
26 *Mr. Seville:* “Short answer is yes. We had an understanding  
27 of the condition of the network based on our due diligence.  
28 And that was factored into the purchase of Verizon.”<sup>23</sup>

---

<sup>19</sup> Reporter’s Transcript, Santa Barbara Workshop, August 11, 2015, Vol. 9 at 545.

<sup>20</sup> White, Opening Testimony, A.15-03-005, May 11, 2015, page 4.

<sup>21</sup> Reporter’s Transcript, Long Beach PPH, August 10, 2015, Vol. 8 at 505-510.

<sup>22</sup> *Ibid*, at 508-509.

<sup>23</sup> *Ibid* at 509.

1  
2 *Commissioner Peterman*: "... given that there are potential  
3 maintenance and upgrades to the network, can you share  
4 anything about your timing? because I can imagine that day  
5 too if folks are having issues with their neighborhoods, they  
6 may be expecting you to be doing the maintenance that  
7 day. How can folks know when they might be in your  
8 queue so as not to inundate you with too many phone  
9 calls?"<sup>24</sup>

10 *Ms. White*: "So, look, it's an operation changeover. So the  
11 operation will be Verizon one day; the next day you'll wake  
12 up, it will be Frontier. We are doing a lot of work right now  
13 to ensure that all of our systems and processes are fully  
14 integrated so that on day one, it just cuts over to Frontier.  
15 So does it mean that we will quickly be able to do  
16 superwoman and superman? Notice I said woman first.  
17 Superman work out there? It means that we will start the  
18 process in the Frontier operation immediately so that you  
19 find yourself in the queue. And we can get to you as soon  
20 as possible, if there are issues that need to be resolved  
21 immediately. We will begin our maintenance program on  
22 day one."<sup>25</sup>

23 To address Section 854 (c) (2), Frontier's witness, Ms. White, presented claims to  
24 improving the quality of *voice* services, stating that Frontier intends to expand broadband  
25 to areas where Verizon California has not been providing broadband service, mainly  
26 through federal and state funding for broadband deployment in high-cost unserved and  
27 underserved areas in California.<sup>26</sup> While expanding broadband to unserved and under-  
28 served areas might benefit new customers, this activity does not address how Frontier  
29 will maintain or improve voice services for Verizon's existing voice customers,  
30 particularly customers reliant on a poorly maintained copper network. Thus, Frontier has  
31 not fulfilled the second requirement P.U. Code section 854 (c).

32 Frontier has yet to provide concrete plans, timelines, and monetary commitments to  
33 improve Verizon's network to meet the Commission's service quality standards. The

---

<sup>24</sup> *Ibid* at 509.

<sup>25</sup> *Ibid* at 509-510.

<sup>26</sup> White, Opening Testimony, A.15-03-005, May 11, 2015, page 29.

1 Commission should adopt ORA’s recommended conditions on service quality if it  
2 chooses to approve the proposed transaction.

3 In my July 28, 2015 Reply Testimony, I recommended that the Commission  
4 implement two mitigating conditions to ensure that Frontier’s performance, post-  
5 transaction, meets the Commission service quality rules.<sup>27</sup> These conditions call for  
6 Frontier to provide the Commission with:

- 7 • A strategic plan, including specific goals and objectives to improve and  
8 meet the G.O. 133-C standard for OOS Repair Interval (90% of OOS  
9 repair ticketed to be restored within 24-hours), and
- 10 • Annual report, for the period of five-years post-transaction, including  
11 details on:
  - 12 ○ Frontier’s capital expenditures related to the planned actions  
13 addressing the goals and objectives of the strategic plan (above), and
  - 14 ○ Performance metrics quantifying the desired outcomes for each  
15 objective identified in the strategic plan.

16 For further details on ORA recommended conditions, see Attachment A, condition 1  
17 (c) and condition 2.

18

---

<sup>27</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Executive Summary, pages 5-7.

1 **Further Evidence of Poor Voice Service Quality Pertaining to Verizon’s**  
2 **Copper Voice Network**

3 As discussed in my July 28, 2005 Opening Testimony, Verizon has been measuring  
4 [REDACTED] company-specific service quality metrics pertaining to its voice services (in addition to  
5 the G.O. 133-C service quality measures).<sup>28</sup> Verizon’s company specific service quality  
6 metrics provide important details on repair and provisioning services distinguishing  
7 between copper voice and FiOS services, such metrics include but not limited to:

8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED]<sup>29</sup>

11 Frontier did not provide any company-specific service quality metrics addressing  
12 voice service quality, aside from those required by the Commission under G.O. 133-C.<sup>30</sup>

13 A further look into Verizon’s company specific service quality metrics indicates that  
14 repair times was [REDACTED] for FiOS customers than copper-voice customers.<sup>31</sup>  
15 In 2014, about [REDACTED] of residential FiOS repair tickets were cleared within 48 hours,  
16 whereas, only [REDACTED] of residential copper repair tickets were cleared within the same  
17 duration.<sup>32</sup> In 2014, the Mean Time to Repair (MTTR) for residential FiOS customer  
18 was about [REDACTED], whereas, the MTTR for residential copper customers was about  
19 [REDACTED]. The [REDACTED] durations for repairing copper trouble tickets compared to FiOS  
20 trouble tickets are indicative of Verizon’s deteriorating copper network.

---

<sup>28</sup> Osman, Confidential Reply Testimony, [A.15-03-005], July 28, 2015, Attachment B.

<sup>29</sup> *Ibid.*

<sup>30</sup> Frontier Confidential Response to ORA DR 002 [A.15-03-005], No. 3.

<sup>31</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Attachment F. Attachment F. Note a brief summary of Verizon’s company-specific service quality results are given in Chapter 2, Section C of Osman Reply Testimony.

<sup>32</sup> Note that in 2014, only [REDACTED] of residential trouble tickets were cleared in 24 hours. For further analysis on Verizon’s company specific service quality metrics, please refer to Osman, Reply Testimony, July 28, 2015, Attachment F.

1 Throughout the proceeding's PPHs and Workshops, testimonial from the public, as  
2 well as statements made by Verizon employees and members of CWA, delineate  
3 concerns related to Verizon's copper network.

4 At the Claremont PPH, in Los Angeles County, A representative of the  
5 Communications Workers of America (CWA) confirms that Verizon's customers who  
6 rely on the copper network receive poor services due to inadequate maintenance:

7 "There's another type of Verizon customer that you also  
8 heard from. These are the customers who do not have  
9 FiOS. Their only option is Verizon's copper network. That  
10 network is old, and Verizon has not properly maintained it.  
11 Customers experience frequent service outages, especially  
12 when it rains like it did yesterday and the day before -- over  
13 the past few days. In fact, I encourage you to ask Verizon  
14 to tell you how many trouble tickets they received over the  
15 past few days as a result of the moisture on the lines. I've  
16 heard from our members in dispatch that the list of trouble  
17 tickets in the queue is very long."<sup>33</sup>

18 At the Long Beach PPH, in Los Angeles County, another representative of CWA  
19 stated:

20 "...Verizon has not properly maintained its traditional  
21 copper landlines often in violation of California safety  
22 codes. And DSL Internet -- its access is too slow or  
23 nonexistent. People want to be assured that after the sale,  
24 Frontier will invest in upgrading network to provide safe,  
25 reliable service and high-speed broadband."<sup>34</sup>

26 Also, at the Long Beach PPH, Former mayor for the City of Seal Beach in Orange  
27 County,<sup>35</sup> Ms. Campbell, who has recently served on the panel for the city's Planning  
28 Commission, highlighted the corroded state of Verizon's underground landline  
29 infrastructure, and how the problem persisted for years, especially during periods of rain:

30 "...when it rains, all bets are off. My line gets staticky.  
31 Calling a technician out doesn't help. You have to wait

---

<sup>33</sup> Reporter's Transcript, Claremont PPH, July 21, 2015, Vol. 6 at 384.

<sup>34</sup> Reporter's Transcript, Long Beach PPH, August 10, 2015, Vol. 8 at 483.

<sup>35</sup> <http://www.presstelegram.com/government-and-politics/20140309/seal-beach-planning-commission-member-going-strong-at-72>

1                   until it dries out. It takes about five or six or seven days  
2                   depending on how much rain we've had, okay.”<sup>36</sup>

3           With regard to phone service reliability, Ms. Gdowski, a resident of the City of Palos  
4 Verdes Estates for more than 20 years, pointed out at the Long Beach PPH, that  
5 Verizon’s unreliable phone service and aged infrastructure has not been maintained:

6                   “...what guarantee can you give us that you're going to  
7                   make Frontier perform with the infrastructure that's in  
8                   such bad condition at this point?”<sup>37</sup>

9           At the Garberville PPH, at Humboldt County, the County Manager for Access  
10 Sonoma Broadband (part of the North Bay/North Coast Broadband Consortium), Mr.  
11 Nichols, presented multiple examples of Verizon’s deteriorated and neglected  
12 infrastructure in Sonoma County in the Cazadero exchange.

13                   “...We have garbage bags on our splice boxes along our  
14                   highways, and this is to prevent rain water from  
15                   shortening out the circuits to reduce noise in our lines;  
16                   but that is not an effective way to really maintain  
17                   infrastructure, as far as we are concerned.”<sup>38</sup>

18           Mr. Nichols also stated that some of Verizon’s infrastructure has been sitting in  
19 blown poles for two years, while PG&E has placed poles next to the blown poles. Mr.  
20 Nichols also discussed an E-911 outage in Sonoma County, in 2013, due to a fiber cut  
21 that resulted in service outage, mainly due to lack of redundancy, in Cazadero, Timber  
22 Cove, Fort Ross, Stewarts Point, and the Sear Ranch.<sup>39</sup>

23           Multiple of Verizon’s customers in the PPHs and Workshops, in this proceeding,  
24 provided statements and examples of the deteriorated state of Verizon’s network and  
25 poorly maintained infrastructure, signifying the vulnerability of thousands of Verizon’s  
26 wireline customers, who depend on the copper network. These statements support

---

<sup>36</sup> Reporter’s Transcript, Long Beach PPH, August 10, 2015, Vol. 8 at 479.

<sup>37</sup> *Ibid*, at 490-491.

<sup>38</sup> Reporter’s Transcript, Garberville PPH, July 06, 2015, Vol. 1 at 6.

<sup>39</sup> *Ibid*, at 6-7.

1 Verizon's company-specific service quality metrics, as reflected by the [REDACTED]  
2 of repair time for copper versus FiOS services.

3 Nonetheless, Frontier has not provided empirical data about the state of Verizon's  
4 network, and has not provided a concrete plan, timeframe, and financial commitment to  
5 address Verizon's deteriorating copper network to improve service quality, reliability and  
6 public safety. As such, mitigating measures are necessary to ensure service quality is  
7 maintained or improved. In my July 28, 2015 Reply Testimony, I recommended that  
8 Frontier report to the Commission and ORA, for the period of five-years post-transaction,  
9 improvements on service quality metrics following existing Verizon's voice service  
10 performance metrics.<sup>40</sup> This will ensure an appropriate comparison post-transaction on  
11 improvements made on these existing service quality metrics. For further details on ORA  
12 recommended conditions, see Attachment A, condition 6.

13

---

<sup>40</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Executive Summary, page 9.

1 **Major Voice Outages are Indicators of Service Reliability and Quality**  
2 **of Service**

3 The FCC has established rules requiring communication service providers to report  
4 on *major* outages and certain disruptions to their network depending on the type of  
5 communication.<sup>41</sup> Two critical measures that directly impact consumers' access to  
6 reliable voice service are E-911 outages and 900,000 user-minutes outages. When an E-  
7 911 outage occurs, access to emergency service is jeopardized; placing the public safety  
8 at risk.<sup>42</sup> A 900,000 user-minutes outage is a measure of the impact of an outage. For  
9 example, a 900,000 user-minutes outage could be an outage that:

- 10 • Lasts for 30-minutes impacting 30,000 users,
- 11 • Lasts for 60-minutes impacting 15,000 users,
- 12 • Lasts for 90-minutes impacting 10,000 users etc.

13 As discussed in my July 28, 2015 Reply Testimony,<sup>43</sup> from 2010 through 2014,  
14 Verizon had a total of [REDACTED] major outages, which met the FCC's [REDACTED]  
15 reporting criteria, and [REDACTED] major outages that met the [REDACTED] reporting criteria. Table 1  
16 show the number of [REDACTED] E-911 and 900,000 user-minutes outages for the period  
17 between 2010 and 2014.  
18

---

<sup>41</sup> See further discussion in Osman Reply Testimony, [A.15-03-005], July 28, 2015, Chapter 1.

<sup>42</sup> When an E-911-outage occurs: 911 calls cannot be transported from the end users to a Public Safety Answering Point (PSAP), (which is a call center responsible for answering calls to an emergency telephone number for police, firefighting and ambulance services); 911 Automatic Location Identification (ALI) database cannot deliver location information to the PSAP; or Loss of 911 ALI functionality <http://co.grand.co.us/DocumentCenter/View/3059>

<sup>43</sup> Osman, Reply Testimony, [A.15-03-005], Chapter 1.

1

**Table 1: [REDACTED] FCC NORs E-911 and 900,000 Outages (2010-2014)<sup>44</sup>**

| [REDACTED] |
|------------|------------|------------|------------|------------|------------|------------|
| [REDACTED] |
| [REDACTED] |
| [REDACTED] |

3

4

5

6

7

8

Verizon’s performance has not improved. Although the *average* number of [REDACTED] E-911 and 900,000 user-minutes outages [REDACTED] between 2010 and 2014, the impacts of these outages, in terms of potentially affected user-minutes, [REDACTED] [REDACTED]<sup>45</sup> The reduction in the sheer number of outages should not be regarded as a measure of “improvement” in [REDACTED] performance. Instead, the outages impacts to users, in terms of “user-minutes,” should be assessed.<sup>46</sup>

9

10

11

12

For instance, [REDACTED] had [REDACTED] E-911 outages in 2010 and [REDACTED] E-911 outages in 2014. Although the number of E-911 outages [REDACTED] between 2010 and 2014, the impacts of the outages (in terms of average number of potentially affected user-minutes) [REDACTED] by [REDACTED] during this period.<sup>47</sup>

13

14

15

16

Likewise, although the number of outages of [REDACTED] 900,000 user-minutes [REDACTED] (from [REDACTED] outages in 2010 to [REDACTED] outages in 2014), the impact of these outages [REDACTED] by about [REDACTED] (in terms of average number of potentially affected user-minutes).<sup>48</sup> This is a [REDACTED] [REDACTED] in the average number of affected users,<sup>49</sup> even

<sup>44</sup> For complete set of Verizon’s FCC reported outages, see Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Chapter 1.

<sup>45</sup> Verizon Confidential Response to ORA DR 002 [A.15-03-005], No. 27. Confidential Attachment, labelled “ORA\_VZ2.27\_Attachment\_A1503005\_VZ\_20083\_CONFIDENTIAL.xlsx”

<sup>46</sup> User-minutes is the product of number of affected users and the duration of an outage in minutes.

<sup>47</sup> With regard to [REDACTED] E-911 outages, in 2010, the average number of potentially affected user-minutes was about [REDACTED] which is about [REDACTED] times the reporting threshold of 900,000 user-minutes), whereas in 2014, the average was about [REDACTED] (about [REDACTED]-times the reporting threshold). In 2010, the average number of affected E-911 users was about [REDACTED] and about [REDACTED] users in 2014. The average outage durations increased by about [REDACTED] from about [REDACTED] in 2010 to [REDACTED] in 2014.

<sup>48</sup> With regard to [REDACTED] 900,000 user-minutes outages, in 2010, the average number of potentially affected user-minutes was about [REDACTED] (which is about [REDACTED] times the reporting threshold of 900,000 user-minutes), whereas in 2014, the average was about [REDACTED] (about [REDACTED] times the reporting threshold).

1 though the *average* outage duration was approximately [REDACTED] in 2010 and  
2 approximately [REDACTED] in 2014.<sup>50</sup>

3 One of the important findings, based on my analysis of [REDACTED] outages, is that the  
4 impacts of [REDACTED] E-911 outages (which is the [REDACTED] category of [REDACTED]  
5 reported outages) were [REDACTED] than the 900,000 user-minutes outages (in  
6 terms of potentially affected user-minutes, as well as, the number of potentially affected  
7 users).<sup>51</sup> Figure 1 shows the average number of potentially affected users, and Figure 2  
8 shows the average number of potentially affected user-minutes, for [REDACTED] E-911 and  
9 900,000 user-minutes outages, for the period 2010 through 2014.

10 **Figure 1: Average Number of Affected Users: [REDACTED] FCC NORS E-911 Outages**  
11 **and 900,000 User-Minutes Outages (2010-2014)**  
12



13  
14  
15

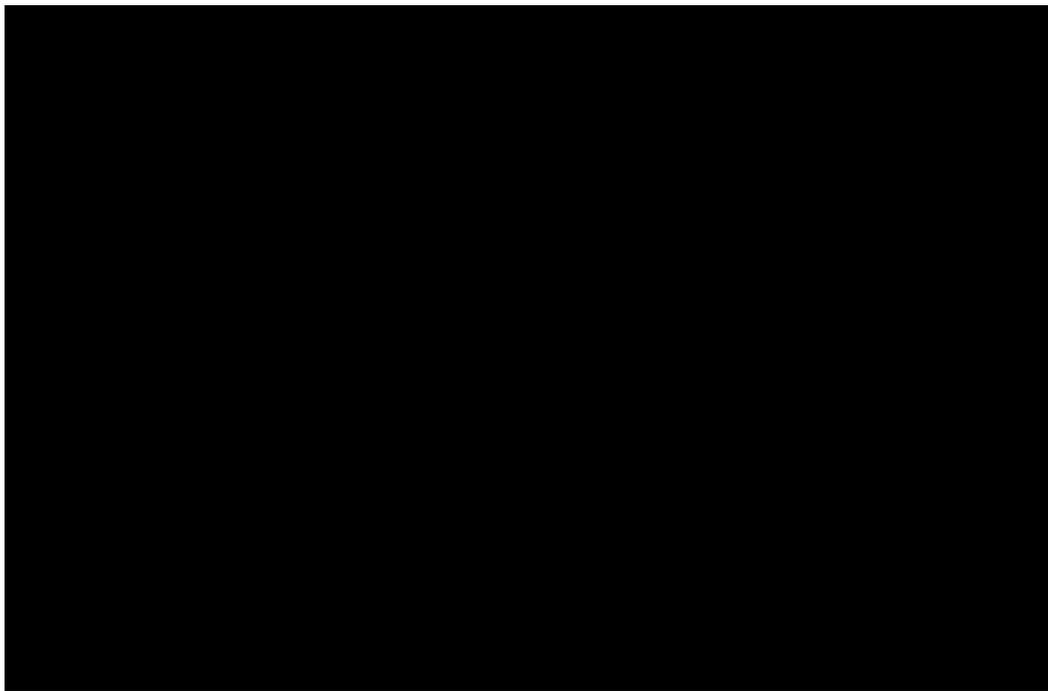
(continued from previous page)

<sup>49</sup> With regard to [REDACTED] 900,000 user-minutes outages, in 2010 the average number of potentially affected users was about [REDACTED] whereas, in 2014 the average was about [REDACTED] users.

<sup>50</sup> Note that the outage durations reached a maximum of [REDACTED] in 2010 and [REDACTED] in 2014. See additional information in Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Chapter 1, Section B.

<sup>51</sup> Verizon Confidential Response to ORA DR 002 [A.15-03-005], No. 27. Confidential Attachment, labelled "ORA\_VZ2.27\_Attachment\_A1503005\_VZ\_20083\_CONFIDENTIAL.xlsx"

1 **Figure 2: Average Number of Affected User-Minutes: [REDACTED] FCC NORS E-911**  
2 **Outages and 900,000 User-Minutes Outages (2010-2014)**  
3 [REDACTED]



4  
5 In 2014, a single [REDACTED] outage affected an average of about [REDACTED] users (resulting  
6 in an average of [REDACTED] user-minutes- about [REDACTED] the reporting threshold),  
7 whereas a single [REDACTED] outage affected an average of about [REDACTED]  
8 potential wireline users (resulting in an average of [REDACTED] user-minutes- about [REDACTED]  
9 the reporting threshold).<sup>52</sup>

10 Another important finding of this analysis is the [REDACTED] durations for repairing  
11 these outages. Although the data indicated that the E-911 outages had [REDACTED]  
12 impacts (in terms of user minutes and affected users) when compared to 900,000 user-  
13 minutes outages, the 900,000 user-minutes outage durations were significantly [REDACTED] In  
14 2014, a single 900,000 user-minutes outage had average outage duration of about [REDACTED]  
15 [REDACTED] compared to an average of [REDACTED] for E-911 outage. Thus, in 2014,  
16 an average of [REDACTED] users sustained, on average, an outage for [REDACTED]<sup>53</sup>

---

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

1 Figure 3 shows the average outage durations for [REDACTED] E-911 and 900,000 user-  
2 minutes outages, for the period from 2010 through 2014.

3 **Figure 3: Average Number Outage Durations: [REDACTED] FCC NORS E-911 Outages**  
4 **and 900,000 User-Minutes Outages (2010-2014)**  
5



6  
7 As indicated in my July 28, 2015 Reply Testimony, the majority of [REDACTED] E-911  
8 outages occurred due to failures in [REDACTED] network, and [REDACTED] [REDACTED] buildings,  
9 mainly due to [REDACTED] [REDACTED]<sup>54</sup>

10 During the period between 2010 and 2014, about [REDACTED] of [REDACTED] total E-911  
11 outages occurred in [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

12 Table 2 shows the distribution of E-911 outages in these three counties, for the  
13 period between 2010 and 2014, and indicates the number of outages that occurred due to  
14 failures in [REDACTED] network versus other companies' network, and whether the outages  
15 occurred inside buildings or outside plant.  
16

---

<sup>54</sup> [REDACTED] did not identify the root causes on a large number of E-911 outages.

1  
2  
3

**Table 2: Distribution of [REDACTED] E-911 Outages in Three Top Counties (2010-2014)**

	Failure in [REDACTED] Network		Failure in Other Companies' Network		2010-2014 E-911 Total Outages
	Inside Buildings	Outside Plant	Inside Buildings	Outside Plant	
Los Angeles County	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Riverside County	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
San Bernardino County	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Total	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

4 As stated in my Reply Testimony, during the period between 2010 and 2014, except  
5 for [REDACTED] outages, all of [REDACTED] 900,000 user-minutes outages were due to failure in  
6 [REDACTED] networks, where the majority of these outages took place in [REDACTED]  
7 [REDACTED]. The main causes of the 900,000 user-minutes outages were [REDACTED]  
8 [REDACTED] <sup>55</sup>

9 During the period between 2010 and 2014, about [REDACTED] of [REDACTED] total 900,000  
10 user-minutes outages occurred in [REDACTED]  
11 All of the 900,000 user-minutes outages in these three counties occurred due to failure in  
12 [REDACTED] network. <sup>56</sup>

13 Table 3 shows the distribution of [REDACTED] 900,000 user-minutes outages in these  
14 three counties between 2010 and 2014; including the number of outages that occurred  
15 due to failures in [REDACTED] network versus other companies' network, and where the  
16 outages occurred (inside buildings versus outside plant).

<sup>55</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Chapter 1.

1 **Table 3: Distribution of ██████████ 900,000 User-Minutes Outages in Three Top**  
 2 **Counties (2010-2014)**  
 3

	Failure in ██████████		2010-2014 900,000 User-Minutes Total Outages
	Inside Buildings	Outside Plant	
Los Angeles County	██████████	██████████	██████████ ██████████ ██████████
Riverside County	██████████	██████████	██████████ ██████████ ██████████
San Bernardino County	██████████	██████████	██████████ ██████████ ██████████
Total	██████████ ██████████ ██████████ ██████████	██████████ ██████████ ██████████ ██████████	██████████ ██████████ ██████████ ██████████

4 Additionally, statements made in the proceeding’s PPHs and workshops, especially  
 5 those located in the Southern Counties,<sup>57</sup> provide further evidence of inferior service  
 6 quality and reliability to wireline customers in urban areas, who depend on Verizon’s  
 7 copper network for their voice services.

8 At the Claremont PPH, in Los Angeles County, a member of CWA, who worked for  
 9 40 years with Verizon, Mr. Garden, stated that “Verizon Company has been a reactive  
 10 company, and many of our bad spots that we tell them to repair have become a Band-Aid  
 11 fix.”<sup>58</sup> Mr. Garden described some of the main problems with Verizon’s inadequate  
 12 maintenance practices:

- 13 (a) The use of temporary splice tarps, used to put a
- 14 temporary tarp over a cable to protect a cable that is
- 15 undergoing maintenance from rain and exposure to the
- 16 weather elements. Mr. Garden stated that “these tarps

(continued from previous page)

<sup>56</sup> *Ibid.*

<sup>57</sup> Long Beach PPH and Claremont PPH, located in Los Angeles County, (Claremont PPH also addressed issues in San Bernardino County), Rancho Mirage PPH in Riverside County, and Santa Barbara PPH in Santa Barbara County.

<sup>58</sup> Reporter’s Transcript, Claremont PPH, July 21, 2015, Vol. 6 at 391.

1 are not being replaced in a timely manner with  
2 permanent closures and wire repair that keeps that plan  
3 in good order.” Mr. Garden explained that although  
4 Verizon asked the technicians to write plant  
5 maintenance order to have bald splices and terminals  
6 replaced; most of these orders end up not being  
7 addressed and often totally ignored by the company.  
8 Mr. Garden explained that these tarps are found to be in  
9 place years later and end up degraded allowing easy  
10 access to the weather elements and critters.

11 (b) Lack of routine check on backup batteries leading to  
12 failed backup batteries at remote terminals that are used  
13 during power outages in rural locations.

14 (c) Lack of proper air pressures in underground and  
15 aerial facilities due to absence of proper maintenance  
16 leading poor facilities susceptible to major service  
17 outages. Mr. Garden stated that “many aerial cables in  
18 our network, which are paper insulated cables, do not  
19 have air pressure on them. If these paper cables get wet,  
20 it can cause up to a 4 to 600 outages because the wires,  
21 due to insulation of the paper, soak like a sponge. The  
22 company has been very fortunate that the last few years  
23 that we have had no heavy rain falls.”<sup>59</sup>  
24

25 At the Rancho Mirage PPH, in Riverside County, Mr. Garden provided similar  
26 evidence of poor maintenance practices in various areas in Southern California, including  
27 Palm Springs area, Thousand Palms, Lake Arrowhead.<sup>60</sup>

28 At the Long Beach PPH, a representative of two historic districts (Rose Park and  
29 South Rose Park) in Long Beach, Ms. Stevens, underscored the unsafe conditions of  
30 Verizon’s cabling practices in the area:

31 “The problems are specifically loose and unused wires  
32 being stored on the poles, cables and wires stretching  
33 across properties and intersections in an unattractive  
34 manner and cables wires hanging too low across  
35 properties in backyards, unused wires and cables that are

---

<sup>59</sup> *Ibid*, at 391-394.

<sup>60</sup> Reporter’s Transcript, Rancho Mirage PPH, July 20, 2015, Vol. 5 at 247-252.

1 not being attached, or storing their inventory of  
2 pressurized tanks on poles in our neighborhood.”<sup>61</sup>

3 Ms. Stevens indicated that Verizon never kept up its promise to the Long Beach City  
4 Council to examine their cabling practices in the neighborhood and conduct the necessary  
5 improvements.<sup>62</sup>

6 Similar issues were echoed by a member of Belmont Heights Community  
7 Association in Long Beach, Ms. Sundstrom, who gave a detailed account of persistent  
8 problems with Verizon’s wire blight and abandoned wires since 2013. Ms. Sundstrom  
9 indicated that Verizon’s safety violations, under G.O. 95, was also documented by the  
10 CPUC, and that Verizon refused to correct the G.O. 95 violations.<sup>63</sup> Supplemental  
11 testimony of Mr. Adam Clark discusses these concerns and points to the findings by the  
12 Commission’s Safety and Enforcement Division (SED) on a number of G.O. 95  
13 violations on Verizon’s facilities.<sup>64</sup>

14 The current levels, durations, and magnitude of outages reported by Verizon raise  
15 serious public safety concerns. Furthermore, in my July 28, 2015 Reply Testimony, I  
16 presented results comparing Frontier’s to Verizon’s performance, pertaining to outages  
17 that did not meet the FCC reporting requirements, Frontier’s number of outages per 1000  
18 line [REDACTED] hat of Verizon (2011 through 2014).<sup>65</sup>

19 It is imperative for the Commission to implement mitigating conditions to prevent  
20 any potential negative impacts of the proposed transaction on service quality and  
21 reliability. A rigorous, proactive, and systematic preventative maintenance plan or  
22 process is clearly necessary to avert and/or reduce the impacts of future outages.

23

---

<sup>61</sup> Reporter’s Transcript, Long Beach PPH, August 10, 2015, Vol. 8 at 500.

<sup>62</sup> *Ibid*, at 500.

<sup>63</sup> *Ibid*, at 528-532.

<sup>64</sup> Clark, Supplemental Testimony, [A.15-03-005], September 11, 2015, at page IV-1 – IV-2.

<sup>65</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Chapter 1, Section F, page 1-26.

1 In my July 28, 2015 Reply Testimony, I recommended that the Commission  
2 implement two mitigating conditions to ensure that Frontier’s performance, post-  
3 transaction, maintains or improve service quality and reliability performance outcomes.  
4 These conditions call for Frontier to provide the Commission with:<sup>66</sup>

- 5 • A strategic plan, including specific types of network upgraded needed  
6 to improve service quality, reliability and public safety, specifically in  
7 the counties of Los Angeles, San Bernardino, and Riverside;-
- 8 • Specific goals and objectives, as part of the strategic plan (above), to  
9 avert and/or reduce future outage impacts, pertaining to the various  
10 categories of the FCC major outages; and
- 11 • Annual report, for the period of five-years post-transaction, including  
12 details on:
  - 13 ○ Frontier’s capital expenditures related to the planned actions  
14 addressing the goals and objectives of the strategic plan (above), and
  - 15 ○ Performance metrics quantifying the desired outcomes for each  
16 objective identified in the strategic plan.

17 In addition, given Frontier’s current performance compared to Verizon on outages  
18 that do not meet the FCC reporting criteria, I recommended that the Commission  
19 monitors Frontier’s performance, post transaction for a period of five years.<sup>67</sup> This will  
20 ensure that service reliability and public safety do not deteriorate post transaction and that  
21 the proposed transaction will maintain or improve the quality of service and reliability.

22 For further details on ORA recommended conditions, see Attachment A, condition 1  
23 (a), condition 1 (b), condition 2, and condition 4.

---

<sup>66</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Executive Summary, pages 5-7.

<sup>67</sup> *Ibid.*, page 7-8.

1 **2. Comparison of Frontiers and Verizon’s Customer Satisfaction**  
2 **Performance**

3 The Commission should not rely on Frontier’s continued unsubstantiated claims that  
4 service quality and reliability will be better post-transaction but instead adopt the  
5 mitigation measures recommended by ORA. Predication and expectation should be  
6 accompanied by concrete, substantive plans with implementation timelines, committed  
7 financial resources, and rigorous performance tracking and monitoring mechanisms to  
8 actually realize the necessary improvements in service quality, reliability, and public  
9 safety.

10 In J.D. Power and Associates 2013 and 2014 Residential Telephone Service Provider  
11 Satisfaction Studies (West), Frontier received low scores compared to Verizon.<sup>68</sup> Out of  
12 eight companies measured in 2013, Frontier ranked seven and Verizon first.<sup>69</sup> In 2014,  
13 Frontier ranked last and Verizon third amongst eight companies. In both years (2013 and  
14 2014), Frontier received lower scores than the average in the West.<sup>70</sup> Figure 4 shows  
15 Verizon’s and Frontier’s ranks and Figure 5 shows their scores compared to the average  
16 in the West.

---

<sup>68</sup> Note that in 2011 and 2012 Frontier was not amongst the top companies measured. In 2011, Verizon ranked sixth and received a score equal to the West average. <http://www.jdpower.com/press-releases/residential-telephone-customer-satisfaction-study>. In 2012, Verizon ranked third amongst seven companies measured, and received a score of 683 (West average was 679). <http://www.jdpower.com/press-releases/2012-us-residential-telephone-customer-satisfaction-study>.

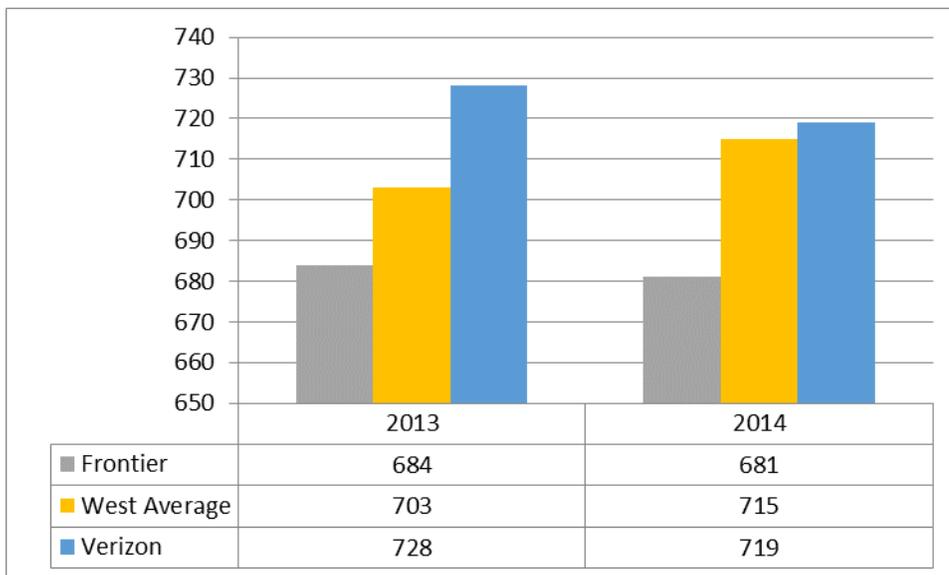
<sup>69</sup> <http://www.jdpower.com/press-releases/2013-us-residential-telephone-service-provider-satisfaction-study>

<sup>70</sup> <http://www.jdpower.com/press-releases/2014-us-residential-television-internet-telephone-service-provider-satisfaction>

1 **Figure 4: Customer Satisfaction Ranking in the West Region (J.D. Power and Associates**  
 2 **U.S. Residential Telephone Satisfaction Study for the years 2013 and 2014)<sup>71</sup>**



3  
 4 **Figure 5: J.D. Power and Associates Residential Telephone Satisfaction Studies (2013 and**  
 5 **2014) Customer Satisfaction Index Ranking West Region (based on 1,000-point scale)<sup>72</sup>**



6  
 7

<sup>71</sup> Compiled from press releases from J.D. Power and Associates U.S. Residential Telephone Satisfaction Study for the years 2013 and 2014. <http://www.jdpower.com/press-releases/2013-us-residential-telephone-service-provider-satisfaction-study>; <http://www.jdpower.com/press-releases/2014-us-residential-television-internet-telephone-service-provider-satisfaction>

<sup>72</sup> *Ibid.*

1 Furthermore, in my July 28, 2015 Reply Testimony, I presented results showing that  
2 when comparing customer complaints, Frontier's customer complaints per 1000 lines,  
3 consistently [REDACTED] that of Verizon's, and [REDACTED] from 2011 to 2014. In  
4 2014, the number of Frontier's customer complaints per 1000 lines, were approximately  
5 [REDACTED] that of Verizon's in 2014.<sup>73</sup>

6 Given that Frontier received significantly lower customer satisfaction ratings, as well  
7 as, [REDACTED] of customer complaints (per 1000 lines) compared to  
8 Verizon, the Commission should monitor the level of customer complaints, post-  
9 transaction, and implement mitigating conditions to ensure that service quality is  
10 maintained or improved, as recommended in my July 28, 2015 Reply Testimony.<sup>74</sup>

11 I also recommended that, for a period of five-years post transaction, Frontier should  
12 provide the Commission with customer complaints data, pertaining to its voice services,  
13 and do not fall below the current levels of Verizon's customer complaints. I also  
14 recommended that Frontier fund a customer satisfaction survey to ensure that the service  
15 provided to customers post-transaction do not deteriorate.<sup>75</sup> This should not be an  
16 onerous process for collecting data given that the Frontier likely has databases in place to  
17 collect such information from its customers. These conditions will ensure that service  
18 quality is maintained or improved post-transaction. For further details on ORA's  
19 recommended conditions, see Attachment A, condition 4, condition 7 and condition 8.

---

<sup>73</sup> Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Chapter 3, Section D.

<sup>74</sup> See ORA's recommended Condition 4, Condition 7 and Condition 8 in Osman, Reply Testimony, [A.15-03-005], July 28, 2015, Executive Summary, pages 9-10.

<sup>75</sup> The independent consultant conducts surveys of customers to provide a measure of the company's performance and customer satisfaction. For example, the results of the survey would provide information on the company's provisioning and maintenance practices, as well as customer satisfaction with the services. While this independent consultant would be hired and paid for by the company, it will be selected, managed and directed by ORA. ORA would, of course, welcome input from the company on how the survey should be designed and conducted. This should not be administratively burdensome for the company and it should have minimal, if any, impact on its day-to-day operations. All Frontier would need to do is periodically provide the independent consultant with some data, such as customer service orders and customer repair and maintenance tickets. The independent consultant would use such data to draw a representative sample of customers to conduct the survey. The independent consultant would then issue a quarterly report, which the Commission could use to keep a pulse on how well customers are being served, post-transaction. The quarterly report should also be helpful to Frontier, as it would provide data useful to its continuous improvement process, particularly as it relates to enhancing its customer experience.

1 **3. Conclusion**

2 Analysis conducted on service quality metrics on Frontier and Verizon provide clear  
3 evidence that service quality, reliability, and public safety will likely suffer, and  
4 consumers will likely be adversely impacted, if the transaction is approved without  
5 mitigating measures. Specifically, such mitigating measures should include rigorous  
6 monitoring and tracking of service quality metrics and reliability performance outcomes.

7 A rigorous, pro-active service quality and reliability monitoring and tracking  
8 mechanism is necessary to ensure the service quality and reliability performance across  
9 Frontier’s expanded service territory is improved, post-transaction. The Joint Applicants  
10 have not provided clear plans on how the transaction will maintain or improve service  
11 quality.<sup>76</sup> Frontier should provide the Commission with specific plans to resolve service  
12 quality outages, as well as the numerous issues consumers have voiced primarily in Los  
13 Angeles, Riverside, and San Bernardino counties.

14 Therefore, the Commission should adopt ORA’s recommended conditions to  
15 mitigate the adverse impact of the proposed transaction, and ensure that consumers  
16 receive improved and reliable services.<sup>77</sup>

17

---

<sup>76</sup> The Joint Applicants did not provide any evidence to address specific topics on service quality in July 02, 2015 Assigned Commissioner Amended Scoping Ruling include: (1) What is the current physical condition of the Verizon landline network? (2) How would the condition of Verizon’s network affect the proposed transaction in terms of service to customers... and investments needed to fulfill the obligations of a Carrier of Last Resort (COLR)? (6) How capable is Frontier of absorbing 2.2 million additional customers currently served by Verizon’s landline services? ... (8) What are the service quality and 911 implications of the transaction for Frontier’s existing and its newly acquired customers? (14) What are the potential negative consequences of the proposed transactions? Are any conditions necessary or warranted to mitigate any such consequences? (16) Is the proposed transaction in the public interest?

<sup>77</sup> See Appendix B for ORA recommended conditions pertaining to voice service quality.

# **Attachment A**

## **ATTACHMENT A: STATEMENT OF QUALIFICATION**

My name is Ayat Osman. My business address is 505 Van Ness Avenue, San Francisco, CA 94102.

I am currently employed by the California Public Utilities Commission (CPUC) as a Regulatory Analyst V assigned to the Communications and Water Branch of the Office of the Ratepayer Advocates (ORA). I received a Ph.D. in Civil Engineering from the University of Pittsburgh in 2006. I also have two Master of Science degrees: Environmental Engineering from the University of Pittsburgh (2000) and Environmental Science and Management from Duquesne University (1998). I joined Energy Division at the CPUC in March of 2007 and worked as Regulatory Analyst IV for more than five years. I also held an associate position with an energy consultant company (Cadmus) from September 2012 to February 2014.

My Declaration addresses the P.U. Code Section 854 (c) (3) requirements that the transaction maintain or improve the service quality and reliability voice service customers in the State.

# **Attachment B**

## **ATTACHMENT B: ORA'S RECOMMENDED CONDITIONS**

The recommendations contained in this attachment are provided for ease of reference; these are the same recommendations given in my July 28, 2015 Reply Testimony.<sup>78</sup>

Approval of this transaction should not be granted without conditions requiring Frontier to meet specific targets for improving service quality and reliability of voice services, and including vigilant monitoring of service quality measurements and customer satisfaction performance outcomes.

Given that Frontier will acquire a much larger number of new customers, including traditional wireline copper voice, FTTP FiOS voice, Voice over Internet Protocol (VoIP) and large businesses customers, the Commission should ensure that post-transaction the new Frontier will maintain or improve the quality of services to California customers. The Commission should adopt the following conditions:

### **1. Frontier Should Implement a Multi-Year Strategic Plan**

If the Commission approves the Transaction, it should ensure California has access to high-quality, reliable voice services by requiring Frontier to devise and implement a multi-year Strategic Plan. Frontier should submit to the Commission and the ORA a multi-year Strategic Plan by no later than October 31, 2015 with the specific plans for improving voice (traditional copper voice, FiOS voice, and VoIP) service quality, reliability, and availability throughout its new California service area. More specifically, the Strategic Plan is to include the following:

- a. Specific plans, including the specific types of network upgrades needed, to improve reliable and safe voice services in the following counties:
  - Los Angeles County
  - San Bernardino County

- Riverside County

- b. The Strategic Plan shall include at minimum the following components:
- i. Goals: general goal articulating the desired outcome.
  - ii. Objectives: for each goal identify specific objectives that meet the S.M.A.R.T criteria: Specific, Measurable, Achievable, Realistic and Time-bound.

Follows are examples of goals and objectives:

Goal (1): Improve service reliability and access to E-911 service in Los Angeles County, San Bernardino County and Riverside County.

Objective (1): By September of 2016, complete the assessment and identify the remaining useful life of critical components of outside plant and Verizon's buildings associated with major outages in Los Angeles County, San Bernardino County and Riverside County.

Objective (2): By April of 2017, replace "x" number of base units, and "y" number of remote switches, etc. in Los Angeles County.

Objective (3): By September of 2017, renovate the following types of outside plant: "x" number of conduits, "y" number of vaults, "z" number of pedestals and/or cabinets, and "t" number of poles, in the cities of M, N, and L in Los Angeles County.

- c. Specific goals and objectives to address outages (including, impacts-user-minutes/DS3-minutes, durations, and affected users) pertaining to Frontier's wireline and VoIP services in California the following FCC's categories:
- 1350 DS3-minutes outages
  - E-911 outage
  - 900,000 user-minutes/VoIP-minutes outages
  - Blocked Calls
- d. Specific goals and objectives to improve and meet on G.O. 133-C standards of 90% of Out of Service Trouble Reports to be restored within 24 hours.

---

(continued from previous page)

<sup>78</sup> Osman, Reply Testimony, July 28, 2015, Executive Summary.

## **2. Frontier Should Provide an Annual Report to the CPUC and ORA for a Period of Five Years**

For a period of five years, with year one due one year from the date of CPUC approval of the Transaction, Frontier should provide the Commission and ORA with an annual report detailing:

- a. Frontier's capital expenditures related to planned actions on condition number (1) above. Frontier should include in the report a comparison of the amount of planned California capital expenditures as a percentage of total system expenditures and a comparison of the amount of capital expenditures per working line in California.
- b. Performance metrics quantifying the desired outcome of each objective identified in condition number 1 (a).

## **3. Frontier Should Report on VoIP Major Outages**

Frontier should provide a copy of Federal Communications Commission (FCC) Network Outage Reporting System (NORS) reports for VoIP services to the Commission and ORA concurrent with such filing with the FCC.

## **4. Frontier Should Report on Outages that Do Not Meet the FCC NORS Reporting Criteria**

For a period of five years, Frontier should meet the following voice services outage performance metric and report to the Commission and ORA, outages that do not meet the FCC NORS outage reporting requirement for voice services (traditional copper voice, FiOS voice (non-VoIP and VoIP)):

- a. Performance Metric: The number of outages that do not meet the FCC NORS reporting requirements should not exceed 0.5 outages per 1,000 lines per year
- b. Reporting Requirement:
  - i. Type of service: Type of service: copper voice, FiOS voice (non-VoIP), and/or VoIP

- ii. Number of customers affected
- iii. Type of customers affected: residential/business
- iv. Incident Date
- v. Incident Time
- vi. Duration of outage in hours and minutes
- vii. Outage restoration time
- viii. Whether the outage was due to failure in Frontier's network or other companies' network
- ix. Whether the outage occurred inside Frontier's buildings (owned, leased, or otherwise controlled by Frontier) or outside plant
- x. Location of outage
- xi. Equipment failed
- xii. Network involved
- xiii. Affected E911/911
- xiv. Description of the Cause
- xv. Description of the Root cause
- xvi. Description of the incident
- xvii. Methods used to restore the outage
- xviii. Steps taken to prevent the outage from re-occurring

## **5. Frontier Should Report on Service Provisioning Metrics**

For a period of five years, Frontier should provide to the Commission and ORA, on a quarterly basis the following service quality metrics for voice services:

- a. Traditional Voice Copper Service and FiOS voice (non-VoIP):
  - i. Installation Interval
  - ii. Installation Commitments
- b. VoIP services:
  - i. Installation Intervals
  - ii. Installation Commitment Met
  - iii. Customer Trouble Reports
  - iv. Out of Service Repair Intervals
  - v. Answer-time for Trouble Reports
  - vi. Billing and Non-Billing Inquiries
  - vii. Recurring Trouble Reports by the same customer after closing of an initial trouble report

## **6. Frontier Should Report on Verizon's Service Quality Metrics**

For a period of five years, Frontier should report to the Commission and ORA, as well as improve on Verizon's current voice service performance metrics as follows:

- a. At a minimum, track the 39 different metrics that Verizon currently uses to assess the quality of its voice services. See Attachment B for a list and description of these metrics.
- b. Frontier should improve performance on the following voice services metrics for traditional copper voice, FTTP voice (non-VoIP) and VoIP services:
- c. Out of Service Repair Tickets (OOS) cleared within 24-hours
  - i. Service Affecting but Not Out of Service (NOOS), cleared within 24-hours.
  - ii. Percentage Repeats < 7 days: Percentage of customer who report a second problem within 7-days of a prior cleared trouble report.
  - iii. Mean Time to Repair (MTTR)
  - iv. Percentage Commitment Met: the percentage of installations that were cleared on or before the date/time promised.
  - v. Percentage Repair Commitment: the percentage of trouble reports that were cleared on or before the date/time promised.

## **7. Frontier Should Report on Customer Complaints**

For a period of five years, Frontier should meet the following complaint performance metric and provide to the Commission and ORA, on a quarterly basis customer complaints for voice services including traditional copper voice, and FiOS voice (non-VoIP and VoIP):

- a. Performance Metric: The number of complaints should not exceed 1.75 complaints per 1,000 lines.
- b. Reporting Requirement:
  - i. Type of Customer: residential/business
  - ii. Type of Service: copper voice, FTTP voice and VoIP
  - iii. Type of Complaint Categories: billing (identify type of billing complaints, such as unauthorized charges, disconnection, rate protest), access to 911/emergency services, delayed orders/missed appointments, number portability, operator service, refusal to service,

- service outages, call quality (i.e. service conditions that affect or prevent the quality of service provided such as static and noise)
- iv. Resolution time for a complaint
- v. Date of Complaint
- vi. Location
- vii. Recurring complaints by the same customer after closing of an initial complaint

**8. Frontier Should Fund an Independent Survey Consultant to Measure Customer Satisfaction in California**

Frontier should pay for the cost of an independent consult, selected, directed, and managed by ORA, to design and conduct a multi-lingual customer satisfaction survey. The survey would be conducted over a 36 month period, and designed to measure customer satisfaction for voices services (including, traditional wireline copper voice, FTTP FiOS voice, and VoIP customers), and to measure the effectiveness of efforts to educate customers on the limitations of VoIP during power outages and the necessity for maintaining battery back-up. Over the 36 month period, the independent consultant (with ORA) would then issue quarterly reports to the CPUC detailing the results of the survey. These quarterly reports would provide the Frontier and the CPUC with the ability to detect trends and identify and address problems early.

# **Attachment C**

**ATTACHMENT C: CORRECTION TO OSMAN CONFIDENTIAL REPLY  
TESTIMONY CHAPTER 1, SECTION E AND ATTACHMENT E**

The following corrections pertain to Frontier average outage durations in 2010, for outages that did not meet the FCC outage reporting criteria. This was an inadvertent calculation error, and the results do not affect any of my conclusions and recommendations in the Reply Testimony or this Supplemental Testimony.

**Chapter 1 (Section E), Page 1-23, Osman Testimony**

**Original Text:**

**Table 4: Frontier Outages (Not Meeting the FCC NORs Criteria), Maximum and Average Outage Durations (2010-2014)**

Duration	2010	2011	2012	2013	2014
Maximum (days)	█	█	█	█	█
Average (hours)	█	█	█	█	█

**Change to Text:**

**Table 5: Frontier Outages (Not Meeting the FCC NORs Criteria), Maximum and Average Outage Durations (2010-2014)**

Duration	2010	2011	2012	2013	2014
Maximum (days)	█	█	█	█	█
Average (hours)	█	█	█	█	█

**Attachment E, Page E-1, Osman Testimony  
Original Text:**

The following summary provides a description of Frontier’s lengthiest outages that did not meet the FCC’s NORS outage reporting criteria in 2010-2014:

[REDACTED]

**Change to Text:**

The following summary provides a description of Frontier’s lengthiest outages that did not meet the FCC’s NORS outage reporting criteria in 2010-2014:

[REDACTED]