

m **MINNESOTA**
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date **June 13, 2019** Agenda Item **3

Companies Qwest Corporation dba CenturyLink QC and West Inc.

Docket No. P-6049, 421/CI-18-542

In the Matter of a Commission Inquiry into the 911 Obligations
of West, Inc. and CenturyLink

Issue Should the Commission Accept the Report of the Departments
of Public Safety and Commerce Regarding the 911 Outage of
August 1, 2018?

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 **Relevant Documents**

Date

Comments of CenturyLink QC	February 15, 2019
Report-Joint Report from the Department of Public Safety and Department of Commerce	February 15, 2019
Reply Comments of CenturyLink QC	March 7, 2019
Response to Reply Comments Departments of Public Safety and Commerce	March 27, 2019

I. Statement of the Issue

Should the Commission Accept the Report of the Departments of Public Safety and Commerce Regarding the 911 Outage of August 1, 2018?

II. Background

On August 1, 2018, from 3:47 pm until 4:52 pm CDT, 693 calls placed to 9-1-1 failed to reach a Public Safety Answering Point (PSAP) because a technician at West Safety Services (West), a third party vendor for CenturyLink, was doing routine trunk provisioning and made a configuration error. This service disruption affected wireline, wireless, and VoIP calls at 81 PSAPs in the state, but was not a complete outage. During this time, 356, or one-third of the 9-1-1 calls placed, successfully completed to a PSAP.

On August 22, 2018, the Minnesota Public Utilities Commission issued a Notice of Investigation and Comment Period (Notice). In the Notice the Commission indicated that it had monitored developments since the August 1, 2018 911 outage in Minnesota and requested that the Minnesota Department of Public Safety in cooperation with the Department of Commerce, and any other interested stakeholders file a report specifying in detail the error that led to the August 1 outage, whether corrective action has been implemented to ensure that no future outages will occur, and any other relevant analysis, including whether evidence indicates that the provision of 911 service has returned to normal operation.

On February 15, 2019 initial comments were filed by CenturyLink QC. On that same day, the Minnesota Department of Public Safety (DPS) and the Minnesota Department of Commerce (DOC) file a Joint Report Concerning the 911 Outage August 1, 2018.

Reply comments were filed by CenturyLink QC on March 7, 2019.

On March 27, 2019, response to reply comments were filed by jointly by the DPS and DOC.

III. Parties' Comments

DPS/DOC: The August 1st outage was not the first time that 9-1-1 calls in Minnesota failed to complete recently due to routine activity of West. On July 9, 2018, West initiated maintenance on equipment in Miami resulting in 55 9-1-1 calls not successfully completing. On August 21st, a similar maintenance event was initiated by West with 35 9-1-1 calls not successfully completing. Like the August 1st outage, the August 21st incident was not a complete system outage because calls processing through the Englewood, CO location completed successfully.

More recently, the news has been rife with reports of nationwide CenturyLink network failures beginning December 27, 2018 that appear to have caused 9-1-1 outages in many states. In Minnesota, where the network was down, 9-1-1 calls could not originate and there is no way to

know how many 9-1-1 calls were attempted, but did not go through. Wireless calls and texts to 9-1-1 continued to work during this time.

DPS chose the national next-generation nationwide system for its Minnesota 9-1-1 traffic because the redundant routing on a nationwide basis is cost efficient and is supposed to prevent calls from failing. CenturyLink states that it is working with West and the DPS to correct the problems that caused the August 1st outage. DPS believes that the pace of the correction is slower than it should be.

Finally, 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.

The Department and the DPS agree that the outage of August 1, 2018 indicates that CenturyLink did not provide safe and adequate service. A redundant selective router failed to pass on 9-1-1 calls due to the “routine” provisioning of a worker. The outage was due to human error, and there were no alarm and notification systems in place that would detect this outage.

The Department and DPS recommend that the Commission order:

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 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; and
 - e) The number and circumstance of any failed 9-1-1 calls 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.
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.

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

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 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. As CenturyLink explained in reply comments, 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. 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 . . ." 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.

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." 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; and
 - 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.~~
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.~~

DPS/DOC Response: The Agencies believe the following two principles must govern the provision of 9-1-1 services. First, the primary purpose of this investigation is to determine what can be done to ensure that the 9-1-1 system responds every time a person dials or texts 9-1-1 in search of help. If a call does not reach the PSAP or cannot deliver necessary information, then that uncompleted call constitutes a public safety failure, and every effort must be made by the providers of the network and providers of the public safety services to ensure that calls never fail for any reason.

Second, when an instance occurs that prevents citizens from making 9-1-1 calls, whatever the reason, communication flows to all those involved in the delivery of 9-1-1, including network

staff, DECN, MESB, PSAPs, and to the public must be prompt, regular, and as complete as possible.

Century Link's comments suggest that it does not have a role in any instance that does not arise within its dedicated network provided by West Safety Services. However, CenturyLink has a system coordination role that it needs to play in the delivery of 9-1-1. The Statement of Work that CenturyLink agreed to states:

The CenturyLink Program Manager along with the CenturyLink Service Manager and Database Manager will combine efforts to serve in a "System Coordination" role, advocating on behalf of DECN and MESB with all originating service providers, VPCs, MPCs, other 911 service providers, and vendors and assist with resolution, mitigation, and root cause analyses of issues that may, or may not have originated within the CenturyLink 9-1-1 system, or that have been detected through the system's reporting capabilities. The CenturyLink Program Manager will work with the designated Service Manager and Database Manager with these types of activities.

CenturyLink's statement that "this proceeding should focus on 911 and not address network issues that are independent of the 9-1-1 system" seems to ignore the public safety role for which CenturyLink bid. Limiting the investigation to only the core 9-1-1 network unnecessarily ignores sources of problems that may prevent citizens from reaching a PSAP. The Agencies are not suggesting that CenturyLink's task is to ensure that problems never occur, only that CenturyLink agree to assist the public safety agencies in working toward the goal of eliminating failed 9-1-1 calls, no matter the cause. For these reasons the Agencies are opposed to CenturyLink's proposed change to recommendation 1 (e) and ask the commission to include recommendation 1 as originally proposed.

CenturyLink misunderstood the Agencies' concerns regarding assigning a service manager and sales engineer, responsible for multiple states' technical operations, to also act as the communications point person during an outage. The Agencies are not disputing the need to have a single point of contact. The Agencies simply wanted to avoid having excessive demands being placed on a single technical person to get the networks up and running, as well as to update PSAPs and DPS as the communications point of contact.¹

¹ CenturyLink appeared to recognize the Agencies' concern when it included footnote No. 9 from the Agencies' initial report. 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.

IV. Staff Analysis

Below Staff is providing a focus on the relief suggested by the Agencies as modified by CenturyLink and focus each parties' arguments regarding the modifications:

1. 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.
1. 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.~~

CenturyLink: 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.

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.

Agencies: CenturyLink's statement that "this proceeding should focus on 911 and not address network issues that are independent of the 9-1-1 system" seems to ignore the public safety role for which CenturyLink bid. Limiting the investigation to only the core 9-1-1 network unnecessarily ignores sources of problems that may prevent citizens from reaching a PSAP. The Agencies are not suggesting that CenturyLink's task is to ensure that problems never occur, only that CenturyLink agree to assist the public safety agencies in working toward the goal of eliminating failed 9-1-1 calls, no matter the cause. For these reasons the Agencies are opposed to CenturyLink's proposed change to recommendation 1 (e) and ask the commission to include recommendation 1 as originally proposed.

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.~~

CenturyLink: 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.

Agencies: If at any time, DPS becomes uncomfortable with the cooperation and progress of CenturyLink, the matter may be brought to the Commission for resolution. This language was recommended by the Agencies originally in the Agencies' February 15, 2019 Report, and continued to recommend that the Commission order the same language.

V. Decision Options

- I. Accept the Agencies' report and make the finding make the findings as provided in the report.
- II. Make the findings from the report as modified by CenturyLink.
- III. Make other findings as the Commission deems appropriate.

VI. Staff Recommendation