

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Petition of the Department of Public Service	)	
for an Investigation into the Service Quality	)	
Provided by Telephone Operating Company	)	Case No. 18-3231-PET
of Vermont, Inc. d/b/a Consolidated	)	
Communications, Inc.	)	

JOINT PREFILED DIRECT TESTIMONY OF
FRED GOLDSTEIN AND BARLOW KEENER

ON BEHALF OF THE
VERMONT DEPARTMENT OF PUBLIC SERVICE

APRIL 26, 2019

Summary: Mr. Goldstein and Mr. Keener's testimony analyzes Consolidated's clearance of trouble tickets as they relate to required service quality metrics pursuant to Docket 5903. The testimony focuses on issues of repeat trouble tickets, the effect of weather events, geographic location, monetary distribution and technician diversion on service quality and the significance of public comments as they relate to repair delays. Their testimony identifies, among other things, dated infrastructure, inadequate staffing levels and focus on other buildout initiatives as contributing factors to Consolidated's failure to meet service quality metrics.

Joint Direct Testimony
 of
 Fred Goldstein and Barlow Keener

1 **I. Introduction**

2 **Q1. Please state your name and occupation.**

3 A1. My name is Fred Goldstein. I am a Principal of Interisle Consulting Group LLC
 4 (“Interisle”). My business address is PO Box 920362, Needham MA, 02492.

5

6 **Q2. Please summarize your professional background and experience.**

7 A2. I have been involved in the telecommunications industry for over 40 years, most recently
 8 with Interisle, a partnership that works closely with public and private sector clients on
 9 complex questions of network technology and policy. Previously doing business as
 10 Ionary Consulting, I have worked with many competitive service providers, including
 11 CLECs, cable and wireless companies, equipment manufacturers and government
 12 agencies. I have been in consulting positions at Arthur D Little Inc. and BBN
 13 Technologies, and was in the network products group and the corporate
 14 telecommunications group at Digital Equipment Corporation.

15

16 **Q3. Have you previously testified before the Vermont Public Utility Commission**
 17 **(“Commission”)?**

18 A3. Yes. I previously testified in Docket 8390, on behalf of the Department, where I
 19 examined service quality problems encountered by Telephone Operating Company of
 20 Vermont LLC, d/b/a FairPoint Communications (“FairPoint”). I also testified in Docket

1 8850, on behalf of the Department, dealing with the delivery of calls to the E911 system;
2 Docket 7958, on behalf of the Department, dealing with fiber-based collocation in
3 FairPoint central offices; and in Docket 7316, on behalf of the Department, concerning
4 the federal regulatory classification of Comcast's telephone service.
5

6 **Q4. Please state your name and occupation.**

7 A4. My name is Barlow Keener. I am an attorney with Keener Law Group and in this matter, I
8 am working as a consultant to Interisle.
9

10 **Q5. Please summarize your professional background and experience.**

11 A5. I have more than 15 years of practice experience in communications and media law
12 involving Internet, wireless, mobile, privacy, billing telecommunications and security,
13 as the Principal at Keener Law Group and now as Managing Director at Summit Ridge
14 Group providing expert witness services and consulting services in the communications
15 industry. I advise clients at both the federal and state levels on regulatory matters
16 including VoIP, USF and spectrum auctions. I am the former co-founder of a facilities-
17 based CLEC telecom and ISP for broadband and voice services, served as general
18 counsel at CSA, Inc. and served as General Attorney at BellSouth Telecommunications.
19

20 **Q6. Have you previously testified before the Commission?**

21 A6. Yes. I testified in Docket 8390 on behalf of the Department in my capacity as
22 consultant to Interisle.

1 **Q7. Please describe the purpose and focus of your testimony.**

2 A7. The purpose of our testimony is to examine and identify the service problems
3 encountered by Telephone Operating Company of Vermont, LLC d/b/a Consolidated
4 Communications, Inc. (“Consolidated”) in Vermont. Specifically, we examine
5 Consolidated’s ability to meet the “troubles cleared in 24” and “installation
6 appointments met” metrics pursuant to the service quality requirements specified in
7 Docket 5903. Our testimony focuses on issues of repeat trouble tickets, severe
8 weather events, geographic location of wire centers, monetary distribution to
9 telephony services and diversion of technicians to other buildout initiatives, all of
10 which effect repair times. We also examine public comments and complaints as they
11 relate to repair delays. We identify, among other things, failing infrastructure,
12 inadequate staffing levels and focus on broadband deployment as contributing factors
13 to Consolidated’s failure to meet service quality metrics.

14
15 **Q8. What standard and metric for service quality is Consolidated subject to that you were**
16 **directed by the Department to examine?**

17 A8. As detailed in the testimony of Carol Flint, Consolidated began reporting under Docket
18 5903 service quality standards (“5903 Standards”) in 2013. Docket 5903 contains a
19 Service Quality Stipulation that provides for various service quality metrics to be met
20 each month and provides for reporting requirements. The section of the Service Quality
21 Stipulation we examined centered on repair times for trouble tickets. The Service
22 Quality Stipulation provides:

1 **% Troubles Cleared Within 24 Hours Residence and Business - Out of Service:** This
2 standard measures the percentage of Vermont business and residence exchange out-of-
3 service troubles which are repaired within 24 hours from time of receipt of the initial
4 trouble report from the company's retail end user customer. Companies will be required to
5 report (but will not be measured on) residential and business out-of-service troubles by
6 each separate business class. The 24-hour period includes weekends and holidays. The
7 percentage does not include reports relating to customer premise equipment, special
8 services, interexchange carrier access services and unregulated services. The data is
9 compiled monthly by company and shall be reported quarterly to the [Commission] and
10 the Department.

11

12 **BASELINE STANDARD: During year one of this service quality plan, companies**
13 **shall repair no less than 60% of their reported troubles within 24 hours. The**
14 **standard during year two shall be 65%, and shall be 70% every subsequent year.**

15 **ACTION LEVEL REPORT: During year one of this service quality plan, companies**
16 **shall repair no less than 50% of their reported troubles within 24 hours. The standard**
17 **during year two shall be 55%, and shall be 60% for every subsequent year. (bold in**
18 **original).**

19

20 **II. Service Quality Analysis**

21 **Q9. Please explain the primary source of information you analyzed regarding**
22 **Consolidated's reporting of trouble tickets cleared within 24 hours.**

1 A9. We analyzed Consolidated trouble ticket data from July 3, 2017 to December 31, 2018
2 (“Study Period”). We examined numerous data sets, including a complete set of
3 **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
4 **INFORMATION]** unique trouble tickets for both repairs closed under 24 hours and
5 over 24 hours, to determine the reasons Consolidated failed to comply with the 5903
6 Standards (“Repair Dataset 5”). This particular dataset did not contain unique customer
7 addresses, unique phone numbers, or unique order numbers, and without that particular
8 information, we could not use it to analyze multiple repair calls criteria during the Study
9 Period. We instead used Repair Dataset 1-6 to (“Repair Dataset 1-6”) analyze multiple
10 repair calls. This dataset listed **[START CONFIDENTIAL INFORMATION]**
11 **[END CONFIDENTIAL INFORMATION]** trouble tickets closed after 24 hours, and
12 from that, we could determine the number of multiple tickets placed by single customers.
13
14 We examined repairs by day, week and month during the Study Period. We examined
15 repairs compared to the dates of National Oceanic and Atmospheric Administration
16 (“NOAA”) weather events. We analyzed repairs by wire center to determine if
17 particular wire centers were causing more problems than others. We also examined the
18 data to determine how many customers were creating multiple trouble tickets during the
19 study period. Finally, we examined repair time compared to the number of Consolidated
20 outside plant technicians and splice technicians working in the state.

21
22 **Q10. How does Consolidated count trouble tickets?**

1 A10. Trouble tickets are counted based on the month they are closed, not the month they were
2 opened or cleared. It is therefore inaccurate to state that there are a certain number of
3 trouble tickets opened in a month or cleared in a month. It is instead more accurate to
4 state that there are a number of trouble tickets opened during a certain month, some of
5 which are cleared in the following month. When we refer to trouble tickets “opened”
6 during a particular month, it is a reference to the Consolidated data that shows the date
7 on which a ticket was opened – referred to as the [START CONFIDENTIAL
8 INFORMATION] [END CONFIDENTIAL
9 INFORMATION] in Dataset 5 -- on a day during a particular month.
10

11 Q11. What did you find to be the most common causes of trouble tickets?

12 A11. Not counting the roughly [START CONFIDENTIAL INFORMATION]
13 [END CONFIDENTIAL INFORMATION] of tickets that indicated some form of
14 “OK” or “no trouble found,” approximately [START CONFIDENTIAL
15 INFORMATION] [END CONFIDENTIAL INFORMATION] of the remaining
16 trouble tickets were related to issues with the outside plant. The most frequent outside
17 plant fault codes were:

18 [START CONFIDENTIAL INFORMATION]

19 [REDACTED]

20 [REDACTED]
21 [REDACTED]
22 [REDACTED]
23 [REDACTED]
24 [REDACTED]

[illegible]

Of the [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION] tickets, by far the most common Actual Cause field was [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]. Two similar causes followed: [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION]. These were also the most common Actual Cause values associated with the other Outside Plant fault codes.

Overall, [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION] of all tickets (including those with no trouble found) had an Actual Cause of [START CONFIDENTIAL INFORMATION]

1

2

[END CONFIDENTIAL

3

INFORMATION]. Collectively, these demonstrate that the outside plant requires a

4

considerable amount of continuous maintenance, both because of age and environmental

5

factors.

6

Outside plant troubles reflect the types of failures that occur in mostly-aerial copper

7

cable that is subjected to the elements and left in service for many decades. Outside

8

plant troubles can cause a complete loss of service or, in some cases, noisy or sporadic

9

service.

10

[START CONFIDENTIAL INFORMATION]

[END CONFIDENTIAL

11

INFORMATION] of trouble tickets were related to remote terminals (“RTs”). The

12

most common ticket codes associated with RTs were:

13

[START CONFIDENTIAL INFORMATION]

14

15

16

17

[END CONFIDENTIAL INFORMATION]

18

The RTs are the active electronic systems, typically mounted in pedestals, that convert

19

from optical fiber feeder coming from the central office to copper pairs that cover the

1 “last mile” to the subscriber. While they are a marked improvement over the long
2 copper cables that used to serve areas far from a central office and they allow DSL to
3 be provisioned over shorter loops, their failure usually results in a loss of service. RTs
4 require local power and are usually equipped with a large battery capable of at least 24
5 hours service. This can be problematic during an extended power failure that requires
6 the RT to be recharged. Consolidated informed us that their storm preparation often
7 focuses on making generators available for RTs that require them. Finally, multi-line
8 failures can result if power to an RT is lost and the battery runs out.

9 Fewer than [START CONFIDENTIAL INFORMATION] [END
10 CONFIDENTIAL INFORMATION] of trouble tickets were related to central office
11 activities, which included human error and power. Consolidated’s 5ESS switching
12 equipment, which is quite old by electronic standards, remains for the most part reliable.

13

14 **Q12. How many unique Consolidated customers opened one or more trouble tickets**
15 **during the Study Period?**

16 A12. During the Study Period, there were [START CONFIDENTIAL INFORMATION]
17 [END CONFIDENTIAL INFORMATION] unique trouble tickets opened by
18 Consolidated customers. Due to limitations on how the data was provided, it was not
19 possible to calculate from the trouble ticket data provided the total number of unique
20 customers who opened multiple trouble tickets. We therefore had to base our analysis
21 on a subset.

1 **Q13. Please analyze the average number of trouble tickets opened per day during the**
 2 **Study Period and highlight when, on average, troubles for those tickets were**
 3 **cleared.**

4 A13. During the Study Period, across all the data of individual trouble tickets provided,
 5 Consolidated opened an average of [START CONFIDENTIAL INFORMATION]
 6 [END CONFIDENTIAL INFORMATION] trouble tickets per day across Vermont.
 7 Consolidated closed an average of [START CONFIDENTIAL INFORMATION]
 8 [END CONFIDENTIAL INFORMATION] trouble tickets within 24 hours, or
 9 [START CONFIDENTIAL INFORMATION] [END
 10 CONFIDENTIAL INFORMATION] trouble tickets were closed within 2 days, or
 11 [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
 12 INFORMATION] of open tickets. On average, [START CONFIDENTIAL
 13 INFORMATION] [END CONFIDENTIAL INFORMATION] trouble tickets
 14 were closed within 2 to 3 days, or [START CONFIDENTIAL INFORMATION]
 15 [END CONFIDENTIAL INFORMATION] of the total tickets closed. [START
 16 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
 17 INFORMATION] trouble tickets were closed more than 3 days after opening, or
 18 [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
 19 INFORMATION] of the total tickets closed. The chart below illustrates the average
 20 day of a trouble ticket during the Study Period. The chart below shows a breakout of the
 21 average days to close trouble tickets by percent.
 22

1 **[START CONFIDENTIAL INFORMATION]**

2

3 **[END CONFIDENTIAL INFORMATION]**

4

5 **Q14. Which dataset did you use to examine multiple or repeat trouble ticket data?**

6 A14. We used Repair Dataset 1-6 to study multiple calls for the same line during the Study
7 Period. Groups of customers initiated anywhere from **[START CONFIDENTIAL**
8 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]** trouble tickets
9 during the Study Period for the same phone line. This suggests that trouble tickets may
10 have been closed by Consolidated technicians despite the customer experiencing the
11 same issue within the same time period. Even though Repair Dataset 1-6 only listed
12 trouble tickets closed more than 24 hours after they were opened, based on the

1 customer's unique telephone number, it showed a trend of multiple trouble tickets
2 initiated from the same customer. The number of multiple calls made for the same line
3 would likely have been larger had the dataset also listed trouble tickets closed in less
4 than 24 hours.

5

6 **Q15. Do repeat trouble tickets contribute to Consolidated's inability to meet the 5903**
7 **Standards?**

8 A15. Yes. The data we examined shows that repeat trouble tickets are a problem that may
9 have contribute to Consolidated's inability to achieve the 70% baseline standard for
10 troubles cleared within 24 hours ("TC24"). Available data shows that [START
11 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
12 INFORMATION] repeat trouble tickets were opened during the Study Period. The
13 monthly average of repeat trouble tickets opened during the Study Period was [START
14 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
15 INFORMATION], or [START CONFIDENTIAL INFORMATION] [END
16 CONFIDENTIAL INFORMATION] of total trouble tickets listed in Repair Dataset
17 1-6. As previously stated, this number would likely be higher if the dataset also listed
18 trouble tickets closed in less than 24 hours.

19

20 **Q16. How many unique Consolidated customers opened two or more trouble tickets during**
21 **the Study Period?**

1 A16. [START CONFIDENTIAL INFORMATION] [END
2 CONFIDENTIAL INFORMATION] customers created two trouble tickets from the
3 same line during the Study Period, or [START CONFIDENTIAL INFORMATION]
4 [END CONFIDENTIAL INFORMATION] repeat trouble tickets. [START
5 CONFIDENTIAL INFORMATION] [END
6 CONFIDENTIAL INFORMATION] customers created three trouble tickets from the
7 same line during the Study Period, or [START CONFIDENTIAL INFORMATION]
8 [END CONFIDENTIAL INFORMATION] repeat trouble tickets.
9 Customers that created three trouble tickets from the same line during the Study Period
10 comprised [START CONFIDENTIAL INFORMATION] [END
11 CONFIDENTIAL INFORMATION] of the total [START CONFIDENTIAL
12 INFORMATION] [END CONFIDENTIAL INFORMATION] trouble tickets
13 in Repair Dataset 1-6. [START CONFIDENTIAL INFORMATION]
14 [END CONFIDENTIAL INFORMATION] customers created four trouble
15 tickets from the same line during the Study Period, or [START CONFIDENTIAL
16 INFORMATION] [END CONFIDENTIAL INFORMATION] repeat trouble
17 tickets. This equates to [START CONFIDENTIAL INFORMATION] [END
18 CONFIDENTIAL INFORMATION] of the total [START CONFIDENTIAL
19 INFORMATION] [END CONFIDENTIAL INFORMATION] trouble tickets
20 in Repair Dataset 1-6. [START CONFIDENTIAL INFORMATION] [END
21 CONFIDENTIAL INFORMATION] customers created five or more trouble tickets
22 from the same line during the Study Period, or [START CONFIDENTIAL

1 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]** repeat trouble
2 tickets. Of the **[START CONFIDENTIAL INFORMATION]** **[END**
3 **CONFIDENTIAL INFORMATION]** repeat trouble tickets reported, an average of
4 **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
5 **INFORMATION]** trouble tickets comprised **[START CONFIDENTIAL**
6 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]** of the total
7 **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
8 **INFORMATION]** trouble tickets listed in Repair Dataset 1-6.

9

10 The below graphic shows the number of multiple trouble tickets reported for the same
11 customer lines.

12 **[START CONFIDENTIAL INFORMATION]**

13

14 **[END CONFIDENTIAL INFORMATION]**

15

1 **Q17. What is the consequence of a high number of repeat trouble tickets for customers**
 2 **and for Consolidated?**

3 A17. Each of these trouble tickets, on average, generated the equivalent amount of expense
 4 and time for Consolidated employees including managers, service representatives,
 5 central office technicians and outside plant service technicians, to handle and resolve.
 6 Closing out trouble tickets without resolving the problem compounds the future number
 7 of tickets. Customers who did not get their problems fixed simply kept calling back, as
 8 demonstrated in the testimony of Carol Flint. Repeat trouble tickets significantly impact
 9 customers because it results in longer repair times and voice lines that do not work all
 10 the time, or, when working, they contain static or other problems.

11 **[START CONFIDENTIAL INFORMATION]**

12

13 **[END CONFIDENTIAL INFORMATION]**

14

1 Repeat trouble tickets are also costly for Consolidated in terms of unnecessary operating
2 expense. To get a very rough estimation of unnecessary operating expense required for
3 additional trouble tickets, we estimated, based on the calculation presented in Testimony
4 in Docket 8390 (VT DPS Direct Testimony of Barlow Keener, page 7, lines 1-9, March
5 15, 2016) that the repair operating expense is approximately **[START**
6 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
7 **INFORMATION]** per trouble ticket. Based on the Consolidated data presented in this
8 case, there were at least **[START CONFIDENTIAL INFORMATION]** **[END**
9 **CONFIDENTIAL INFORMATION]** total repeat trouble tickets during the Study
10 Period. The total repeat tickets do not include those tickets closing within 24 hours and
11 do not include the **[START CONFIDENTIAL INFORMATION]** **[END**
12 **CONFIDENTIAL INFORMATION]** customers making repeat tickets who would
13 have created a single service call.

14
15 Assuming the **[START CONFIDENTIAL INFORMATION]** **[END**
16 **CONFIDENTIAL INFORMATION]** rough cost per average trouble ticket has not
17 drastically changed since 2016, we estimate that repeat trouble tickets could have cost
18 Consolidated **[START CONFIDENTIAL INFORMATION]**
19 **[END CONFIDENTIAL**
20 **INFORMATION]** in unnecessary operating expenses during the Study Period. To
21 calculate the **[START CONFIDENTIAL INFORMATION]** **[END**
22 **CONFIDENTIAL INFORMATION]** rough cost per average trouble ticket, we used

1 the service maintenance expense for FairPoint in Vermont in 2015, which was
2 approximately [START CONFIDENTIAL INFORMATION] [END
3 CONFIDENTIAL INFORMATION] per year. We estimated that the cost of all
4 Vermont repairs during 2015, excluding new installations, to be 75% of the [START
5 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
6 INFORMATION] amount, or [START CONFIDENTIAL INFORMATION]
7 [END CONFIDENTIAL INFORMATION]. Based on the Docket 8390 data
8 provided during the period, there were approximately [START CONFIDENTIAL
9 INFORMATION] [END CONFIDENTIAL INFORMATION] trouble tickets
10 per year that equated to approximately [START CONFIDENTIAL
11 INFORMATION] [END CONFIDENTIAL INFORMATION] per trouble
12 ticket. The [START CONFIDENTIAL INFORMATION] [END
13 CONFIDENTIAL INFORMATION] FairPoint trouble tickets per year compares to
14 [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
15 INFORMATION] trouble tickets per year for Consolidated during 2018.

16
17 **Q18. Are all repeat trouble tickets caused by factors under Consolidated's control?**

18 A18. It is not clear that all repeat trouble tickets are caused by factors under Consolidated's
19 control. A large number of repeat tickets had one ticket with a fault code of [START
20 CONFIDENTIAL INFORMATION] [END
21 CONFIDENTIAL INFORMATION] and an actual cause [START
22 CONFIDENTIAL INFORMATION] [END

1 **CONFIDENTIAL INFORMATION]**. These were intermittent problems. A
2 conductor with a flaw in the sheath may have shorted out during a rain event, but dried
3 out by the time the technician arrived. A connection could be loose or corroded. These
4 appear to be primarily characteristic of old plant and not the result of closing tickets out
5 early. There does not appear to be an obvious widespread pattern of tickets being closed
6 early in order to reduce average repair time. Nonetheless we suggest that additional
7 analysis address this to ensure that these problems are in fact intermittent and not the
8 result of tickets being closed out early.

9

10 **Q19. Did you analyze how severe weather can affect the TC24 metric?**

11 A19. Yes. We correlated the data from the NOAA's National Climate Data Center for
12 Vermont during the Study Period against Consolidated's corresponding repair time by
13 week and month.

14

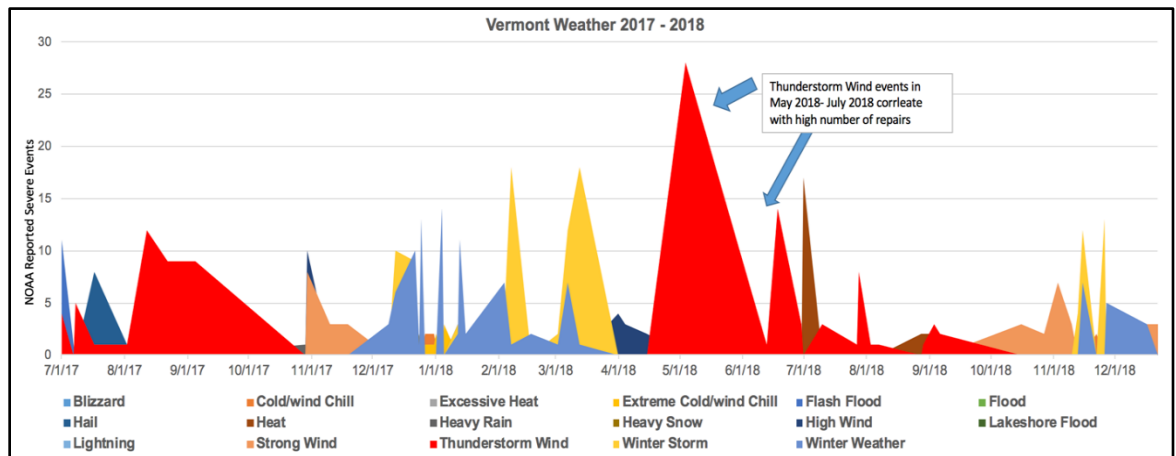
15 **Q20. During the Study Period, did Vermont experience severe weather events as defined**
16 **by NOAA?**

17 A20. Many of the months during the Study Period had multiple NOAA-defined severe
18 weather events. Overall, there were 653 severe weather events across the state during
19 the Study Period, or an average of 37 per month. According to NOAA data, severe
20 weather events in Vermont are normal. In the summer, there is heavy rain, hail,
21 thunderstorms and flooding. From June 2018 through July 2018, there were 63 of these
22 NOAA severe weather events that included lightning and thunderstorm winds. In the fall

1 there are severe thunderstorms. In the winter there are snow storms, ice events and
 2 heavy rain. From January 2018 to March 2018, there were 107 severe weather events
 3 including winter storms and winter weather. In the spring, there are thunderstorm winds
 4 and flooding.

5

6 The chart below shows the number of severe weather events reported by NOAA
 7 during the Study Period.



8

9

10 **Q21. How do severe weather events effect performance metrics?**

11 A21. Poor weather conditions can have an effect on the cause of repairs and result in a delay
 12 of those repairs, which have a negative effect on performance metrics. Severe weather
 13 events can include high winds, storms, snow and ice that can damage aerial lines, as
 14 well as floods that can damage underground facilities and bring down poles. The
 15 National Climate Data Center for Vermont reported that from April 2018 to May 2018,
 16 44 severe weather events occurred with “Thunderstorm Wind” and “High Wind” listed

1 33 times. The NOAA also reported that on April 4, 2018, “Wind gusts in the 40 to 50
 2 mph range occurred across the region. This resulted in multiple reports of trees and
 3 wires down across southern Vermont.”

4
 5 We found date-specific data within the Consolidated trouble ticket data describing as
 6 "actual causes" (i.e. actual cause codes) various severe weather events, such as [START
 7 CONFIDENTIAL INFORMATION]

8 [END CONFIDENTIAL INFORMATION] These descriptions
 9 were for repairs but not necessarily related to whether the repair took longer than 24
 10 hours. Because the actual cause codes were included by day, we could determine when
 11 within a particular week or month a weather code was listed by a technician as the cause
 12 for the problem and correlate that code with weather conditions. For example, from
 13 April 2018 to May 2018, [START CONFIDENTIAL INFORMATION] [END
 14 CONFIDENTIAL INFORMATION] was listed as the cause [START
 15 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
 16 INFORMATION] times. During the same period, [START CONFIDENTIAL
 17 INFORMATION] [END CONFIDENTIAL INFORMATION]
 18 was listed as the cause of [START CONFIDENTIAL INFORMATION] [END
 19 CONFIDENTIAL INFORMATION] repairs.

20

21 Q22. Do severe weather events increase trouble tickets and repair times?

1 A22. Yes. As demonstrated on the chart below, the number of trouble tickets, by week,
 2 spiked exactly when NOAA reported severe weather. Repairing many downed wires
 3 takes days and sometimes weeks; in the meantime normal trouble tickets not related to
 4 the weather are also put in the system.

5 **[START CONFIDENTIAL INFORMATION]**

6

7 **[END CONFIDENTIAL INFORMATION]**

8

9 Without an increase in the number of outside plant technicians and splice technicians
 10 following severe weather events, combining difficult repairs like downed wires with
 11 normal repairs like corroded copper compounds the days needed to close tickets. The
 12 chart below shows that even with dramatically increased trouble ticket demand, the

1 number of Consolidated outside plant technicians and splice repair technicians did not
 2 increase after severe weather damage.

3 **[START CONFIDENTIAL INFORMATION]**

4

5 **[END CONFIDENTIAL INFORMATION]**

6

7 **Q23. Was severe weather a cause of Consolidated's poor trouble ticket cleared time?**

8 A23. Yes, one of the primary causes of Consolidated's poor trouble ticket cleared time was
 9 due to severe weather events. For example, during May 2018, when NOAA reported
 10 35 severe weather events of thunderstorm winds, hail and flooding in Vermont,
 11 Consolidated opened **[START CONFIDENTIAL INFORMATION]** **[END**
 12 **CONFIDENTIAL INFORMATION]** trouble tickets. Consolidated cleared **[START**
 13 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
 14 **INFORMATION]** of monthly trouble tickets in less than 24 hours. However, **[START**

1 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**

2 **INFORMATION]** of trouble tickets, were not cleared within 24 hours.

3

4 Another example is June 2018, when severe thunderstorm winds crossed Vermont.

5 According to the NOAA, the winds caused wires to come down. When NOAA reported

6 35 severe weather events of thunderstorm winds, hail and flooding in Vermont,

7 Consolidated opened [START CONFIDENTIAL INFORMATION] [END

8 **CONFIDENTIAL INFORMATION]** trouble tickets. Consolidated cleared [START

9 **CONFIDENTIAL INFORMATION] [END CONFIDENTIAL**

10 **INFORMATION]** of monthly trouble tickets in less than 24 hours. However, **[START**

11 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**

12 **INFORMATION]** of trouble tickets were not cleared within 24 hours.

13

14 There were also months where there were many NOAA reported severe weather events

15 but fewer trouble tickets. This may be related to the type of weather, such as winter

16 storms compared to high winds or thunderstorm winds, during which downed wires are

17 regularly reported by NOAA. For example, during February 2018, when there were 34

18 NOAA reported severe weather events of winter storms and winter weather,

19 Consolidated created [START CONFIDENTIAL INFORMATION]

20 [END CONFIDENTIAL INFORMATION] fewer tickets than June 2018.

21 During February 2018, Consolidated cleared [START CONFIDENTIAL

22 INFORMATION] [END CONFIDENTIAL INFORMATION]

1 of monthly trouble tickets, in less than 24 hours. However, during that same month,
2 **[START CONFIDENTIAL INFORMATION]** **[END**
3 **CONFIDENTIAL INFORMATION]** of trouble tickets were not cleared within 24
4 hours. Thus, in February 2018, in spite of the lower number of total tickets, the close
5 times under 24 hours remained far below the 70% baseline metric.

6

7 From July 2018 to September 2018, NOAA reported 21 severe thunderstorm wind
8 events. In the same months, there were **[START CONFIDENTIAL**
9 **INFORMATION]**
10 **[END CONFIDENTIAL INFORMATION]**. More dramatically during these three
11 months, there were **[START CONFIDENTIAL INFORMATION]** **[END**
12 **CONFIDENTIAL INFORMATION]** trouble tickets closing more than six days after
13 opening: **[START CONFIDENTIAL INFORMATION]**
14 **[END CONFIDENTIAL INFORMATION]**.

15 Repair close times under 24 hours dropped during these stormy months to **[START**
16 **CONFIDENTIAL INFORMATION]**

17 **[END CONFIDENTIAL INFORMATION]**. The chart below dramatically
18 shows the weather causes of the high number of tickets in a month and the very low
19 close times over 24 hours.

20 **[START CONFIDENTIAL INFORMATION]**

1

2 **[END CONFIDENTIAL INFORMATION]**

3

4 For example, in July 2018, as indicated in the chart above, NOAA reported 12

5 “thunderstorm wind severe” weather events resulting in trees downed onto wires, reports

6 of power lines down and power outages. When viewing the above chart, a significant

7 increase is seen in the time it took to close trouble tickets, especially trouble tickets that

8 closed after more than **[START CONFIDENTIAL INFORMATION]** **[END**

9 **CONFIDENTIAL INFORMATION]** days. The increase began around June 2018

10 before it eventually decreased in October 2018. As we explain later in our testimony, in

11 spite of the dramatic rise in trouble tickets and severe weather events during these

1 months, Consolidated kept the number of technicians relatively stable, averaging
2 [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
3 INFORMATION] technicians per month, ranging from a low of [START
4 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
5 INFORMATION] during one week in February 2018 to a high of [START
6 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
7 INFORMATION] in one week in October 2018.

8

9 **Q24. Did Consolidated increase the number of technicians during NOAA reported**
10 **severe weather events?**

11 A24. No. During the NOAA reported severe weather months in the Study Period, it is clear
12 that the number of tickets increased far more dramatically than the number of
13 technicians. Using a base of [START CONFIDENTIAL INFORMATION] [END
14 CONFIDENTIAL INFORMATION] technicians, the number of technicians
15 decreased by [START CONFIDENTIAL INFORMATION] [END
16 CONFIDENTIAL INFORMATION] and increased to [START CONFIDENTIAL
17 INFORMATION] [END CONFIDENTIAL INFORMATION] in October 2018.
18 These numbers dropped to [START CONFIDENTIAL INFORMATION]
19 [END CONFIDENTIAL INFORMATION] in November 2018 and [START
20 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
21 INFORMATION] in December 2018.

22

1 During 11 out of the 18 months that made up the Study Period, there were more than
2 **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
3 **INFORMATION]** trouble tickets opened per month. Using a base of **[START**
4 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
5 **INFORMATION]** trouble tickets per month, which was the average number of trouble
6 tickets from December 2017 to February 2018, the percentage of trouble tickets by
7 month rose during seven of the 18 months in the Study Period. This is above **[START**
8 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
9 **INFORMATION]** of the base, with July 2018 reaching **[START CONFIDENTIAL**
10 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]** of the base and
11 November 2018 reaching **[START CONFIDENTIAL INFORMATION]** **[END**
12 **CONFIDENTIAL INFORMATION]** of the base. The number of technicians
13 increased by **[START CONFIDENTIAL INFORMATION]** **[END**
14 **CONFIDENTIAL INFORMATION]** from the base in November 2018, which
15 experienced severe weather, while the number of trouble tickets rose **[START**
16 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
17 **INFORMATION]** of the base in November.

18
19 By not increasing the number of techs by the same percentage amount as trouble tickets,
20 it follows that many more repairs would not be completed within 24 hours. And the
21 repairs, which took longer to complete, were compounded by new trouble tickets opened
22 in a given month. Even during the very best month of March 2018, with **[START**

12 **Q25. What did trouble ticket data show about new service installation times during the**
13 **Study Period?**

1 A25. Installation times were not in the trouble tickets, but times when trouble tickets took
2 longer to close out were also times when installation intervals were longer. From July
3 2017 to April 2018, the average installation day spanned from [START
4 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
5 INFORMATION] days to [START CONFIDENTIAL INFORMATION] [END
6 CONFIDENTIAL INFORMATION] days. In May 2018, installation intervals rose
7 to an average of [START CONFIDENTIAL INFORMATION] [END
8 CONFIDENTIAL INFORMATION] days and peaked to an average of [START
9 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
10 INFORMATION] days in June 2018. Until November 2018, installation interval
11 averages declined to [START CONFIDENTIAL INFORMATION] [END
12 CONFIDENTIAL INFORMATION] days. In December 2018, they rose to an
13 average of [START CONFIDENTIAL INFORMATION] [END
14 CONFIDENTIAL INFORMATION] days. The small decline in installation intervals
15 is consistent with the rise in staffing levels in late 2018.

16
17 **Q26. How did Consolidated's ability to meet installation time goals compare to its**
18 **TC24 repair performance?**

19 A26. Service Quality Reports indicate that Consolidated has consistently met its baseline
20 metric of meeting 90% of installation appointments. The same work force does repairs
21 and installations. To some extent this could suggest that installations are being
22 prioritized. But it also stems from a difference in how the metrics are computed. In the

1 case of repairs, the TC24 metric targets having the repair completed within 24 hours of
2 being reported. This is essentially a queuing problem. The arrival of repair tickets puts
3 a task into a queue. Their arrival, except during weather events, is essentially
4 unpredictable and somewhat stochastic, and their 24-hour due times simply follow their
5 arrival.

6

7 The installation metric, on the other hand, is based on missed appointments.
8 Consolidated can thus schedule the appointments based upon the current work load. If
9 a relatively large batch of installations arrives at once, appointments may be scheduled
10 farther out. Consolidated apparently has good software to manage the installation queue.
11 Thus the installation metric benefits both from the fact that it is based on appointments
12 that Consolidated can manage and from the fact that its typical intervals, of several days,
13 are longer than repair intervals, and thus allow a greater smoothing over time of the
14 workload.

15

16 The standard installation interval for 1-5 lines is **[START CONFIDENTIAL**
17 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]** and that is
18 not met as often, but is not the key metric being reported. In fact the average residential
19 installation time was reported as **[START CONFIDENTIAL INFORMATION]**
20 **[END CONFIDENTIAL INFORMATION]**. It should
21 also be noted that many installations do not require a truck roll. They often are
22 accomplished by remotely activating a line in place; even a feature addition to an

1 existing line can count as an installation, and its interval is [START
2 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
3 INFORMATION].

4

5 **Q27. Do certain areas of the state have longer trouble ticket repair times?**

6 A27. Yes. Consolidated's trouble ticket times are longest in very rural, remote parts of the
7 state. This correlates to the much higher fault rate that exists in those areas, which is
8 likely the result of a much longer than average local loop length. The two most common
9 fault codes that appeared for the Study Period are [START CONFIDENTIAL
10 INFORMATION] [END CONFIDENTIAL INFORMATION]
11 and [START CONFIDENTIAL INFORMATION] [END
12 CONFIDENTIAL INFORMATION]. These are outside plant faults that could be
13 related more closely to plant miles than to subscriber count. Sparsely settled areas with
14 few subscribers per plant mile will typically have more plant that can fail. As a result, it
15 can be seen in the following map that the areas with the lowest 24-hour clearance rate
16 are generally those with low population density, such as the Northeast Kingdom and the
17 southern mountain towns. The more populous cities have higher 24-hour clearance rates.
18 Since far more subscribers are located in the higher-density areas, the overall rate is
19 more heavily influenced by those numbers.

20

21

22

1 **[START CONFIDENTIAL INFORMATION]**

2

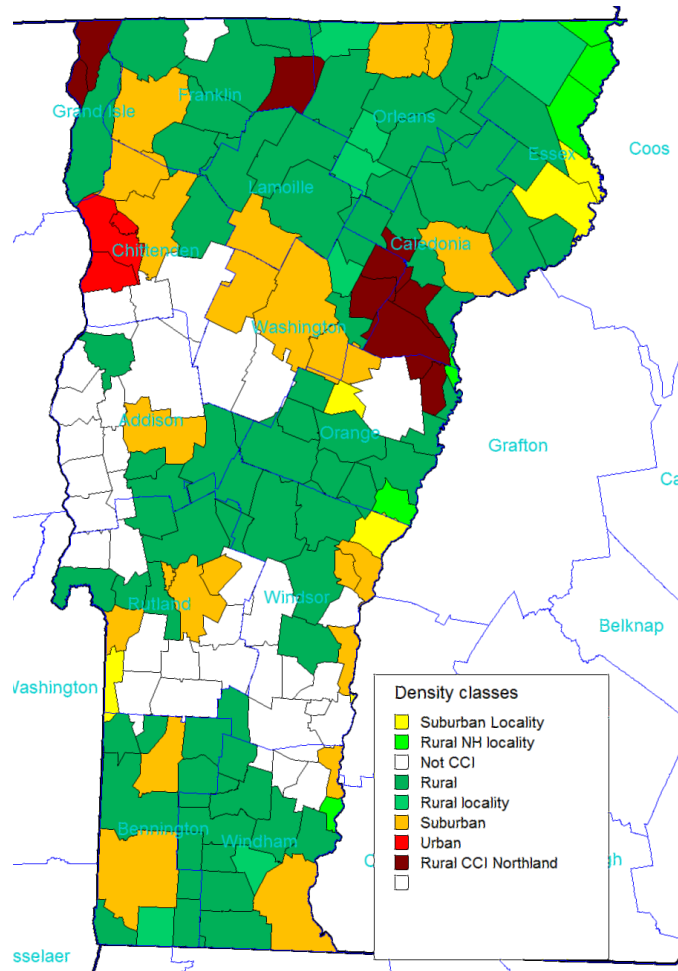
3

4 **[END CONFIDENTIAL INFORMATION]**

5 The overall density of subscriber locations in a wire center is reflected in its density cell
6 classification, which was established under the Telecommunications Act of 1934, as
7 amended, as a way to disaggregate the wholesale price of unbundled network elements.

8 While the boundary between “rural” and “suburban” in Vermont may be at a lower

1 density than used in more urban states, this still provides a shorthand way to see where
 2 the telephone plant has the highest and lowest density.



3

4

5 **Q28. Did certain wire centers experience higher failure rates than other wire centers?**

6 A28. Yes. The wire center with the highest failure rate is [START CONFIDENTIAL
 7 INFORMATION] [END CONFIDENTIAL
 8 INFORMATION] which services the [START CONFIDENTIAL
 9 INFORMATION]

[REDACTED] had just [REDACTED]
[REDACTED] access lines by the
end of 2018, but it had [REDACTED]
[REDACTED] trouble tickets reported during the Study Period.
This equates to a rate of [REDACTED]
[REDACTED] per month. The wire center with the second-
highest failure rate in Vermont is [REDACTED]
[REDACTED]
[REDACTED] lines had [REDACTED]
[REDACTED] total trouble tickets reported, which
equates to a rate of [REDACTED]
[REDACTED] per month.

[REDACTED]

REDACTED

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1

2

3 **[END CONFIDENTIAL INFORMATION]**

4 The highest rate of failure rate of an exchange area served from within Vermont was in

5 **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**

INFORMATION], the trouble tickets for which equated to [START
CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
INFORMATION] per month. This is almost double the statewide average for trouble
tickets of [START CONFIDENTIAL INFORMATION] [END
CONFIDENTIAL INFORMATION] is less remote and more densely populated than
most other high-failure-rate areas, which are largely clustered in the [START
CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
INFORMATION]. In July 2018, [START CONFIDENTIAL INFORMATION]
[END CONFIDENTIAL INFORMATION] wire center area failures were
reported due to a remote terminal circuit pack failure, which led to [START
CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
INFORMATION] trouble tickets being reported. These troubles were cleared within
24 hours and likely reflected an uptick in trouble tickets due to a single and promptly
repaired event.

Notwithstanding [START CONFIDENTIAL INFORMATION] [END
CONFIDENTIAL INFORMATION], the highest trouble ticket reporting rate in
Vermont was [START CONFIDENTIAL INFORMATION]
[END CONFIDENTIAL INFORMATION], which had [START CONFIDENTIAL
INFORMATION] [END CONFIDENTIAL INFORMATION] in
December 2018. This particular wire center serves a very large area with low population
density outside of [START CONFIDENTIAL INFORMATION]

1 [END CONFIDENTIAL INFORMATION], which has a cable alternative. [START
2 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
3 INFORMATION] lines spread across three [START CONFIDENTIAL
4 INFORMATION] [END CONFIDENTIAL INFORMATION]
5 towns, had a [START CONFIDENTIAL INFORMATION] [END
6 CONFIDENTIAL INFORMATION] trouble ticket rate and [START
7 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
8 INFORMATION], with [START CONFIDENTIAL INFORMATION] [END
9 CONFIDENTIAL INFORMATION] lines in the mountains along the [START
10 CONFIDENTIAL INFORMATION] Massachusetts border [END
11 CONFIDENTIAL INFORMATION], had a trouble ticket rate of [START
12 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
13 INFORMATION].

By way of contrast, [START CONFIDENTIAL INFORMATION]
[END CONFIDENTIAL INFORMATION] had the lowest trouble ticket rates at [START CONFIDENTIAL INFORMATION]
[END CONFIDENTIAL INFORMATION], respectively. These areas also have relatively dense populations and business clusters in close proximity to Consolidated's central office buildings, which results in shorter than average loop lengths.

22

1 This analysis is consistent with the methodology found in a 2014 study from Rolka
2 Laube Saltzer Associates (“RLS”) that identified a fault rate per inhabited square mile.
3 RLS determined that outside the densest areas like Burlington, the fault rate did not
4 widely vary. Areas with more square mileage generated more trouble tickets, even if
5 there were fewer subscribers per square mile, which infers the conclusion that customers
6 who are more widely spaced apart have higher trouble rates.

7

8 **Q29. Does issuance of out-of-service credits mitigate the impact of poor service quality?**

9 A29. No, because the majority of Consolidated customers do not report them as required by
10 Consolidated. Commission Rule 7.609(C) requires incumbent local exchange carriers
11 to provide out-of-service credits to residential and business customers for service
12 interruptions lasting more than 24 hours. “The credit will be provided to customers who
13 contact the carrier reporting the outage and also to customers that the carrier knows are
14 affected by the outage.” Consolidated claims it cannot automatically apply credits and
15 that in order to receive one for a service interruption, customers must report the trouble
16 and contact Consolidated after the trouble has been cleared to request a credit.

17

18 During the Study Period, Consolidated issued [START CONFIDENTIAL
19 INFORMATION] [END CONFIDENTIAL INFORMATION] customer
20 credits to customers who requested them, in accordance with the process Consolidated
21 uses to administer the customer credit mechanism. The average credit amount was
22 [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL

[REDACTED]. The total dollar amount of the credits issued during this Study
Period was **[START CONFIDENTIAL INFORMATION]** **[END**
CONFIDENTIAL INFORMATION]. The average monthly amount was **[START**
CONFIDENTIAL INFORMATION] **[END CONFIDENTIAL**
INFORMATION].

7 The total number of customers eligible for credits was [START CONFIDENTIAL
8 INFORMATION] [END CONFIDENTIAL INFORMATION] but only
9 [START CONFIDENTIAL INFORMATION] [END
10 CONFIDENTIAL INFORMATION], received those credits. [START
11 CONFIDENTIAL INFORMATION] [END
12 CONFIDENTIAL INFORMATION] of eligible customers did not receive credits
13 because they did not request them as required by Consolidated (this percentage is likely
14 somewhat less because, as noted below, Consolidated credited some customers for
15 service outages who had not reported the outage).

Consolidated emphasized that, in addition to the above credits, “[s]ome customers were offered additional credits toward services other than their basic voice service, some customers were issued additional courtesy credits and still some were issued credit if they identified that they were out of service but had not reported the trouble.” Credits not related to basic service were issued for “features (three-way calling, call waiting, call forwarding, etc.), calling plans, repair charges, collection and restoral fees, early

1 termination charges, internet service, surcharges and taxes.” Courtesy credits, made at
2 the discretion of the customer service representatives, were issued “to enhance customer
3 satisfaction in connection with a repeat trouble or unresolved repair trouble condition, a
4 missed or extended repair commitment, a customer requesting credit for a non-out-of-
5 service condition, or a customer requesting credit for an out-of-service condition lasting
6 less than 24 hours, to retain a dissatisfied customer, or for other ongoing service issues.”
7 According to Consolidated, **[START CONFIDENTIAL INFORMATION]**
8 **[END CONFIDENTIAL INFORMATION]** customers received additional credits.
9 Consolidated did not state the total dollar amount of these additional credits. However,
10 based on a related response, we estimate that amount to be **[START CONFIDENTIAL**
11 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]**.

12

13 The above analysis clearly shows that a very high percentage **[START**
14 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
15 **INFORMATION]** of customers eligible for out-of-service credits did not receive those
16 credits. These customers did not call Consolidated to request the credits, as required by
17 the company’s process for administering bill credits. The Department asked
18 Consolidated whether it has the necessary data to determine periodically those
19 customers that are entitled to a credit but have not received one, because they did not
20 contact the company to request one. Consolidated stated that “through a highly manual
21 and extremely time consuming process, it is possible for Consolidated to identify
22 customers who reported a trouble and are eligible for an out of service credit; eligible

1 customers who reported a trouble who have received a bill credit; and eligible customers
2 who reported a trouble and did not receive a bill credit.” When the overwhelming
3 majority of eligible customers do not receive credits, the fairness and effectiveness of
4 the out-of-service credit rule is called into question.

5

6 It also is worth emphasizing that Rule 706.9(C) states that “[t]he credit will be provided
7 to customers who contact the carrier reporting the outage *and also to customers that the*
8 *carrier knows are affected by the outage.*” (emphasis added). In its responses to
9 discovery requests, Consolidated confirmed that eligible customers who have not
10 received bill credits are “customers that [Consolidated] knows are affected by the
11 outage.” The Rule makes no exception or provides any allowance for administrative
12 burden. The second part of the Rule would be meaningless if the only way to receive a
13 credit is through contacting the carrier. Consolidated’s policy to require eligible
14 customers to request credits is therefore at odds with the Rule.

15

16 **Q30. Do you have any recommendations regarding how Consolidated can improve**
17 **service quality?**

18 A30. Yes. We recommend that the Commission require Consolidated to credit customers in
19 rural exchanges \$5 for each 24-hour period where Consolidated fails to resolve an out-
20 of-service condition beyond the first 24 hours after the customer’s trouble report. This
21 credit mechanism will be separate from, and in addition to, the SQI bill credits and

1 will serve as incentive for Consolidated to restore telephone service in a timely manner
2 in rural areas.

3 We propose that “rural exchanges” be designated as those where the company receives
4 Vermont USF High-Cost support, which would include those areas listed as rural in
5 Consolidated’s wholesale tariff and those served by other rural exchanges. Based upon
6 the December, 2018 line count, Consolidated’s rural exchanges account for [START
7 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
8 INFORMATION] of its business and residence lines.

9
10 As discussed above, we further propose that the administration of the existing bill credits
11 should be changed so that customers do not have to call Consolidated to request credits;
12 instead, Consolidated would apply the credits automatically.

13

14 **III. Staffing Issues**

15 **Q31. Please explain the different types of technicians that work on repairing troubles**
16 **and installing services.**

17 A31. There are two types of technicians that work on repairing troubles and installing
18 services. “Outside Plant Technicians” (“OPT”) are responsible for major construction
19 work such as setting poles and installing cables. “Splice Service Technicians” (“SST”)
20 “splice, install and maintain the network.” Central Office Technicians are a third type
21 of workforce technician that installs, maintains and repairs facilities/equipment in

1 central offices. They are not discussed in this testimony because the bulk of trouble
2 repair and installation work is performed by outside plant workers.

3 **Q32. Have full-time OTP and SST staffing levels remained consistent since Consolidated**
4 **acquired the Vermont network from FairPoint in July 2017?**

5 A32. No. Staffing for OTPs and SSTs has dramatically and continually declined in Vermont
6 throughout the tenures of FairPoint and Consolidated. As of January 2016, FairPoint
7 had [START CONFIDENTIAL INFORMATION]

8 [END CONFIDENTIAL INFORMATION] in Vermont. By January 2017,
9 those numbers had reduced to [START CONFIDENTIAL INFORMATION]
10 [END CONFIDENTIAL INFORMATION].

11

12 When Consolidated merged with FairPoint in July 2017, employee reductions
13 continued. By April 2018, full-time OTPs and SSTs totaled [START
14 CONFIDENTIAL INFORMATION] [END
15 CONFIDENTIAL INFORMATION], representing a nearly [START
16 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
17 INFORMATION] decline in three years. According to Consolidated, reductions were
18 necessary and appropriate because it continued to lose customers and access lines to
19 competing providers and the accompanying revenue loss justified less employees.

20

21 However, by October 2018, Consolidated had reversed course and increased its outside
22 plant workforce to [START CONFIDENTIAL INFORMATION]

1 [END CONFIDENTIAL INFORMATION]. Consolidated did
2 not explain why it made the decision to increase its outside plant workforce, but we
3 surmise that it is reflective of a better understanding by Consolidated of the challenges
4 specific to Vermont as well as [START CONFIDENTIAL INFORMATION]

5 [END CONFIDENTIAL
6 INFORMATION]. By January 2019, Consolidated had further increased the outside
7 plant workforce to [START CONFIDENTIAL INFORMATION]

9 [END CONFIDENTIAL INFORMATION]. This action brought staffing
10 levels back up to those that existing in 2016, but they were still [START
11 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
12 INFORMATION] lower than they were in 2015. Furthermore, Consolidated continues
13 to fall short of the baseline for TC24 even with the staffing increases. Based on
14 Consolidated's weekly service quality reports, there was a brief increase in TC24 during
15 the weeks of [START CONFIDENTIAL INFORMATION]

16 [END CONFIDENTIAL INFORMATION] but those
17 numbers have fallen to [START CONFIDENTIAL INFORMATION]

18 [END CONFIDENTIAL
19 INFORMATION].

20

21 **Q33. Does a decline in customers and access lines justify a decrease in staffing levels?**

1 A33. No. Given the unique geography, terrain and weather characteristics of Vermont and
2 the deteriorated state of Consolidated's Vermont network, fewer access lines does not
3 mean that fewer workers are needed. Moreover, because more workers were hired in
4 late 2018, it brings into question Consolidated's rationale that decreases in access lines
5 equate to less workers being needed to service those lines. It may be true from a
6 financial perspective that fewer workers can be justified as access lines decrease;
7 however, that correlation is attenuated when there is a stronger correlation between staff
8 numbers and poor service quality metrics. It is possible that a baseline level of staffing
9 may be necessary to address (1) the unique geography, terrain and weather
10 characteristics that exist in Vermont; (2) the number of access lines that exist; and (3)
11 the 5903 Standards. Consolidated's recent improved performance on the TC24 metric
12 shows that increases in staff can have a positive effect, but Consolidated continues to
13 fall well below the baseline standard for the TC24 metric.

14
15 **Q34. Did Consolidated increase its staffing levels during extreme weather events during**
16 **the Study Period?**

17 A34. No. Consolidated states that during severe weather events, it will bring additional OTPs
18 and SSTs to Vermont from its companies in other states and/or outside telephone
19 companies. However, as explained below, the number of available OTPs and SSTs
20 appeared to remain static.

21

1 In Confidential Attachment DPS.CC.1-11, Consolidated provided information
2 regarding the number OPTs and SSTs on a quarterly basis. In “Confidential Attachment
3 2-21.supplement question.2.xlsx,” Consolidated also provided information regarding
4 the number “techs” on a weekly basis that differed from Confidential Attachment
5 DPS.CC.1-11. We elected to use the weekly tech records found in “Confidential
6 Attachment 2-21.supplement question.2.xlsx” to perform our analysis. Some of the
7 weeks were marked “N/A” and we used the number of techs from the week prior to
8 “N/A” as a substitute. There was one large block of weeks where Consolidated did not
9 know the number of techs it used and Consolidated marked those weeks as “N/A” from
10 March 14, 2018 to August 29, 2018.

11
12 We used the last tech number from March 7, 2018 which was [START
13 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
14 INFORMATION] techs for the March 14, 2018 to August 29, 2018 time period. The
15 document shows that on [START CONFIDENTIAL INFORMATION]
16 [END CONFIDENTIAL INFORMATION], Consolidated had [START
17 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
18 INFORMATION] OPTs and SSTs (monthly and weekly numbers do not correspond
19 to one another; the lower weekly numbers seem more likely to refer to the number
20 actually in the field.) On April 1, 2018, Consolidated had [START CONFIDENTIAL
21 INFORMATION] [END CONFIDENTIAL INFORMATION] techs available. On
22 October 31, 2018, Consolidated had [START CONFIDENTIAL INFORMATION]

1 **[END CONFIDENTIAL INFORMATION]** techs. The
2 highest weekly number of techs was **[START CONFIDENTIAL INFORMATION]**
3 **[END CONFIDENTIAL INFORMATION]** and the next
4 highest was **[START CONFIDENTIAL INFORMATION]**
5 **[END CONFIDENTIAL INFORMATION]**. Consolidated did not provide evidence
6 that during these periods of severe weather events, the number of techs increased by any
7 significant percentage. In fact, they remained level at approximately **[START**
8 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
9 **INFORMATION]**.

10

11 If the number of techs was increased during the Study Period, Consolidated did not
12 provide documentation indicating as much. According to the repair data provided, it is
13 clear that Consolidated did not have a sufficient number of techs to handle the increase
14 in demand and keep the number of tickets closing under 24 hours even near 70%. In
15 fact, the closest Consolidated came to achieving the percentage was **[START**
16 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
17 **INFORMATION]** in March 2018. Severe weather events in Vermont will continue
18 into the foreseeable future and will impact the network plant. In order to keep up with
19 weather-related repairs in addition to every day repairs, increasing the number of
20 technicians in the field is critical.

21

1 The below chart shows that the 24-hour trouble ticket close time dropped precipitously
2 for both business and residential tickets after the April 2018 severe weather and did not
3 improve. In fact, the trend lines for closing tickets under 24-hours for both business and
4 residents went down each month after April 2018.

5 **[START CONFIDENTIAL INFORMATION]**

6

7 **[END CONFIDENTIAL INFORMATION]**

8

9 Because severe weather events are a regular feature of Vermont's climate, weather is
10 regular and thus predictable. Consolidated therefore needs to maintain a tech staff for
11 heavy weather events in Vermont and should use predictive modeling to staff more
12 troubled areas with more staff than that which is currently in place. Otherwise, the
13 number of tickets closing beyond the 24-hour period will continue as it has in the past.
14 Queuing theory equations are well known in the telecommunication industry because

1 they are used to determine switching capacity for handling busy minutes. Sufficient
2 switching capacity is required in order for a switch to handle a certain number of calls
3 during peak busy hours. This enables calls to go through during the heaviest use time.
4 Just as network forecasting is based on busy hour load, outside plant staffing levels are
5 the result of good business analysis used to determine the correct number of service
6 technicians necessary to handle peak demand – caused by weather – for repairs and
7 installations.

8
9 Failure to employ the correct number of service technicians during peak demand times
10 results in long waiting times just as it would with bank tellers or checkout clerks in
11 grocery stores. During non-peak times, bank tellers and check-out clerks are busy doing
12 maintenance operations but not waiting on customers. In the same manner, during the
13 good weather months, service technicians may not be handling trouble tickets during
14 their hourly work and instead may conduct preventative maintenance tasks on
15 Consolidated's aging copper plant or work to solve difficult repeat trouble ticket
16 problems. However, during the severe weather days, there must be enough service
17 technicians to meet the 24-hour repair metrics.

18

19 **Q35. How did Consolidated's staffing changes impact service, and what needs to be done**
20 **to improve it?**

21 A35. Consolidated has made some changes to its dispatch policies, using a more centralized
22 approach than before. This may have improved efficiency, but overall numbers of

1 available technicians still make the most difference. The right number of technicians is
2 a decision for Consolidated to determine. However, it seems clear that more technicians
3 are needed to meet the monthly 70% baseline metric for troubles cleared within 24
4 hours. This is especially problematic during summer months, when severe weather
5 events necessitating repair are more common, and more employees may be taking
6 vacation.

7

8 We note that Consolidated's staffing levels declined between the time it acquired
9 FairPoint in July 2017 and the beginning of the 2018 summer season. This created a
10 situation in which the number of open service tickets in the queue rose rapidly. While it
11 was not meeting its TC24 metric, Consolidated had been generally keeping up with
12 repairs in the summer of 2017 with only the occasional ticket taking more than **[START**
13 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
14 **INFORMATION]** days. But by the end of June 2018, there was no cushion to absorb
15 weather events. This illustrates how a moderately small shortage of technicians can
16 rapidly cause a serious backlog. Somewhat higher staffing levels were in place in early
17 2019 and while the TC24 metric has not yet been met, it is closer. This level may not
18 yet be sufficient to absorb the impact of a severe weather event. For the 70% clearance
19 rate to be met on a monthly basis, the good-weather rate needs to be somewhat better in
20 order to prevent the longer repair intervals that necessarily result from a severe storm
21 from bringing the monthly average below the target.

22

1 **Q36. Are out-of-state workers equally efficient and timely as full-time workers?**

2 A36. Consolidated contends that out-of-state workers are as efficient and timely as full-time
3 workers because: (1) the Consolidated network is not unique and plant records are
4 complete and kept up-to-date; (2) the out-of-state workers are familiar with the
5 geography found in Vermont because they work in states with similar geography; and
6 (3) GPS helps them locate customers quickly. This is not true. Use of an outside
7 workforce during severe weather events places too much reliance on out-of-state
8 workers and leads to longer outage restoral times. Out-of-state workers are unfamiliar
9 with the territory and the network and are therefore less efficient and take longer to clear
10 troubles/restore service than Consolidated's permanent workforce. As described herein,
11 customer accounts regarding technician response to repair requests confirms as much.

12

13 **Q37. Do customers agree with Consolidated that out-of-state workers are as efficient**
14 **and timely as full-time workers?**

15 A37. No. Customer comments made at the November 26, 2018 public hearing held in
16 Readsboro indicate that Consolidated customers do not believe contractors to be as
17 efficient and timely as full-time workers. One particular customer described his
18 experience with a technician from eastern Massachusetts who was unfamiliar with the
19 area and had trouble determining the location of the facility needing repair. He
20 described the worker as having to use maps and road signs to determine the location
21 because he did not have cell service to assist him.

22

1 **Q38. Do customers believe Consolidated full-time workers to be efficient and timely in**
2 **making repairs?**

3 A38. Public comment in this case suggests that even Consolidated's full-time workers have
4 difficulty locating facilities, either because of unfamiliarity with the area, because plant
5 records are deficient, or both. At the same public hearing in Readsboro, a customer
6 described a Consolidated worker being unfamiliar with the off-road area where the
7 particular Consolidated facility was located, which ultimately resulted in long repair
8 delays.

9

10 **Q39. Does Consolidated have a dedicated workforce for telephony services?**

11 A39. No. Outside plant workers are assigned to both regulated services (telephone service to
12 residential and basic business customers) and nonregulated services (Internet (Digital
13 Subscriber Line ("DSL")), services that are often provisioned to the same customer.
14 This is the most efficient and cost-effective way for Consolidated to staff its workforce.

15

16 **Q40. Does lack of a dedicated workforce for telephony services affect service quality?**

17 A40. Yes. The way in which Consolidated records the time its field technicians spend on
18 DSL installations and repairs indirectly contributes to the service quality for telephone
19 customers and Consolidated's ability to timely clear telephone troubles and install new
20 service. Consolidated repair and installation costs are **[START CONFIDENTIAL**
21 **INFORMATION]**

22

1

2

[END CONFIDENTIAL INFORMATION] (emphasis added).

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There is an important exception to this allocation method. When a technician repairs a customer line to restore both telephone and DSL service provisioned over that line, the time spent on that repair is reported and allocated entirely to regulated services.

Consolidated's systems are set up so that **[START CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION] (emphasis added). Consolidated delineates the regulated network as that part of the network beyond the **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]**,

which usually is the Network Interface Device on the outside of a home or building.

When asked whether this practice overstates the actual repair cost of regulated services and understates the actual repair costs of unregulated services, Consolidated did not provide a responsive answer. However, it is clear from Consolidated's practice that unregulated DSL repair work is being charged to the regulated company. In 2018, field technician hours in Vermont totaled **[START CONFIDENTIAL INFORMATION]**

[END CONFIDENTIAL INFORMATION], of which **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL INFORMATION]** were reported as regulated services and **[START**

1 **CONFIDENTIAL INFORMATION] [END CONFIDENTIAL**
2 **INFORMATION]** were reported as unregulated services. In 2018, Consolidated's field
3 technicians reported regulated services maintenance and repair costs of **[START**
4 **CONFIDENTIAL INFORMATION] [END**
5 **CONFIDENTIAL INFORMATION]** and deregulated maintenance and repair costs
6 of **[START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL**
7 **INFORMATION]**.

9 **Q41. Why is there such a large disparity between costs for regulated and unregulated**
10 **services?**

11 A41. Consolidated states that the reason for the wide disparity between costs for regulated
12 and unregulated services is due to its practice of assigning all work for DSL and other
13 unregulated services on a shared loop to the regulated company. Consolidated was
14 asked whether attributing maintenance and repair work for unregulated services to
15 Consolidated's unregulated business would reduce the disparity. Consolidated was also
16 asked to calculate the increase in the dollar amount for regulated service technicians and
17 how that would equate to additional field technician hours available to address
18 maintenance and repair issues for voice customers. Consolidated did not provide the
19 requested information. However, the large disparity between costs for regulated and
20 unregulated services exhibits that virtually all of Consolidated's DSL maintenance and
21 repair costs are attributed to the regulated business. Consolidated did state that it is
22 industry practice to charge time to the regulated Incumbent Local Exchange Carrier

1 (“ILEC”), in this case Consolidated, for work on a shared loop and that its unregulated
 2 Internet Service Provider (“ISP”) pays monthly fees to Consolidated for use of the
 3 shared facilities.

4
 5 More to the point, with the revocation of the Federal Communications Commission’s
 6 Computer II rules in 2005, ILECs were required to make their underlying DSL
 7 telecommunications services available to all requesting ISPs at the same price charged
 8 to their own affiliate ISP. Since then, the DSL and shared loop facilities for the
 9 provision of internet services have been detariffed, so there is no transparency to the
 10 rates charged by Consolidated to its affiliated ISP for use of the shared loops. We have
 11 no way of knowing what rates Consolidated charges its ISP and whether the revenue
 12 Consolidated receives is comparable to the costs charged to it for DSL-related work on
 13 the shared loops. We also don’t know how Consolidated allocates this revenue among
 14 the regulated and unregulated services that share the network, including whether a
 15 sufficient amount of it is spent on voice services.

16

17 **Q42. Would a change in the allocation of DSL-costs or more transparency in revenues**
 18 **received from Consolidated’s ISP affiliate and related spending have a positive**
 19 **effect on service quality?**

20 A42. Possibly. Were Consolidated to change its allocation model or, in the alternative,
 21 transparently allocate the ISP-derived revenue among regulated and unregulated
 22 services sharing the network, a sufficient amount of additional funds would be available

1 for telephone repair and maintenance and Consolidated would be able to increase its
2 field technician workforce. The primary reason for Consolidated's very poor
3 performance on the TC24 metric is inadequate field technician staffing. A change in
4 either practice discussed above would likely substantially improve repair times and,
5 through increased maintenance of the network, lead to less troubles at the outset.

6

7 **Q43. Please explain the Connect America Fund and Consolidated's obligations**
8 **thereunder.**

9 Q43. The Connect America Fund ("CAF") (also known as the Universal Service High-Cost
10 program) is the Federal Communications Commission's ("FCC") program to expand
11 access to voice and broadband services for areas where they are unavailable. Through
12 what is known as CAF Phase II, the FCC provided funding to local telephone
13 companies to subsidize the cost of building new network infrastructure or performing
14 network upgrades to provide voice and broadband service in areas that are unserved or
15 underserved.

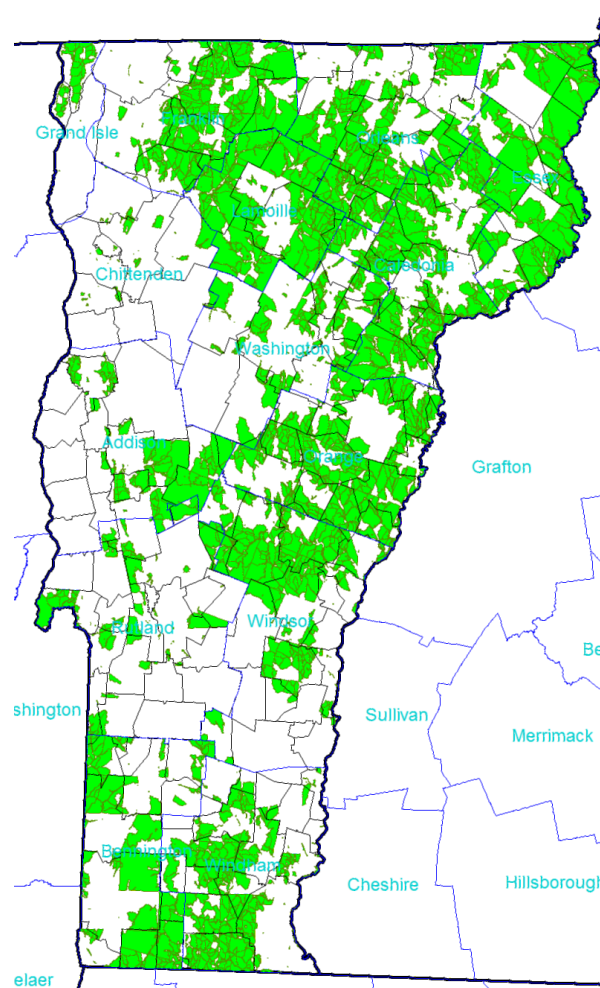
16

17 As part of its merger with FairPoint in Docket 8881, Consolidated assumed FairPoint's
18 CAF Phase II support of \$8,789,359 per year to deploy broadband to approximately
19 28,399 rural locations in Vermont. Consolidated must offer services supporting 10
20 Mbps download speed and 1 Mbps upload speed to those primarily rural locations
21 within six years. Consolidated states that the buildout (through deployment of DSL
22 technology) is approximately 99% complete.

1

2 **Q44. Have trouble tickets decreased in wire center areas with a high percentage CAF**
3 **Phase II sites?**

4 A44. No. Of the [START CONFIDENTIAL INFORMATION] [END
5 CONFIDENTIAL INFORMATION] wire centers with at least 25% of sites under
6 CAF Phase II, the trouble ticket rate was [START CONFIDENTIAL
7 INFORMATION] [END CONFIDENTIAL INFORMATION] per month from
8 July through December 2017. That rate rose to [START CONFIDENTIAL
9 INFORMATION] [END CONFIDENTIAL INFORMATION] from August
10 through December 2018. In other wire center areas with a lower percentage of CAF
11 Phase II sites, trouble ticket rates rose from [START CONFIDENTIAL
12 INFORMATION] [END CONFIDENTIAL INFORMATION]. This
13 indicates that the trouble ticket rate rose even as the CAF Phase II updates were nearing
14 their completion.



Census blocks included in Connect America Fund support, those without 4/1 Mbps broadband service in 2016.

Q45. Does Consolidated have additional buildout obligations pursuant to Docket 8881?

A45. Yes. Consolidated has two separate obligations related to capital investment and network upgrades pursuant to Docket 8881, as referenced in the testimony of Clay Purvis. Consolidated's preliminary estimates indicate that its 2018 capital investment in Vermont was [START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL INFORMATION] and that the company spent [START

1 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
2 **INFORMATION]**. Consolidated indicated that **[START CONFIDENTIAL**
3 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]** was
4 spent on outside plant investments, which includes network improvements in areas with
5 chronic service quality problems. It is unclear from the information Consolidated
6 provided whether new copper, remote terminals, or other facilities were installed to
7 replace aging and deteriorated plant, particularly in rural areas where customers lack
8 competitive alternatives and access to reliable cell phone service.

Consolidated completed [START CONFIDENTIAL INFORMATION] [END
CONFIDENTIAL INFORMATION] fiber deployment projects to replace copper
plant during the Study Period. Consolidated replaced a total of [START
CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
INFORMATION] copper lines with fiber during the Study Period, including [START
CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
INFORMATION] lines replaced by fiber-to-the-curb and [START
CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
INFORMATION] lines replaced by fiber-to-the-node (“FTTN”). Additionally,
[START CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
INFORMATION] copper lines were replaced by fiber-to-the-premises (“FTTP”) at a
new development in [START CONFIDENTIAL INFORMATION]
[END CONFIDENTIAL INFORMATION]. Total cost of the projects was [START

1 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
2 **INFORMATION]**. Consolidated indicated that in 2019, **[START CONFIDENTIAL**
3 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]** FTTN projects
4 were completed and **[START CONFIDENTIAL INFORMATION]** **[END**
5 **CONFIDENTIAL INFORMATION]** more are in progress or planned with
6 completion dates between 2019 and 2021.

8 **Q46. Has CAF Phase II buildout and fiber deployment affected Consolidated's repair**
9 **performance?**

A46. Yes. A substantial amount of the CAF II buildout has been done since July 2017 and requires significant field technician resources. Similarly, a substantial amount of fiber has been deployed since July 2017. The near completion of Consolidated's CAF II buildout and substantial fiber deployment presumably should free up field technicians for telephone repairs, maintenance, and installations. However, while there has been some improvement in metrics performance since January 2019, the company continues to perform badly on the TC24 metrics. We surmise that the deployment projects were and continue to divert field technicians from installation, maintenance and repair work for telephone service, which stretches an already depleted field technician workforce. This results in less available resources to respond to telephone outages, troubles and installation requests.

22 **Q47. Do customers believe there to be workforce diversion?**

1 A47. Yes. Comments from Consolidated customers at public hearings and public comments
2 filed in this proceeding relay statements made to them by Consolidated field technicians
3 that indicate a limited number of technicians are available to respond to troubles and
4 requests for installation. This suggests that too few field technicians are available to
5 respond to telephone customer needs which, in turn, contributes to Consolidated's
6 inability to meet the 5903 Standards.

7

8 **Q48. Please describe public comments that illustrate the workforce diversion.**

9 A48. One Consolidated customer filed a public comment on November 28, 2018
10 communicating that during a repair visit, a Consolidated service technician, who
11 traveled from northern New Hampshire to Stowe to make the repair, stated that there
12 are very few field services technicians left in the company. Another attendee of the
13 Readsboro public hearing stated that a technician told her the company laid off 20 out
14 of 25 field technicians and that there are just five of them for all of southern Vermont.

15

16 **IV. Existing Service Quality Action Plans and Competitive Alternatives**

17 **Q49. What specific actions is Consolidated already taking to improve service quality?**

18 A49. Consolidated has already committed to four specific actions aimed to improve service
19 quality: [START CONFIDENTIAL INFORMATION]

20

21

22

[END CONFIDENTIAL]

1 **INFORMATION]**. The specific actions taken, as stated by Consolidated, are as
2 follows:

3 **[START CONFIDENTIAL INFORMATION]**

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REDACTED

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21 **[END CONFIDENTIAL INFORMATION]**

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1 **Q50. Please explain any specific actions Consolidated has taken to upgrade its network.**

2 A50. Consolidated's Incremental Maintenance Plan comprises the specific network upgrade
 3 projects that fulfill its obligations under Docket 8881. Pursuant to Docket 8881 and a
 4 Memorandum of Understanding with the Department, Consolidated is required to invest
 5 \$1 million, on an average annual basis, for a period of three (3) years in capital
 6 investments specifically to target areas with on-going service quality concerns, as
 7 identified in collaboration with the Department. Consolidated states that the purpose of
 8 the provision is to improve service for "known chronic trouble areas," and includes both
 9 replacing defective plant and shortening copper cables.

10

11 Pursuant to its 2018 obligation, Consolidated has completed **[START**
 12 **CONFIDENTIAL INFORMATION]**

13 **[END CONFIDENTIAL INFORMATION]** more are scheduled to be
 14 completed in 2019. Consolidated stated that the projects will result in the replacement
 15 of **[START CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
 16 **INFORMATION]** feet of copper cable and the installation of **[START**
 17 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
 18 **INFORMATION]** feet of fiber cable, as well as the placement of **[START**
 19 **CONFIDENTIAL INFORMATION]** **[END CONFIDENTIAL**
 20 **INFORMATION]** new voice and VDSL compatible remote terminals. The total
 21 expenditure on the projects through the end of 2018 is **[START CONFIDENTIAL**
 22 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]**, and the

1 total number of customer residences to benefit is **[START CONFIDENTIAL**
2 **INFORMATION]** **[END CONFIDENTIAL INFORMATION]**.

3

4 **Q51. Was Consolidated able to quantify that its actions thus far have improved service**
5 **quality?**

6 A51. No. For all of the actions noted above, Consolidated was asked to explain and quantify
7 how the actions have or will lead to an improvement in service quality for residential
8 and basic telephone service customers who lack a competitive alternative for landline
9 telephone service, including:

- 10 • Reduction in the number of initial trouble reports;
- 11 • Reduction in the number of repeat trouble reports;
- 12 • Reduction in the length of time required to clear trouble reports; and
- 13 • Reduction in the length of time it to install telephone service.

14

15 Consolidated explained that it could not specifically identify the positive impact of these
16 actions because the benefits will either occur over time, data does not exist to show the
17 benefits, or the benefits are difficult to quantify. Regarding its Incremental Maintenance
18 Plan, Consolidated stated that it “is not able to quantify the benefits in the manner
19 requested but the benefits of replacing defective plant with new plant and shortening
20 copper cables will become evident overtime.” However, the short and long-term
21 benefits of these projects are equally important, and Consolidated should be able to show

1 that the completed projects have resulted in reduced initial and repeat troubles reported
2 by customers affected by the actions taken to improve service quality.

3

4 Regarding workforce size, Consolidated stated that:

5 **[START CONFIDENTIAL INFORMATION]**

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14 **[END CONFIDENTIAL INFORMATION]**

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 Regarding **[START CONFIDENTIAL INFORMATION]**

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[END

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CONFIDENTIAL INFORMATION], Consolidated stated that:

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[START CONFIDENTIAL INFORMATION]

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[END CONFIDENTIAL INFORMATION]

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 Regarding workforce flexibility changes to the **[START CONFIDENTIAL**

31

INFORMATION]

[END

1 **CONFIDENTIAL INFORMATION]**, Consolidated stated generally that the changes
2 would increase the availability of technicians and employees supporting the technicians,
3 including during peak months.

4
5 Although these efforts may improve service quality over time, to date Consolidated has
6 been unable to show noticeable improvement in service quality for residential customers
7 who are most in need of better service because they lack competitive alternatives.

8
9 **Q52. Please explain the competitive options available to Consolidated's Vermont**
10 **customers, if any.**

11 A52. Many Consolidated Vermont customers have few, if any, competitive options. Cable
12 provides the primary wired competition to Consolidated's basic telephone service.
13 However, not all Vermont homes are within the cable footprint. Many rural towns and
14 portions of suburban towns do not have cable. Only 182 out of Vermont's 255
15 municipalities have any cable coverage. Sixteen of Consolidated's (TOC-NNE) wire
16 center areas, often encompassing multiple towns, have no cable at all; others have only
17 partial coverage. For example, Barre has cable, and the southwestern corner of the Town
18 of Orange, served by the Barre wire center, also has cable coverage, but most of Orange
19 does not. The areas outside of cable coverage rarely have other competitive fixed-line
20 access options.

21

1 The RLS report referenced earlier quantified the degree of cable coverage by incumbent
2 local exchange carriers. Consolidated's predecessor, FairPoint, had [START
3 CONFIDENTIAL INFORMATION] [END CONFIDENTIAL
4 INFORMATION] [START CONFIDENTIAL
5 INFORMATION] [END CONFIDENTIAL INFORMATION] locations. Of
6 these locations, [START CONFIDENTIAL INFORMATION] [END
7 CONFIDENTIAL INFORMATION] did not have cable. CCI's total number of
8 residential lines has fallen to [START CONFIDENTIAL INFORMATION]
9 [END CONFIDENTIAL INFORMATION] locations. The locations
10 without cable have likely remained stagnant.

11

12 Mobile wireless (cellular) service is sometimes viewed as a substitute for fixed service,
13 and many consumers have "cut the cord" and abandoned fixed-line service in favor of
14 mobile. However, it is an imperfect substitute. Mobile does not support all of the
15 functions of a wire line (including fax, TDD and some alarm systems). It is dependent
16 on battery-powered devices which are often hard for elderly and dexterity-impaired
17 individuals to use. More importantly, in Vermont, mobile coverage is far from
18 complete. The combination of sparse population and rugged terrain has left many areas
19 unserved and is therefore not an option for many potential subscribers.

20

21 Even where mobile coverage is nominally available, a recent drive test by the
22 Department shows that coverage is worse than claimed by national and state carriers.

1 Of the areas tested (which encompassed only main roads), 10% had no service and 11%
2 had service less than 256 kbps, which suggests poor call quality or spotty coverage.

3

4 **Q53. Does public sentiment support the assertion that Consolidated's performance on**
5 **key service quality metrics is worse in areas of the state where customers lack**
6 **competitive alternatives?**

7 A53. Yes. Comments from public hearings, public comments filed with the Commission in
8 this proceeding and complaints received by CAPI overwhelmingly support the assertion
9 that Consolidated's performance is worse in areas where customers lack a competitive
10 alternative. As they are described in the testimony of Carol Flint, CAPI complaints are
11 a good predictor of the level of customer dissatisfaction overall, because there are
12 typically many more customers with the same service problems who did not contact
13 CAPI but instead continued to try to resolve their trouble with Consolidated. It is
14 therefore reasonable to conclude that the level of customer dissatisfaction with
15 Consolidated's service quality, including its inability to meet the TC24 metric, has not
16 improved and may be worse.

17

18 **Q54. Please describe an instance where public sentiment supports this assertion.**

19 A54. One example of this assertion is a February 9, 2019 letter (as corrected on February 11,
20 2019) to the Commission from Representative Laura Sibilila. In the letter,
21 Representative Sibilila illustrated how her constituents in southern Vermont have the
22 least reliable service of any Consolidated customers and that common problems include

1 “chronic poor sound quality” and “[p]oor phone service quality when it rains.” She
2 highlighted the fact that without reliable telephone service, Consolidated customers are
3 hindered in their work and personal life and lack the ability to call for help in the case
4 of an accident, medical emergency, or crime. She also commented on her constituent’s
5 assertions regarding Consolidated’s staffing reductions, which have made it very
6 difficult for the outside plant workforce to keep up with repairs and installations. She
7 asserted that her constituents were told it would be months to get new residential phone
8 service installed and that repair times were regularly quoted to be in the 5 to 10-day
9 range. She also stated that during a chance meeting with Consolidated’s chief executive
10 officer, he inquired why her constituents don’t move somewhere with better telephone
11 service.

12
13 **Q55. Does Consolidated appear to have the financial capacity to continue to upgrade**
14 **its network and improve service?**

15 A55. Yes. Generally, Consolidated is in a stronger financial position than its predecessor.
16 While the company has many challenges, it also has strengths. It has paid its dividend
17 (\$1.55/year/share) continuously for over a decade. The stock market, however, does
18 likely see some risk, as the share price has fallen from over \$21.00 in June 2017 to less
19 than \$10.00 during the week of April 15, 2019. Its EBITDA remains over 30% of
20 revenues, generating a positive cash flow, though its net income remains negative.
21 FairPoint was Consolidated’s largest acquisition and it may have underestimated the

1 challenges involved, but it appears to be financially stable and likely to improve its

2 earnings going forward.

3

4 **Q56. Does this conclude your joint prefled direct testimony?**

5 A56. Yes.