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Phil Grate
Director Montana
Regulatory and Legislative Affairs

April 9, 2015

Montana Public Service Commission
Kate Whitney
Division Administrator - Regulatory Division
1701 Prospect Avenue
Helena, MT 59620

E-filed and hand delivered

Re: Docket Nos. D2014.11.91 and N2014.4.38

Dear Ms. Whitney:

Transmitted with this letter is the supplemental response of Qwest Corporation d/b/a CenturyLink QC ("CenturyLink QC") to data requests of the Montana Public Service Commission to CenturyLink QC, numbered PSC-002 through PSC-006 in the above-referenced docket.

This revised response includes CONFIDENTIAL information. CenturyLink filed a motion for a standard protective order that sought to protect information elicited through four separate Commission data requests:

- PSC-002(a) requests 2013 and 2014 Leadership Scorecards reports for three exchanges in Cascade, Wibaux, and Wolf Creek. Mot. for Protective Order p. 1 (Jan. 26, 2015).
- PSC-003(d) requests the location of each analog carrier system in an ERSI Shape File or other GSI format and the number of customers served by each system. *Id.*
- PSC-003(e) requests the list of repeat Out-of-Service ("OOS") trouble reports in the Montana CenturyLink QC network for 2013 and 2014 and, if multiple OOS reports for any customer have been taken anytime between Jan. 1, 2013 and November 1, 2104, a list of each report together for the same location in the same format specified for the reporting of individual OOS > 24 Hours trouble reports in the Commission August 26, 2014 NCA in Docket No. N2014.4.38. *Id.* at pp. 1-2.
- PSC-006(b) requests the trouble report rate by wire center by month for the period March, 2014 to November, 2014. *Id.* at p. 2.

Kate Whitney
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Montana Public Service Commission Order No. 7388d grants CenturyLink's motion.
Provided under the protection of Order No. 7388d are the following:

- *PSC-002(a) Confidential Attachment A;*
- *PSC-002(a) Confidential Attachment B;*
- *PSC-002(a) Confidential Attachment C;*
- *PSC-003(d) Confidential Attachment B;*
- *PSC-003(e) Confidential Attachment A;*
- *PSC-006(b) Confidential Attachment A.*

Also attached is the narrative response has been supplemented to reflect that CenturyLink QC is providing the confidential attachments listed above.

Respectfully,

A handwritten signature in black ink, appearing to read "Philip E. Grate". The signature is written in a cursive style with a large, prominent initial "P".

**DEPARTMENT OF PUBLIC SERVICE REGULATION
BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MONTANA**

IN THE MATTER OF CenturyLink QC's)	REGULATORY DIVISION
Service and Its Response to Notice of)	
Commission Action in Docket N2014.3.38,)	DOCKET NO. D2014.11.91
Including Petition for Waiver of Admin. R.)	
Mont. 38.5.3371(7)(b))	

**CENTURYLINK'S SUPPLEMENTAL RESPONSES TO THE MONTANA PUBLIC
SERVICE COMMISSION SECOND SET OF DATA REQUESTS
APRIL 9, 2015**

PSC-002

Regarding: "Vital Few Leadership Scorecard" report, cable

- a) Please provide all Leadership Scorecard reports for the Cascade, Wibaux, and Wolf Creek exchanges for 2013 and 2014.

RESPONSE: *PSC 002(a) Confidential Attachment A* is the requested Leadership Scorecard report for the Cascade exchange. *PSC 002(a) Confidential Attachment B* is the requested Leadership Scorecard report for the Wolf Creek exchange. *PSC 002(a) Confidential Attachment C* is the requested Leadership Scorecard report for the Wolf Creek exchange. Qwest Corporation d/b/a CenturyLink QC is not providing these three confidential attachments with this first response pending the PSC's decision on CenturyLink QC's motion for a protective order to protect this confidential data from public disclosure.

APRIL 9, 2015 SUPPLEMENTAL RESPONSE: Pursuant to Montana Public Service Commission Order No. 7388d granting CenturyLink QC's motion for a protective order to protect this confidential data from public disclosure. Qwest Corporation d/b/a CenturyLink QC is providing:

- *PSC 002(a) Confidential Attachment A;*
- *PSC 002(a) Confidential Attachment B;*
- *PSC 002(a) Confidential Attachment C.*

RESPONDENT: Shelly Glueckert

- b) Please provide the number of miles of "open wire" in the CenturyLink QC Montana serving area.

RESPONSE: In an effort to determine the amount of open wire in the CenturyLink QC Montana serving area, a report was prepared from Outside Plant Facility Management

records (OSPFM) and a survey of the local Area Plant team was performed. Open Wire (OW) used as service drops is not recorded in OSPFM.

OSPFM shows 14.5 miles of Open Wire.

However, based on technician, engineer, and old records knowledge, CenturyLink estimates there are 50.1 miles of Open Wire in Montana:

- i) Billings -10.7 Miles of OW, serving 6 customers
- ii) Helena – 21.6 miles of OW, serving 9 customers
- iii) Butte – 5.8 miles of OW, serving 6 customers
- iv) Bozeman – 3 miles of OW, serving 6 customers
- v) Great Falls – 9 miles of OW, serving 3 customers

RESPONDENT: Ronald Smith

- c) Please explain generally when that open wire was installed.

RESPONSE: Open Wire was installed from the early days of telephony through the 1950's.

RESPONDENT: Ronald Smith

- d) Please explain the differences and advantages and disadvantages of open wire versus air filled cable versus jell filled cable.

RESPONSE: The primary differences between open wire and sheathed cable such as air filled and jelly filled cable are:

- Open wire is not sheathed. Sheathed cable is, as the name suggests, sheathed with a nonmetallic sheath.
- Sheathed cable typically contains several metallic wire pairs while open wire typically has only a few pairs and can have as few as one pair.
- The diameter of the metal conductor of open wire is larger than the diameter of the metal conductor in sheathed cable. Open wire is typically 16 gauge while sheathed cable typically contains wires of 19 to 26 gauge.

The primary disadvantages of open wire compared to sheathed cable are:

- Open wire is more susceptible to corrosion than sheathed cable.
- Open wire is more susceptible to power influences than sheathed cable.
- Open wire is not well suited of transmitting DSL signals.

The primary advantages of open wire compared to sheathed wire are:

- Open wire can transmit an analog signal over greater distances than can sheathed cable.

- **Open wire can serve locations further from the central office because it does not require as much electronics to provide voice grade service as does sheathed cable.**

RESPONDENT: Ronald Smith

- e) What are the percentages of open wire versus air filled cable versus jell filled cable in CenturyLink QC's rural Montana network?

RESPONSE: It is important to understand the difference between cable and service drops. Cable connects the central office to terminals. Service drops connect terminals to customer premises. Qwest keeps records of its cable but not of its service drops. The records show Qwest has 1770 miles of cable. As noted in the response to PSC-002(b), the OSPFM records show 14.5 miles of cable is open wire, but CenturyLink estimates there are 50.1 miles of open wire in the network. CenturyLink is investigating the records to determine the accuracy of the open wire records in OSPFM.

RESPONDENT: Ronald Smith

PSC-003

Regarding: open wire, analog carriers

- a) Please describe any plans to replace open wire.

RESPONSE: CenturyLink does not have a replacement schedule for open wire cable or drop. Instead, Qwest replaces open wire facilities when it determines it is necessary and prudent to do so.

RESPONDENT: Ronald Smith

- b) Please provide an estimate of how much it would cost to replace all open wire in the CenturyLink QC Montana network.

RESPONSE: The estimated cost to replace open wire is \$20 per foot. Accordingly, the estimated cost to replace 50.1 miles of open wire identified in response to PSC 002(b) is \$5.3 million. At \$20 per foot, the cost of replacing the 14.5 miles of Open Wire identified in OSPFM would be \$1.5 million.

RESPONDENT: Ronald Smith

- c) Are all analog carriers in the CenturyLink QC Montana network Anaconda carriers? If not, what other type of analog carrier systems are in the network?

RESPONSE: No. In addition to Anaconda analog carriers systems, CenturyLink has deployed Seiscor SSC-8 systems and Charles Industries CM8 systems.

RESPONDENT: Ronald Smith

- d) Please provide the location of each analog carrier system in an ERSI Shape File or other GSI format, and the number of customers served by each system. Please also provide a map showing the location of each analog carrier system.

RESPONSE REVISED JANUARY 23, 2015: *PSC-003(d) Attachment A* is a map showing the location of each analog carrier system in Montana. *PSC 003(d) Attachment C* provides the number of customers served by each of the 242 analog carrier systems Qwest Corporation d/b/a CenturyLink QC currently has deployed in Montana. Please note that in *Attachment C* the analog carrier systems are identified as systems 1 to 242, so as to make the number of customers served publicly available while simultaneously protecting the identity of the carrier systems which *PSC-003(d) Confidential Attachment B* precisely locates geographically. *PSC-003(d) Confidential Attachment B* provides the requested shape files of the analog carrier systems and includes a key so that the non-confidential customer data in *PSC-003(d) Attachment C* can be matched to the confidential location data in *PSC-003(d) Confidential Attachment B*. Also, 28 of the 242 analog carrier systems do not have latitude and longitude information and, therefore, could not be mapped. The attribute table included in the shape files indicates which analog carrier systems are not mapped. Qwest Corporation d/b/a CenturyLink QC is not providing *PSC-003(d) Confidential Attachment B* with this revised response pending the PSC's decision on CenturyLink QC's motion for a protective order to protect the data contained in *PSC-003(d) Confidential Attachment B* from public disclosure.

APRIL 9, 2015 SUPPLEMENTAL RESPONSE: Pursuant to Montana Public Service Commission Order No. 7388d granting CenturyLink QC's motion for a protective order to protect this confidential data from public disclosure. Qwest Corporation d/b/a CenturyLink QC is providing *PSC-003(d) Confidential Attachment B* as a ZIP file only.

RESPONDENT: Jacob Barlow

- e) Please provide a list of repeat OOS trouble reports in the Montana CenturyLink QC network for 2013 and to date 2014. If multiple OOS trouble reports for any customer location have been taken anytime between Jan. 1, 2013 and November 1, 2014, please list each report together for the same location in the same format specified for the reporting of individual OOS > 24 Hours trouble reports in the Commission August 26, 2014 NCA in Docket No. N2014.4.38.

RESPONSE: CenturyLink QC is conducting a study to gather this data and will supplement this response when it is available.

APRIL 9, 2015 SUPPLEMENTAL RESPONSE: *PSC-003(e) Confidential Attachment A* contains the requested information. Pursuant to Montana Public Service Commission Order No. 7388d granting CenturyLink QC's motion for a protective order to protect this confidential data from public disclosure. Qwest Corporation d/b/a CenturyLink QC is providing *PSC-003(e) Confidential Attachment A*.

RESPONDENT: Phil Grate

PSC-004

Regarding: analog carriers, CAF Phase II census blocks

- a) Please provide an estimate of the cost to replace all analog carrier systems in the CenturyLink QC Montana serving area.

RESPONSE: CenturyLink estimates that it would cost \$157 million to replace all analog carrier systems in the CenturyLink QC serving area in Montana. This estimate assumes the consolidation of rate centers. When analog carrier systems are replaced, the replacement technology requires an integrated switch, and many of the switches serving analog carrier today are not integrated. However, rate center consolidation would allow the backhaul of traffic in these areas to an integrated host switch, that may be in a different rate center today.

- b) How many of the analog carrier systems are located in census blocks eligible for CAF Phase II funding?

RESPONSE REVISED JANUARY 23, 2015: The number of analog carriers systems that will be eligible for CAF Phase II funding is not yet known pending the FCC's final determination of eligible census blocks. Under the most recent FCC determination of census blocks eligible for CAF II funding (CAM 4.1.1 model (4 Mbps down/1Mbps up), 128 of the analog carrier systems serve at least one address located in a CAF II eligible census block.

RESPONDENT: Jacob Barlow

- c) Please provide a map showing the census blocks eligible for CAF Phase II funding in which analog carrier systems are located.

RESPONSE: Please see *PSC 004(c) Attachment A* for a map showing census blocks containing locations served by analog carrier.

RESPONDENT: Jacob Barlow

- d) Would CenturyLink agree that if it accepts CAF Phase II funding that, in order to deploy the required broadband service, the analog carrier systems would need to be replaced?

RESPONSE: Yes.

RESPONDENT: Susan Spitze

- e) Can DSL be delivered to customers on analog carrier systems?

RESPONSE: No.

RESPONDENT: Susan Spitze

PSC-005

Regarding: analog carriers

a) Can DSL be delivered to a customer over open wire?

RESPONSE: It is possible to deliver DSL over open wire, but CenturyLink does not recommend this because open wire is susceptible to environmental factors that could lead to interference and noise, potentially making the signal unreliable.

RESPONDENT: Susan Spitze

b) Are digital subscriber carrier systems a possible replacement for analog carriers?

RESPONSE: Yes. However, this technology has limited future flexibility since it supports only dial tone and not internet services. In addition, as the network evolves toward Ethernet protocols and VOIP, there is risk that many current digital carrier platforms will no longer be available in the future.

RESPONDENT: Susan Spitze

c) From a network perspective, please explain what is involved in replacing an analog carrier with digital carriers.

RESPONSE: Replacement would involve the electronics on either end of the circuit.

RESPONDENT: Susan Spitze

d) When did Anaconda carrier systems and replacement parts cease to be manufactured?

RESPONSE: The manufacture of Anaconda carrier systems and replacement parts was discontinued about a decade ago.

RESPONDENT: Susan Spitze

e) Are any analog carrier systems currently utilized in the CenturyTel serving area in Montana? If so, how many?

RESPONSE: No.

RESPONDENT: Ronald Smith

PSC-006

Regarding: analog carriers, trouble report rate

- a) If CenturyTel does not utilize analog carrier systems in Montana, what technology does it utilize to provide service in its rural areas?

RESPONSE: Digital Loop Carrier Systems.

RESPONDENT: Ronald Smith

- b) Please provide the trouble report rate by wire center by month for the period March, 2014 to November, 2014.

RESPONSE: *PSC-006 Confidential Attachment A* contains the requested information. Qwest Corporation d/b/a CenturyLink QC is not providing *PSC-006 Confidential Attachment A* with this first response pending the PSC's decision on CenturyLink QC's motion for a protective order to protect this confidential data from public disclosure.

APRIL 9, 2015 SUPPLEMENTAL RESPONSE: The requested information is contained in *PSC-006(b) Confidential Attachment A* which CenturyLink QC is providing pursuant to Montana Public Service Commission Order No. 7388d granting CenturyLink QC's motion for a protective order to protect this confidential data from public disclosure.

RESPONDENT: Victoria Hunnicutt



CERTIFICATE OF SERVICE

I HEREBY CERTIFY that true and correct copies of the foregoing were served on April 9, 2015, in the manner shown and addressed as follows:

**Hand delivered including diskette
containing confidential data:**

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DATED this 9th day of April, 2015

Shelley Glueckert
Shelley Glueckert