

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

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

**DIRECT TESTIMONY OF
RYAN WHITLOCK
ON BEHALF OF CONSOLIDATED COMMUNICATIONS**

June 12, 2019

SUMMARY OF TESTIMONY

Mr. Whitlock provides detail on the service delivery challenges Consolidated experienced in Vermont in the summer and fall of 2018, describes the Company's response to those challenges in terms of operational and staffing changes, he details the numerous important modifications the Company has implemented to improve the delivery of service in Vermont, and provides background on how service repairs are handled.

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ON BEHALF OF CONSOLIDATED COMMUNICATIONS**

INTRODUCTION

1 **1. Q. Please state your name, position, and business address.**

2 **A.** My name is Ryan Whitlock, and I am Senior Vice President of Operations,
3 Consolidated Communications (“Consolidated”), 5 Davis Farm Rd, Portland, ME 04103. I have
4 responsibility for Labor and Employee relations and Operations across the 23 state Consolidated
5 footprint. Being responsible for both Labor and Operations across the country allows me to
6 balance and find the greatest efficiencies between the work rules, workloads and bargaining
7 agreements in every state. In Vermont, this provides me with the perspective and ability to
8 balance the workforce and workloads as effectively as possible by utilizing all of the available
9 resources as efficiently as possible.

10

11 **2. Q. On whose behalf are you testifying?**

12 **A.** I provide testimony on behalf of Consolidated Communications of Vermont
13 Company, LLC (formerly Telephone Operating Company of Vermont, LLC) d/b/a Consolidated
14 Communications (“Consolidated Vermont”).

15

16 **3. Q. Please describe your professional and educational background.**

17 **A.** I have been with Consolidated for 24 years and have held positions as a janitor,
18 customer service agent, project manager, dispatch/repair supervisor, field operations manager,
19 director of field operations for IL, director and general manager of business systems, senior

1 director of labor and employee relations, vice president of human resources, and senior vice
2 president of operations.

3
4 **4. Q. Have you previously testified before the Vermont Public Utility Commission**
5 **(the “Commission” or “PUC”) or another state public utility commission?**

6 **A.** No, I have not previously testified before the Vermont Public Utility Commission
7 or any other Public Utility Commission.

8
9 **5. Q. What is the purpose of your testimony?**

10 **A.** Gabe Waggoner and I provide detail on the service delivery challenges
11 Consolidated experienced in Vermont in the summer and fall of 2018, explain key changes the
12 Company has implemented to address those challenges, and describe service improvement plans
13 the Company is in the process of implementing to ensure timely repair and installation of
14 services in Vermont. Specifically, I provide testimony on how Consolidated responded to and
15 addressed the 2018 service issues in terms of staffing and structural improvements, our future
16 staffing plans, how we prepare for weather events, how trouble tickets and complaints are
17 addressed, and I provide some background information on the repair process and the Vermont
18 plant condition.

STAFFING AND STRUCTURE IMPROVEMENTS

6. Q. Please explain what Consolidated has determined caused the Vermont service levels to decline beginning in mid-2018.

A. The main area of decline was with respect to the Cleared in 24 (C24) standard, which requires Consolidated to clear repairs within 24 hours of being reported by the customer. In his testimony, Mr. Waggoner identifies four primary factors that Consolidated has determined resulted in service levels in Vermont declining significantly beginning in mid-2018. Technician retirements and the inability to quickly scale the workforce due to restrictive language contained within the prior collective bargaining agreement are two of those reasons. I address below Consolidated's response to these areas of concern.

7. Q. What steps were taken by Consolidated in the renegotiation of its collective bargaining agreement to correct and address the decline in service in Vermont in 2018 and to return the service levels to normal, and when were these steps taken?

A. As Mr. Waggoner describes, under the prior labor agreement there were a number of impediments to increasing the number of available technicians, which Consolidated addressed in the new agreement. First, the Company addressed the restrictive language related to the ability to utilize third party contractor resources contained with its collective bargaining agreement. The 2018 Northern New England IBEW Locals 2326, 2320, and 2327 collective bargaining agreement expired on August 5, 2018. Over a four month period beginning in April 2018, Consolidated sought to negotiate a new agreement with the three local unions. The Company's desire was to achieve specific language that allowed for the use of a flexible

1 supplemental workforce for installation, maintenance, and repair work. The previous agreement
2 contained certain restrictions that prohibited the use of contractors. The Company was able to
3 achieve new language in the new agreement, providing it the flexibility it needed to hire
4 additional, outside contractors. This was a critical step to improving repair and installation
5 service response times in Vermont. Since October 2018, up to 29 additional supplemental
6 resources have been deployed in Vermont at any one time. These additional resources and
7 workforce flexibility help to supplement our existing Consolidated resources who are a very
8 committed, skilled, and experienced staff of technicians, and support organizations that take a lot
9 of pride in providing the highest levels of customer service to our Vermont customers.
10 Consolidated values our employees and the collaborative negotiations with the unions that have
11 allowed for the flexibility to hire supplemental technicians to assist with providing and
12 maintaining service to our customers.

13 Second, the Company sought to modify certain pre-existing collective bargaining terms
14 that reduced the amount of time the workforce is available to service customers. Those changes
15 included:

- 16 1. Expanding the timeframe considered “summer” during which employees are allowed to
17 take summer vacation, to minimize impact of vacations on workforce availability.
- 18 2. Modifying the excused workday policy in the collective bargaining agreements. This
19 change accounts for an additional 32,400 technician hours available in or within a short
20 drive to VT from the other Northern New England (NNE) states.

1 3. Improving the Company's ability to respond timely to after-hours emergencies through
2 the creation of "standby zones," which allowed the Company to have technicians on-call
3 and ready for repair response.

4 4. Expanding the weekly work hour in the agreement for supporting groups, such as the
5 Dispatch Resource Center, to work 40 hours per week instead of 37.5 hours per week.

6 5. Expanding the number of hours from 10 hours per week to 12 hours per week that a
7 technician can be scheduled to work overtime during the months of November through
8 May.

9 6. Establishing clarity with the Union on the Company's ability to transfer work in
10 supporting workgroups where capacity is available to support field technicians.

11 7. Providing local technicians additional training and skills to perform premise installation
12 and repair of commercial managed Voice over IP services when this work was previously
13 assigned to an outside vendor.

14
15 8. **Q. What steps did Consolidated take to address the numerous technician**
16 **retirements in late 2017 and during the first half of 2018?**

17 **A.** As Mr. Waggoner noted, another cause of the service decline in Vermont was
18 due to technician retirements in the Splice Service Technician (SST) and Outside Plant
19 Technician (OPT) classifications in late 2017 and during the first half of 2018. To address this,
20 Consolidated has implemented a 2:1 backfill of SSTs related to a 2018 Voluntary Separation
21 Package. This means that for every technician who took the Voluntary Separation Package and
22 left the Company, we backfilled with two technicians for replacement purposes. The outcome of

1 this for Vermont so far is the addition of 8 technicians to replace the four technicians that have
2 left the business. As well, as I discuss more below, we have also hired an additional 7 technicians
3 in Vermont. An additional 21 SST technicians are scheduled to be hired in NNE later in 2019, as
4 of today, 11 of the 21 are scheduled to be in Vermont.

5
6 **9. Q. Has service quality in Vermont improved due to the changes you discuss**
7 **above in questions 7 and 8?**

8 **A.** Yes. These steps overall, provide substantive changes which have and will
9 continue to positively impact the Company's ability to serve its customers as is reflected in our
10 weekly service quality reports to the Vermont Department of Public Service (Department). Our
11 Cleared in 24 numbers are currently in line with the historical norms for this time of year, and
12 complaints to the Department's Consumer Affairs and Public Information Division (CAPI) have
13 significant decreased since 2018.

14
15 **10. Q. Based on your experience, is service quality impacted by how field**
16 **technicians record time and whether time is recorded for "regulated" or "unregulated**
17 **services?"**

18 **A.** No. Behind the scenes accounting methodology has no impact on service quality.
19
20

1 **11. Q. What is Consolidated's plan going forward and into the future with respect**
2 **to staffing, and especially this summer, in order to maintain service quality levels in**
3 **Vermont?**

4 A. Since achieving the new language in the collective bargaining agreement in
5 August 2018, Consolidated can more easily scale its workforce to include the use of contractors.
6 At present, Consolidated has approximately 74 flexible resources deployed in NNE,
7 approximately 28 of which are currently working in Vermont.

8 Contractors allow Consolidated to have supplemental staff as needed. The use of these
9 resources allows the Company to respond more quickly to the changing dynamic of our
10 workload. Contractors can be sourced, trained on Company specific processes and begin
11 producing quicker than sourcing, training, and equipping a new field technician. They arrive with
12 trucks, tools, and knowledge, which minimize onboarding time. Use of these supplemental
13 resources in all three NNE states allows for additional flexibility to move internal technicians or
14 contractors from nearby states into Vermont as needed.

15 Contractors are effective and efficient in their work. In this respect, I disagree with the
16 claim by Department witnesses Goldstein and Keener that they are less efficient than employees.
17 Many contractors have years of experience working at various telecommunications companies,
18 including other Consolidated markets. These resources can be more flexible without the
19 restrictions of a collective bargaining agreement, thus allowing a greater degree of accessibility
20 and productivity. Generally, contractors prefer to work extended hours, including weekends, and
21 are not subject to restrictive overtime rules. In our experience, contractors often have more
22 experience than newly trained technicians, work efficiently and effectively regardless of their

1 familiarity of the specific geographic area. In the event these supplemental resources do not
2 perform to the level of expectation of management, they can be removed from service without
3 the requirement of an expensive, lengthy and time consuming grievance process by the union.
4 Contractors can also easily be cross-trained to perform maintenance, installation, repair,
5 construction, and central office functions without restrictive union classification boundaries.

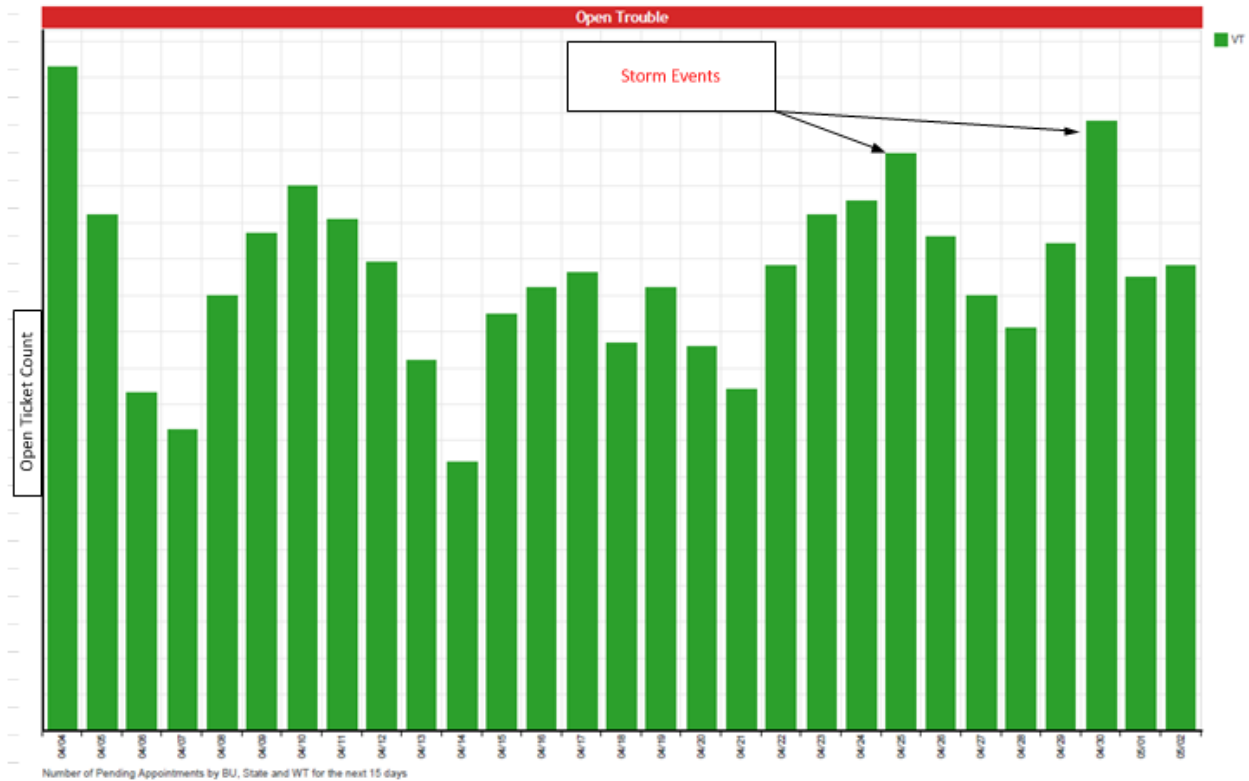
6 Additionally, as needed, the Company will use increased overtime to improve overall
7 daily workforce capacity. During peak seasons in Vermont, technicians can be requested to
8 provide weekly overtime of up to 30% or 12 hours. The Company may, on an as needed basis,
9 allow for greater than 12 hours of overtime by employees willing and able to volunteer.

10 Lastly, the management team recognized one of the most effective and timely ways to
11 improve service levels is to increase productivity with the existing workforce. The operations
12 management team is actively working through a developed strategy to increase the productivity
13 of its workforce. Mr. Waggoner discussed a number of improvements made in the last several
14 months specifically to improve technician performance. In addition, discussions directly with
15 technicians, union leaders, management, dispatchers, and others are currently underway. We are
16 gathering insights from technicians as to obstacles they face on a daily basis which inhibit the
17 completion of four or more jobs per day. We are also confirming these assertions by job
18 shadowing the technicians to validate the impact of these obstacles. This analysis will allow us
19 to further improve process and procedures to ensure technicians can complete their work in an
20 efficient and high quality manner.

1 **12. Q. Please explain a typical seasonal annual work load cycle and the impacts on**
2 **staffing levels.**

3 **A.** Annual workload tends to increase in the spring and summer months for multiple
4 reasons. One reason is severe summer storms. However, major fall and winter storms can also
5 have significant impact. Seasonal influx from part-time residents increases the installation and
6 repair workload in the spring and summer, along with many seasonal construction requirements.
7 Vermont has a limited construction season resulting in increased workloads during the spring
8 and summer, thus producing a compounded increase on the overall workload.

9 The management team reviews the trouble load for Vermont every day, including
10 weekends. Daily review has allowed certain observations and trends to be identified. For
11 instance, spikes in trouble related to winter and springtime storms during the first four months of
12 2019 have been limited generally to 2-3 days of workload cycle increases. This means the
13 workforce is able to “get on top” of the workload so the spike crests much faster than the trends
14 we saw in 2018. Generally, recovery during the first four months of 2019 has been limited to 2-3
15 days from the time the first spike is realized from a weather event. The chart below illustrates
16 this during the week of April 22, 2019 where two major storms were experienced in Vermont.



13. Q. How many technicians does Consolidated plan to add during the busy season and how do you determine where they are physically located?

A. To address the upcoming busy season, Consolidated has already added approximately 28 additional contractor resources and 11 new SST's in Vermont in the first quarter of 2019 in preparation and anticipation of the summer season.

During the summer period, Consolidated plans to add up to an additional 21 technicians in the NNE states, as of now 11 of the 21 technicians will be located in Vermont. The management team will monitor service levels and service order intervals in Vermont to determine if additional contractor resources are required.

On a shorter term basis, the Company can easily move contractor resources working in New Hampshire and/or Maine to Vermont on an as needed basis. The Company can also

1 temporarily transfer Consolidated technicians from NH and ME to VT as needed. While these
2 are the current forecasted resources, we are equally focused on building relationships with
3 additional vendors in Northern New England so we are able to add resources as necessary.

4 It is worth noting, that finding qualified candidates to fill technician positions can be
5 challenging and has been for us recently. Given the near historically low unemployment levels
6 and extremely rural markets in which we serve, qualified candidates are not readily available.

7 It is also important to understand that hiring and preparing new personnel takes time. The
8 process to post a job bid, follow the internal collective bargaining agreement bidding process,
9 source candidates from outside of Consolidated, hire, train and release for production can be up
10 to a 9 month process. Therefore, use of flexible contractor resources, which were not available
11 until late 2018, is often a more timely solution.

12
13 **14. Q. What else is Consolidated doing to manage the workloads of technicians and**
14 **therefore improve service?**

15 **A.** Consolidated is focused on all parts of providing service including managing
16 workloads related to network improvements, broadband expansion, and the installation and
17 repair for customers' service, among others. Having adequate numbers of technicians is
18 important to providing and repairing service in a timely manner but there are many factors that
19 can be managed more broadly in terms of improving service. The answer to addressing service
20 issues is not simply to hire more people.

21 Taking trouble out of the network is a priority. Consolidated continues to evaluate its
22 internal processes to determine ways to reduce overall troubles that require a technician to be

1 dispatched to the field. Recently, in April and May 2019, myself and Senior Director of
2 Operations met with focus groups of technicians to learn more about the challenges they face
3 every day in servicing customers. Those discussions included a range of solutions such as the
4 need for additional test gear, changes to certain operational policies and processes and from their
5 view, ways to proactively reduce troubles overall. As part of this effort, Consolidated will be
6 deploying a new remote testing device to technicians that can reduce the overall time spent
7 identifying the trouble and repairing the customer's service.

8 Action previously taken in Q4 2018 included cross training Texas resources and adding
9 three NNE resources to our Facility Management Group. This decision was made based on
10 technician feedback regarding wait times they experienced when placing calls into supporting
11 groups.

12 Additional resource flexibility may also be gained as part of Consolidated's long term
13 plan to sell its poles in some areas. As a result, Outside Plant Technicians (OPT) may have more
14 ability to assist with completing installation and repair work and some current technicians in the
15 OPT classification are being cross-trained as SSTs. Consolidated has recently entered into an
16 Asset Purchase Agreement to sell its Vermont poles to Green Mountain Power in Green
17 Mountain Power service territory. This sale was approved by the Vermont Public Utility
18 Commission on June 7, 2019 with support from the VT Department of Public Service. By selling
19 these poles, we expect to create an opportunity for the Outside Plant Technicians to shift their
20 focus from placing, replacing and removing poles to performing other functions like installation
21 and maintenance activities. The Company has been upfront with its employees in the OPT
22 classification during recent meetings with technicians that the Company may have less OPTs in

1 the future but would expect to have more SSTs performing customer service delivery functions.
2 Some OPTs have already bid into open SST positions in anticipation of our changing
3 environment.

4 Further, it is the Company's desire for our OPT technicians to learn additional skills. The
5 Company, by negotiating with the Union to achieve such flexibility, plans to cross-train its
6 OPTs, which will allow them to perform customer service delivery work such as repairing dial
7 tone services during workload spikes or inclement weather when construction work is not
8 generally performed. This strategy will balance the need to manage the costs of the workforce
9 with the need to have a supplemental workforce who can be available to repair service within
10 minutes of experiencing workload spikes.

11
12 **15. Q. Please describe the additional structural changes that were implemented to**
13 **improve service quality in Vermont.**

14 **A.** Consolidated has made recent structure changes in order to provide better
15 oversight and management of VT and NNE. These changes, allow the Consolidated management
16 team to evaluate its operational practices and compare to the Company's best practices in other
17 regions. These changes include:

- 18 • Splitting NNE into two separate regions to allow better oversight;
- 19 • Introducing two Senior Directors to oversee each region;
- 20 • Moving a Senior Director of Operations from Texas, one of our most successful markets
21 in working through severe weather challenges, to oversee the VT market;

- 1 • Removing a management tier in the NNE operations organization to remove a Director of
2 Operations, thus allowing the Senior Directors to interact directly with the Area
3 Operations Managers;
- 4 • Introducing a Senior Vice President of Operations who can apply best practices from all
5 other regions into the VT market; and
- 6 • Combining labor relations and operations under the Senior Vice President to ensure
7 timely and effective use of newly achieved collective bargaining language.

8 In addition, we have introduced new dispatch/repair and customer care leadership in
9 NNE from other Consolidated markets who can apply best practices. One of the key best
10 practices was the implementation of our virtual call center model. This model allows us to
11 support customers across many centers to ensure service levels are met. We utilize contractor
12 resources when appropriate in order to quickly scale centers to meet customer demand.

13 Implementation of the prequalification of all internet orders also was a best practice we
14 introduced from a dispatch perspective. Our dispatch team ensures that a prequalification task is
15 dispatched two days prior to the order due date to ensure the install will be as seamless as
16 possible. We also engaged the Texas dispatch team to assist in the coordination and distribution
17 of work. We added four Texas dispatch team members to assist with dispatch coordination in
18 Northern New England. They are managing the majority of our prequalification orders.

19

20

WEATHER EVENTS

16. Q. How did weather events in 2018 impact service quality in Vermont?

A. Mr. Waggoner explains that there were a number of significant weather events, which combined with an increase in service order activity related to large scale network and broadband enhancements for New England, resulted in less available technicians to assist in Vermont. Weather events elsewhere in the country also limited the availability of contractors during the summer of 2018.

17. Q. How does and will Consolidated handle significant weather events to minimize service quality impacts?

A. One of the many benefits of being a part of a larger nation-wide company is the ability to move existing resources from other parts of the country that experience significant weather events. This was evident with recent events, including hurricane Michael in 2018 and hurricane Harvey in 2017, when we moved technicians to these areas, which were heavily affected by these major weather events. Although Vermont is rarely susceptible to impacts from hurricanes per se, it is susceptible to other major weather events like snow and wind-related storms. As well, as we saw here in 2018, Consolidated had a difficult time securing contractors to assist in Vermont because they were already en route to areas hit with hurricanes.

When a major weather event is forecast, the Company will closely monitor service levels and draw on its experience to mobilize resources as necessary. It is common for the Company to move technicians between states during such events. In the fall of 2018, the Company used its experience in moving people from other states such as TX, CA, IL, MN, and OK into Vermont

1 until it was able to effectively source contractor resources given its newly negotiated collective
2 bargaining agreement. The Company, now having subcontract resources in place from Northern
3 New England and from other states, can more easily scale its resources by use of both Company
4 technicians and contractor resources.

5 In short, Consolidated now has multiple ways to scale its workforce for temporary spikes
6 in workload including weather related events, including:

- 7 1. Use of overtime with existing technicians;
- 8 2. Use of Consolidated technicians from NH and ME;
- 9 3. Use of local contractors from NNE;
- 10 4. Use of contractors from outside of NNE; and
- 11 5. Use of Consolidated technicians from outside of NNE.

12 It is not feasible to consider having technicians “on the shelf” waiting for weather events
13 to take place as Department witnesses Goldstein and Keener have suggested. Doing so is costly
14 and does not position the organization well to compete because it reduces available capital
15 needed to continue to invest in the network. As Mr. Austin describes in more detail, Vermont has
16 a heavily competitive communications industry/market between historic cable companies,
17 wireless companies, commercial specific competition, other CLEC’s, and fiber to the premise
18 start-ups. Consolidated experiences significant line-loss year over year to these types of
19 competition, so effective and efficient management of our workforce and workloads is vitally
20 important to the health and sustainability of our Company. As previously stated, we are hiring
21 new, full-time technicians in Vermont and now have a flexible contractor workforce to manage
22 heavy and peak workloads, which is the most efficient and effective way to manage this type of

1 work. Use of a flexible workforce, combined with consistent improvements in the network,
2 supporting groups with new and better processes, and supporting systems and processes is an
3 effective long term approach to improving service levels.
4

5 **18. Q. Who makes the decisions to move Consolidated technicians around due to**
6 **weather and other similarly disruptive events, and when?**

7 **A.** We have empowered managers and local NNE teams to make these decisions
8 based on workload and customer demand activity. The first level managers and dispatch teams
9 work on a daily basis to analyze the load and any trends due to seasonality or weather related
10 issues. Meetings are conducted on a daily basis to discuss action plans so we can stay ahead of
11 customer activity. This is directly connected to our weather event preparedness processes when
12 severe weather is forecast.
13

14 **19. Q. During a commercial power outage, how do your central offices and remote**
15 **terminals continue to operate, how do you maintain them, and does customer dial tone**
16 **remain in service?**

17 **A.** All of our Central offices are equipped with at least 3 hours of standby battery
18 capacity and all have fixed standby generators that will start in the event of a power outage with
19 enough fuel to run the office on full load for 72 hours before requiring a fuel delivery. We also
20 have portable generator connection boxes in all of our Central Offices with multiple portable
21 generators strategically placed throughout the Vermont footprint in the rare event a generator
22 does not start.

1 The Remote terminals have up to 8 hours of run time using the standby batteries, and we
2 use portable generators to support the RTs during commercial power outages. In the Central
3 offices, we test our batteries and generators monthly and the RTs batteries are tested annually.
4 The customer's dial tone will continue to work with the use of the batteries and/or generators
5 during commercial power outages, as long as the customer has a phone that does not require A/C
6 power, i.e., such as cordless phones.

7
8 **CLEARING TROUBLES**

9 **20. Q. Please describe the path, step by step, from a customer trouble report to the**
10 **correction of the trouble.**

11 **A.** The customer places a call to the Repair Resolution Center (RRC). We verify
12 information, run a test on the line and troubleshoot the issue. If we cannot resolve the issue over
13 the phone, the agent creates a ticket and provides the customer with a commitment date.
14 Depending on the problem reported and the test results, the tickets is sent to the appropriate
15 department for resolution, for example outside dispatch, Central Office dispatch, translations
16 review, long distance, etc. If the trouble reported is believed to be related to an outside issue it is
17 put in the queue for dispatch. In certain circumstances (no dial tone or static on the line) the line
18 is auto tested while waiting to be dispatched. These lines are tested every 8 hours from time of
19 submission to the commitment date. If conditions on the line change and the line tests "okay"
20 based on predesignated testing parameters, the ticket is automatically closed and an automated
21 call is sent to the customers "can be reached number" (usually an alternate number provided by
22 the customers). If test results do not change, a technician is dispatched. If the customer has

1 identified they have a medical issue or there are repeat tickets, auto testing is not conducted as
2 part of the process and a technician will be dispatched.

3
4 **21. Q. How is work generally prioritized for the different work groups you manage,**
5 **installation, repair, network improvements, and network repairs?**

6 A. On a standard day we are able to work repairs and installations concurrently.
7 However, when we have high volumes of trouble, repair work is prioritized over installation
8 work. We prioritize the work in the following manner: Network emergency repairs would be
9 handled first, as they will affect the most customers. Techs then would focus on
10 repair/installation appointments followed by non-emergency network improvements. The
11 reinstated centralized Dispatch Resource Center is responsible for coordinating this prioritization
12 if a conflict in the types of work exists.

13
14 **22. Q. Are broadband repairs prioritized over Plain Old Telephone service (POTs)**
15 **repairs?**

16 A. No, POTs troubles are prioritized over broadband troubles.

17
18 **23. Q. How does Consolidated handle customer escalations received from CAPI**
19 **with regard to repair and installation of service?**

20 A. Consolidated has a regulatory team with representatives dedicated to different
21 geographic regions of our business. In Vermont, CAPI communicates directly with the
22 appropriate Vermont representative who, in turn, works with a team dedicated to resolving

1 escalated issues and engaging management from all levels, in any part of the business necessary,
2 to resolve the current issue and prevent similar issues. Additionally, we regularly track
3 complaints from agencies such CAPI to give us insight for future improvements and
4 development.

5
6 **24. Q. Does Consolidated experience a higher number of repair problems in the**
7 **more rural areas of the state or the more populated areas?**

8 **A.** Generally speaking, we experience a higher level or repair problems in more rural
9 areas of the state. As well, it often takes longer to repair troubles in more rural areas.

10
11 **25. Q. Why is that the case?**

12 **A.** Rural districts have more total linear feet of cable to maintain than urban areas.
13 This means more susceptibility to damage of the plant. Rural areas serviced with remote
14 terminals can experience more frequent commercial power outages and are more susceptible to
15 other environmental, natural and manmade impairments which can increase repair related issues.
16 As well, Vermont is a mountainous state and there are some areas that are simply more
17 challenging to access and take longer to reach to install or repair services.

18
19 **26. Q. Does Consolidated have a plan in place to specifically address the areas that**
20 **experienced the longest delays for repairs during 2018?**

21 **A.** Consolidated aims to ensure the same quality of service levels are available to all
22 Vermont customers. Consolidated evaluates installation and repair service and interval levels on

1 a technician work center basis. These intervals are leading indicators of service levels that are
2 critical in the decision process to increase staffing levels. Throughout the state, we will adjust
3 staffing levels to service and interval levels as needed. As well, as I discuss more below and as
4 addressed by Mr. Shultz, Consolidated committed in Docket 8881 to improving its plant by
5 targeting areas with on-going service quality concerns.

6
7 **REPEAT TROUBLES**

8 **27. Q. What do you consider a “repeat trouble”?**

9 **A.** A “repeat trouble” means more than one out of service trouble ticket on a
10 consumer or business telephone line within a seven day period or more than three out of service
11 trouble tickets on the same dial tone service within a 30 day period of time.

12
13 **28. Q. Do you agree with the definition of “repeat trouble” used by Department**
14 **witnesses Goldstein and Keener?**

15 **A.** No. Consolidated disagrees with the definition of a repeat trouble ticket described
16 in the Department of Public Service’s discovery response to Consolidated’s question
17 Q.CC:DPS.1-34. Goldstein/Keener define a “repeat trouble ticket” as more than one trouble
18 ticket reported for the same line over the 18-month Study Period. During an 18-month period of
19 time, a customer could reasonably report more than one trouble ticket that is caused by more
20 than one root cause. Using an 18 month period for this definition inaccurately represents the
21 number of “repeat trouble tickets.”

1 We also disagree with how Goldstein/Keener calculate the number of “repeat trouble
2 tickets” in their testimony. Goldstein/Keener counted a customer’s initial trouble ticket into
3 their calculations of “repeat trouble tickets.” We believe a more accurate calculation would
4 exclude the original trouble ticket reports to represent the actual number of “repeat trouble
5 tickets.” Including the original trouble ticket in the “repeat trouble ticket” count exaggerates the
6 actual number of “repeat trouble tickets.”

7
8 **29. Q. When a customer or customers experience frequent problems or repeated**
9 **problems are they handled differently? Is there greater attention to repeat problems?**

10 **A. If RRC identifies a repeat for POTS, they are removed from the auto testing**
11 **process. This results in a dispatch of the ticket, meaning that we dispatch a technician to the**
12 **customer location.**

13 We also have tools we use to track repeat issues and partner with engineering to advise of
14 chronic areas and develop long-term plans for resolution. A report of repeat trouble tickets is
15 provided several times a week to the two Vermont Area Operations Managers and Vermont
16 Operations Supervisors. These are reviewed by operations who work to identify or isolate the
17 cause of the repeat trouble and work to remedy the issue. If the resolution to the issue will
18 require larger cable replacement work or the deployment of electronics, the Operations
19 Supervisor will enter the request into a database shared with the Engineering group for review
20 and discussion between the groups on the options for resolution.

21

1 **30. Q. During an 18 month period, is it possible that a customer could experience**
2 **multiple no dial tone troubles that have a different root cause?**

3 **A.** Yes. Multiple independent events causing the loss of dial tone can and do occur.
4 The Company is focused on identifying repeat trouble tickets, which must be analyzed to
5 determine the root cause of the failure and whether the root cause is related to a pre-existing
6 condition that must be addressed as opposed to an isolated or independent actual cause. To
7 accomplish this, tickets are flagged as repeats and the management team analyzes these when
8 there are two or more issues in a seven day period or three or more in a 30 day period.

9 For example, an interruption in commercial power supply in one week that is followed by
10 a cable cut that impacts the same customer the following week could result in a repeat trouble
11 ticket. However, this is different from a situation where a corroded cable pair causes service to
12 fail multiple times. Repeats can indicate the need for additional technician training, need for test
13 gear or other tools, etc., and should not be narrowly viewed as indicative of failing plant. Many
14 factors can drive repeat trouble and what is a “repeat” is not always clearly or consistently
15 defined.

16
17 **PLANT CONDITION**

18 **31. Q. How would you describe the overall status and condition of the outside plant**
19 **facilities in Vermont?**

20 **A.** Vermont’s outside plant copper and fiber network covers virtually every location in
21 Consolidated’s service territory. This includes over 3,800 miles of fiber in Vermont that is the
22 backbone of our network which connects central offices together and provides service to our

1 remote terminal networks. This fiber is also available to provide service to all customers along
2 this route. The fiber across the state is in very good condition and as described below, due to the
3 nature of existing in an outside environment, can be subject to damage and require maintenance.
4 Consolidated has a large copper network of outside plant facilities which has been used to
5 provide telecommunications services to every address, urban or rural, in our service area for
6 years. The condition of the copper network can be variable based on the information provided
7 below. The network is very expansive covering approximately 19,000 miles in Vermont. This
8 relates to covering 7,460 of the 9,615 sq/mi in Vermont. Due to the sheer size of the network
9 and the fact that it exists in an outside environment as explained below, there will inevitably be
10 areas that will require some type of repair. Historically, we do experience more copper related
11 customer troubles than fiber because we have significantly more copper in the network. This
12 doesn't mean that copper is an inadequate way to deliver service.

13 At the peak trouble rate during the third quarter of 2018, our network report rate was
14 2.3% of our customers, which was higher than normal but also represents a very small portion of
15 the customers that we service every day, or viewed another way, over 97% of our customers
16 were not experiencing a trouble during a monthly timeframe.

17 It is important to understand that our outside plant, both copper and fiber, exists in
18 various types of environments including inside manholes, under busy city streets, aerial plant on
19 poles, directly buried in the ground, and even under water, and this network is exposed to many
20 different types of environmental, natural, and manmade impairments or challenges. By the sheer
21 nature of its exposure to weather, rodents, traffic, power events, etc., potential service affecting
22 damage will occur. The Company performs routine maintenance on its network, which may

1 include the replacement of a section of cable or fiber, the rehabilitation of a splice or the
2 replacement of a pole or pedestal. We also have a maintenance process in place with established
3 parameters which indicates when cable needs to be replaced.

4
5 **32. Q. Please describe the process used to identify, analyze, and correct problems in**
6 **the outside plant.**

7 **A.** We identify outside plant issues, first at the technician level, and second, by
8 analyzing reports that show when a trouble ticket was coded to an issue with the cable by the
9 technician that closed out the trouble. Depending on the size and scope of the issue it could be
10 repaired/replaced locally. For larger issues, the information is placed into the Routine
11 Maintenance database. This database is reviewed by the area operations manager and in many
12 cases is referred to engineering for review to determine if an engineering job would be required
13 to correct the root cause of the issue, for example, the placement of a remote terminal to bypass
14 the bad sections of cable. Our Engineering and Operations groups collaborate on the issue and
15 resolution to ensure any solution results in the best outcomes.

16
17 **33. Q. What steps is Consolidated taking to improve the condition of the plant and**
18 **update the plant?**

19 **A.** As part of maintenance, Consolidated replaces sections of cable, places new
20 remote terminals deeper into the network, and makes strategic plant decisions to improve the
21 long-term health of the plant. Decisions to replace sections of outside plant copper cable are not

1 based on a schedule or age of the cable; instead the decision is based on the condition of the
2 cable.

3 A recent example includes the decision to change “air core” cable to ickypic cable.
4 Ickypic cable is more durable and less susceptible to rodent damage and weather events. Ickypic
5 cable isolates damage by limiting water migration throughout the cable, thus reducing trouble
6 and customers impacted from this damage. Also, a decision was recently made to use ickypic
7 Scotchlock splice connectors, which have proven to perform better under severe moisture
8 conditions.

9 As I just described, as part of managing the network, we identify cable plant issues and
10 work internally to review and remediate plant issues as appropriate. This may include replacing a
11 section of copper cable based on the condition of the cable, placing fiber and remote terminals
12 and routine maintenance activities like replacing terminals or reworking a splice location. Along
13 with these actions, Consolidated has also committed to invest an average \$1 million/year for 3
14 years for a total of \$3 million in incremental maintenance projects directly related to improving
15 customer service. Consolidated has also committed to reinvest 14% of Vermont revenues for 3
16 years into the Vermont network.

17 Mr. Shultz also describes the specific commitments and actions Consolidated has
18 undertaken to improve the Vermont plant.

19
20 **34. Q. Does this conclude your testimony?**

21 **A.** Yes, this concludes my testimony.