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March 7, 2019

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101

**Re: In the Matter of a Commission Inquiry into the 911 Obligations of West,
Inc. and CenturyLink
MPUC Docket No. P-6049, 421/CI-18-542**

Dear Mr. Wolf:

Enclosed for filing are Qwest Corporation dba CenturyLink QC's Reply Comments regarding the above-referenced matter.

Very truly yours,

/s/ Jason D. Topp

JDT/bardm

Enclosure

cc: Service List

**STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

Dan Lipschultz
Matt Schuerger
Katie Sieben
John Tuma

Vice Chair/Commissioner
Commissioner
Commissioner
Commissioner

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AFFIDAVIT OF SERVICE

STATE OF MINNESOTA)
) ss
COUNTY OF HENNEPIN)

Dianne Barthel hereby certifies that on the 7th day of March, 2019, she e-filed a true and correct copy of Qwest Corporation dba CenturyLink QC’s reply Comments by posting it on www.edockets.state.mn.us. Said document was also served on the service list via U.S. mail and e-mail as designated with the Minnesota Public Utilities Commission.

/s/ Dianne Barthel
Dianne Barthel

Subscribed and sworn to before me
this 7th day of March, 2019.

/s/ LeAnn M. Cammarata
Notary Public

My Commission Expires Jan 31, 2020

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Linda	Chavez	linda.chavez@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 55101-2198	Electronic Service	No	OFF_SL_18-542_Official
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_18-542_Official
Daniel	Craigie	daniel.craigie@state.mn.us	Department of Public Safety	Town Square Ste 137 444 Cedar St Saint Paul, MN 55101	Electronic Service	No	OFF_SL_18-542_Official
Regulatory	Department	N/A	West Safety Communications Inc.	1601 Dry Creek Dr Longmont, CO 80503	Paper Service	No	OFF_SL_18-542_Official
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012131	Electronic Service	Yes	OFF_SL_18-542_Official
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QWEST CORPORATION DBA CENTURYLINK QC'S REPLY COMMENTS

CenturyLink submits these Reply Comments in response to the February 15, 2019 Joint Report of the Minnesota Department of Public Safety and the Minnesota Department of Commerce Concerning the 9-1-1 Outage of August 1, 2018 ("Report"). CenturyLink, like every other participant in this proceeding, is strongly committed to a robust next generation 911 system that serves Minnesota well and includes open channels of communications with our customers and state officials.

CenturyLink and its vendor, West Safety Services, Inc. ("West Safety Services"), have taken significant steps to address the concerns arising out of the Report. Those efforts are detailed in CenturyLink's Initial Comments filed on February 15, 2019 ("CenturyLink's Initial Comments"), and include steps designed to (1) prevent an outage of this nature from happening again and (2) improve and reach a common understanding of the communication process in the event of a future outage.

On August 1, CenturyLink and West Safety Services worked hard to decipher the nature of this outage and, despite incomplete information about the scope of the issue and its precise cause, West Safety Services successfully reversed the trunk provisioning that caused

the outage, thereby restoring service. CenturyLink also initiated widespread notifications to Public Safety Answering Points (“PSAPs”) at a time when its systems incorrectly indicated that 911 traffic was routing to a backup Emergency Care Management Center (“ECMC”).

CenturyLink does not suggest that an outage of this nature is acceptable or that its processes for both preventing an outage and communicating cannot be improved.

CenturyLink will continue to work with the Department of Public Safety (“DPS”) to address its concerns and report to the Commission about its progress.

The Report focuses on two areas: (1) alarms in CenturyLink’s system; and (2) communication processes. CenturyLink offers comments addressing both of these areas of concern and provides input regarding the Order proposed in the Report.

I. Alarms

The Report focuses heavily on alarms.¹ CenturyLink believes it is working on the right solution to these concerns beyond the steps described in CenturyLink’s Initial Comments. This solution uses the SS7 Call Detail Record (“CDR”), IP-Based Probes and network management systems to generate alarms that (1) notify CenturyLink when calls go into a simplex condition (suggesting there was an available path to the backup ECMC to route the 911 calls) and (2) triggers the distribution of automatic notifications to affected PSAPs when calls are blocked. CenturyLink has communicated with the DPS as well as the Minnesota Emergency Services Board (“MESB”) and PSAPs about this effort. A meeting is scheduled for April 9, 2019, to update them on CenturyLink’s progress.

¹ Report, 5-6.

Although CenturyLink agrees with many of the suggestions and conclusions in the Report, there are points that need to be clarified.

- a. **Alarms were triggered by this event but incorrectly suggested that calls were being routed via an alternate path rather than being blocked.**

The Report asserts that “[n]o automatic alarms were activated and sent to PSAPs by this service disruption.”² This assertion requires clarification. As CenturyLink indicated in its Initial Comments, this disruption returned a cause code indicating “No Route Found.” That cause code triggered an alarm, but, unfortunately, the alarm suggested that this was a simplex event—meaning calls were still completing through an alternate path.

The inconsistency between the information being provided by the alarms and the actual situation led to the issues identified in the Report. CenturyLink was not aware that calls were being blocked until it was notified by PSAPs. CenturyLink was not aware of the full scope of the issue until after the outage was resolved. This led the CenturyLink team to a decision, based on the reports that were coming in, to trigger alerts to PSAPs at 4:24 p.m. CDT. At that point, CenturyLink was not certain of the scope of the outage but took action to notify Minnesota PSAPs because of the crucial importance of notifying PSAPs as quickly as possible when there is a service-impacting event.

Since that time, West Safety Services has analyzed and implemented enhanced alarming for cause codes that inhibit route advancement. This was completed in August 2018. Additional Network Operations Center (“NOC”) training was also completed in August 2018. CenturyLink is pursuing additional solutions described in these Reply Comments.

² Report, 1.

- b. This proceeding should focus on 911 and not address network issues that are independent of the 911 system.**

The Report appears to recommend a broadening of the alarm system to include calls outside the 911 system that may not be able to route. The Report asserts:

An alarm system is clearly needed to cover all instances where calls may not be able to route. The DPS understands that the alarming types of mechanisms can be sensitive. Too many alarms that are not indicative of signs of trouble can cause a “Peter and the Wolf” type problem, where the network workers become inured to the alarms. CenturyLink has stated that it and West are in talks with the DPS to ensure that the kind of alarming that is needed, when 9-1-1 calls are not properly routed, is put in place. The DPS reports that the talks move slowly.³

While the Report properly recognizes that balance is needed to prevent there from being too many alarms and communications made to PSAPs, the recommendation that “[a]n alarm system is clearly needed to cover all instances where calls may not be able to route”⁴ is in conflict with that balance. Such a broad alarm system would result in an avalanche of alarms that would do more harm than good by including events that affect the larger network beyond the 911 system.⁵

The network outside of the 911 system consists primarily of calls made by customers of mobile and landline service providers other than CenturyLink. The overwhelming majority of 911 calls are made from mobile phones. Increasingly, such calls are also being made from Voice over Internet Protocol (“VOIP”) phones. Further, other landline providers serve as many or more customers than CenturyLink. To require CenturyLink to track and communicate every instance where a customer of any company cannot place a 911 call is unreasonable and outside of CenturyLink’s control.

³ Report, 6.

⁴ Report, 6.

⁵ Report, 6.

CenturyLink customers, unfortunately, also at times experience these same difficulties. Despite our best efforts, network outages happen. Cables are cut during construction season and individual lines go out of service due to wear over time. Internet customers can lose service and be unable to make a 911 VOIP call for a variety of reasons.

CenturyLink's wireline service is subject to Commission rules relating to the adequacy of its network and its response to outages. Further, in such circumstances, most customers can reach 911 through a wireless phone.

c. CenturyLink is concerned by the assertion that "talks move slowly."

CenturyLink is concerned that the Report states the "DPS believes that the pace of the correction is slower than it should be."⁶ Making changes to the 911 system is a complex endeavor and it is important to ensure any changes are made thoughtfully and purposefully. CenturyLink has been in contact with the DPS about its progress and was not aware that there was dissatisfaction with the pace of that progress. CenturyLink will be following up with the DPS to address this issue.

II. Communication to PSAPs and the DPS.

CenturyLink agrees that its communications processes can be improved and is committed to improving them. There are four areas where the Report is critical of CenturyLink's communications and these Reply Comments address each area.

a. Automated Communications.

The Report criticizes the timing and amount of information in CenturyLink's automated communications notifying PSAPs of the outage. The issues associated with this immediate communication related directly to the incomplete information CenturyLink had

⁶ Report, 6.

available to diagnose and scope the impact of this outage. Despite having incomplete information, CenturyLink triggered notifications of the outage at 4:24 p.m. CDT in Minnesota, and, according to the Report, automated notifications were received by PSAPs by 4:59 p.m. CDT. Given the incomplete information available at that time, it is difficult to identify an earlier time where notifications should have been triggered or what additional information CenturyLink should have provided. Nonetheless, CenturyLink has been working with the DPS and PSAPs on improvements to the notification process to address these concerns.

b. Communication – public statement.

The Report is also critical that CenturyLink did not provide a public statement prior to a press conference the DPS scheduled for the next day at 1:30 p.m. CDT.⁷ CenturyLink agrees this is an area that needs improvement and has taken steps to that end. CenturyLink has made changes to its media relations process to more quickly respond to such situations and has reached out to the DPS to work together to improve communication protocols.

c. Communication – failed call attempts.

The Report expresses concern that it took six (6) days for the DPS to receive a complete and accurate list of numbers that experienced failed call attempts.⁸ The delay was caused because, due to the nature of the outage, CenturyLink's vendor, West Safety Services, had to manually pull the failed call attempts to meet this request. CenturyLink understands that West Safety Services is working at multiple levels to provide information more quickly and avoid the need to manually generate such information.

⁷ Report, 7.

⁸ Report, 7.

d. Communication funneled through a single service manager.

Finally, the Report expresses concern about all communications being funneled through a single person.⁹ CenturyLink does not believe that either the DPS or the Department of Commerce has expressed this concern before, and there are good reasons to take such an approach.

Multiple sources of communication can provide inconsistent or inaccurate information, particularly when dealing with an outage of this nature. By having one point of contact, people within CenturyLink know who has the responsibility for communication and can focus on addressing the outage, rather than communications with a customer. Customers also often prefer this arrangement because they can rely on a familiar single point of contact to provide information or to field questions. CenturyLink intends to discuss this concern with the DPS to try and determine if CenturyLink's approach needs to be modified.

III. CenturyLink is willing to conduct the meetings and file reports requested by the DPS and the Department of Commerce but suggests some changes to the proposed order.

CenturyLink suggests some modifications to the order language proposed in the Report. CenturyLink is willing to participate in meetings and provide the Commission with the requested reports. CenturyLink believes it has participated in all meetings the DPS has

⁹ Report, 7:

Further, it appears that all communications from CenturyLink and West were funneled through a single person. This person, a service manager and sales engineer, is also responsible for the technical operations of Minnesota's 9-1-1 system along with responsibilities for Iowa's emergency communications and for ensuring that the correct engineering was done to fix the problems. Public interest demands quick, competent communications in an emergency, such as a 9-1-1 outage. While there is little doubt that the person assigned to be the liaison between the companies, the DPS, and the PSAPs is highly competent, there is also little doubt that he is responsible for so many diverse tasks that it is quite impossible to make all tasks top priority.

sought and provided regular updates on its progress. If the Commission believes more regular reports would be helpful, CenturyLink is willing to provide them.

CenturyLink, however, disagrees with the suggestion that it should provide reports regarding network outages outside of the 911 System that prevent customers from being able to dial 911.¹⁰ As these Reply Comments have explained, such issues are outside the scope of 911, CenturyLink does not have visibility into most such outages because they originate from outside CenturyLink's network and Commission rules already set forth requirements associated with CenturyLink's network performance.

The DPS requests that these reports not be the responsibility of CenturyLink's program staff.¹¹ While CenturyLink's Policy Department will make the filings, it will need input from program staff to provide complete and accurate information. CenturyLink should have the flexibility to assign responsibility for filing these reports, rather than having the Commission mandate the CenturyLink personnel to be involved in making such filings.

CenturyLink also takes issue with proposed language that suggests the DPS should be the entity that determines compliance with particular requirements—such as determining that “proper information is provided to DPS, PSAPs, Metropolitan Emergency Services Board, and others as determined by DPS . . .”¹² The DPS is not necessarily the appropriate party to determine the propriety of communication protocols for other interested entities and should not be the arbiter of whether “proper information” has been provided. CenturyLink's obligations are also spelled out by its contracts and applicable law.

¹⁰ Report, 6.

¹¹ Report, 7.

¹² Report, 8.

Finally, CenturyLink suggests deleting the language that: “If at any time, DPS becomes uncomfortable with the cooperation and progress of CenturyLink, the matter may be brought to the Commission for resolution.”¹³ Whether the Commission is the appropriate venue for resolution would depend on the nature of the issue and the relief sought. Furthermore, CenturyLink’s obligations are governed by contract and applicable law. While the DPS’s comfort with CenturyLink’s progress is very important, it does not equate to a legal obligation. CenturyLink expressly preserves all potential arguments it might assert in the event of such a dispute.

CenturyLink therefore recommends that the relief suggested by the Department of Commerce and the DPS on page 8 of the Report be modified as follows:

1. CenturyLink to engage in meetings with DPS and file six monthly reports that contain the following:
 - a) Minutes from the meetings between CenturyLink and the DPS that explain the fixes attempted and the results of those attempts;
 - b) All improvements made to ensure any activity that causes 9-1-1 calls to fail in the 9-1-1 network are immediately noticed to CenturyLink and the DPS
 - c) All improvements that ensure corrective action is taken as quickly as possible with any 9-1-1 failure.
 - d) An explanation of the progress made over the previous month as a result of the meetings.
 - e) The number and circumstance of any failed 9-1-1 calls caused by the failure of CenturyLink’s 9-1-1 network during the preceding month and the reason for failure. ~~This should include instances and durations where network failures prevented consumers from being able to dial 9-1-1.~~

¹³ Report, 9.

2. CenturyLink, and if CenturyLink or DPS desires, any CenturyLink vendor such as West Safety Services, is to meet with DPS to establish procedures and protocols to ensure that proper information is provided to DPS, PSAPs, Metropolitan Emergency Services Board, and others ~~as determined by DPS,~~ following any network 9-1-1 incident. DPS will determine the number and frequency of such meetings. ~~If at any time, DPS becomes uncomfortable with the cooperation and progress of CenturyLink, the matter may be brought to the Commission for resolution.~~

CONCLUSION

CenturyLink recognizes the serious nature of the issues raised in the Report and is committed to improving its system and communication processes. CenturyLink urges the Commission to modify the relief suggested in the Report as suggested in these comments.

Dated this 7th day of March, 2019.

QWEST CORPORATION DBA
CENTURYLINK QC

/s/ Jason D. Topp

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