### Docket No. UT-140280

CenturyLink's September 15, 2017 Responses to Staff Requests 1-3 regarding the September 4, 2017 outage.

- 1. Please file a major outage report related to the Spokane (Deer Park) / Stevens County outage September 4, 2017, reference Docket UT-140280.
  - a. Staff requests the report include missed calls and record of 911 calls,
  - b. root cause analysis,
  - c. the timeline of all communications and notifications of outage internally and to PSAPs, WMD, and the UTC.
  - d. This is in addition to details contained in the WAC for outage reporting.

#### Response:

A major outage report under WAC 480-120-439(2) is required if an outage lasts more than forty-eight hours. The major outages report must include a description of each major outage and a statement that includes the time, the cause, the location and number of affected access lines, and the duration of the interruption or impairment. When applicable, the report must include a description of preventive actions to be taken to avoid future outages.

In this case the outage lasted approximately 14.5 hours (Start 04-SEP-2017 14:32:26 PDT, end 05-SEP-2017 05:11:00 PDT). The information required in a major outage report is included in this response.

The outage was caused by a third party who cut a 12-strand fiber while using a post-hole digger. No locates for utility facilities had been requested prior to digging. The location of the outage was Stevens County/Deer Park WA between Deer Park and the Whitworth central office in Spokane. 10,223 lines were toll isolated for the duration of the outage, meaning that they could not make 911 or toll calls. Local dial tone was not affected. For the first 19 minutes, until 911 was rerouted, 14,425 PSAP lines were affected and would not have been able to reach 911.

As this outage was not company-caused there are no specific preventative actions to avoid future cable cuts.

- a. 911 was rerouted in less than 20 minutes after the outage occurred. There is no record of missed 911 calls. There were no active 911 calls in progress on this facility when the damage occurred, so no 911 calls were dropped.
- b. The root cause analysis is that a third party cut the transport fiber between Spokane and Deer Park.

#### Docket No. UT-140280

CenturyLink's September 15, 2017 Responses to Staff Requests 1-3 regarding the September 4, 2017 outage.

c. The timeline of communications and notifications of outage are contained on the following attachments:

Attachment 1.1 – Summary of internal outage notifications
Attachment 1.2 – PSAP notices and other communications with PSAPs
Attachment 1.3 – Notifications, in chronological order, sent to both the UTC and WMD (NEMC)

Attachment 1.4 – Tweets sent regarding the outage. At least one local TV station picked the story up and reported it based on the Twitter notifications.

d. WAC 480-120-412 regarding major outage reporting is covered in the communications and information listed in this response above.

### Attachment 1.1 Chronology of Internal Notifications

Internal notifications triggered with status updates at the following times:

September 4, 2017

15:03:47 PDT

16:33:14 PDT

18:42:18 PDT

20:03:47 PDT

20:56:25 PDT

21:08:28 PDT

22:06:04 PDT

September 5, 2017

01:16:07 PDT

02:58:12 PDT

04:07:47 PDT

05:27:42 PDT

PSS_ID	Notification Status	PSAP_ID	Notification Type	Notification Method Device Address	Device Address
000000000000000000000000000000000000000	Completed	WA/EVXR/164/PN-W	Final	Verbal	509-684-2555
00000000000000	Completed	WA/EVXR/164/PN-W	Final	Email	randerson@co.stevens.
000000000000000000000000000000000000000	Completed	WA/EVXR/164/PN-W	Followup	Verbal	509-684-2555
000000000000000000000000000000000000000	Completed	WA/EVXR/164/PN-W	Followup	Email	randerson@co.stevens.
00000000000000	Completed	WA/EVXR/164/PN-W	Followup	Verbal	509-684-2555
000000000000000	Completed	WA/EVXR/164/PN-W	Followup	Email	randerson@co.stevens.
000000000000000	Completed	WA/EVXR/164/PN-W	Initial	Verbal	509-684-2555
0000000000000000	Completed	WA/EVXR/164/PN-W	Initial	Email	randerson@co.stevens.

Sep 6, 2017 9:23 PM

Attachment 1.2

Sent Timestamp	Completed Timestamp Failed Times PSAP_NAME	es PSAP_NAME	CTL Completed Times
9/5/2017 8:22:43 AM	9/5/2017 8:25:02 AM	Stevens County	9/5/2017 8:25:02 AM
9/5/2017 8:22:42 AM	9/5/2017 8:23:11 AM	Stevens County	9/5/2017 8:23:11 AM
9/4/2017 6:45:12 PM	9/5/2017 8:23:33 AM	Stevens County	9/5/2017 8:23:33 AM
9/4/2017 6:45:12 PM	9/4/2017 6:45:23 PM	Stevens County	9/4/2017 6:45:23 PM
9/4/2017 5:56:42 PM	9/4/2017 6:05:42 PM	Stevens County	9/4/2017 6:05:42 PM
9/4/2017 5:56:42 PM	9/4/2017 5:57:05 PM	Stevens County	9/4/2017 5:57:05 PM
9/4/2017 5:38:13 PM	9/4/2017 5:52:22 PM	WA-STEVENS COL	WA-STEVENS COUNT 9/4/2017 5:52:22 PM
9/4/2017 5:38:12 PM	9/4/2017 5:38:31 PM	WA-STEVENS COU	WA-STEVENS COUNT 9/4/2017 5:38:31 PM

Attachment 1.2

1

911 Outage Report

Sent:

Tuesday, September 05, 2017 6:23 AM

To:

911 OUTAGE DUTY LIST

Subject:

FW: Final 911 PSAP Outage Notification

From: 911 Outage Report

Sent: Tuesday, September 05, 2017 7:22:43 AM (UTC-06:00) Central Time (US & Canada)

To: 911 Outage Report

Subject: Final 911 PSAP Outage Notification



### Final 911 PSAP Outage Notification

You are receiving this email because you are a designated contact person for outage communications for this facility. There is a network event that is causing a potential 911 PSAP/Central Office/ALI Outage in your area. CenturyLink is attempting/or has contacted your PSAP via telephone to inform you of this possible 911 outage. CenturyLink is sending this email notification pursuant to Section 4.9(h) of the Rules of the Federal Communications Commission, 47 C.F.R. § 4.9(h).

# BELOW IS THE BEST-AVAILABLE INFORMATION KNOWN ABOUT THIS EVENT AT THIS TIME. THIS INFORMATION MAY CHANGE AS CENTURYLINK CONTINUES IT'S INVESTIGATION.

Cause of 911 impact

fiber cut

**Geographic Scope of Outage** 

Stevens County,

Time of Repair

Unknown Time

Action Taken to Minimize 911 Impact

fiber failure affecting 4,504 Colville customers has been fixed as

of 05:00 pacific time.

You may contact CenturyLink by calling the number below and referencing Ticket Number

Ticket Id	Ticket Number
PSS Id	9029
WFA Ticket	MW096200
ANTS Ticket	WA.090417.002
NMA Ticket	WD74U

or by replying to this email to get further action taken regarding the outage and to discuss any steps to help mitigate the 911 impact.

CenturyLink 911 Public Safety Services

200 S 5th St Minneapolis MN 55402 Tel: 800-357-0911 @ Opt 1

Email: 911.Outage.Report@centurylink.com

<sup>\*\*\*</sup> For 911 Reroute Requests Call 800-357-0911 \*\*\*

911 Outage Report

Sent:

Monday, September 04, 2017 3:38 PM

To:

911 OUTAGE DUTY LIST

Subject:

FW: Initial 911 PSAP Outage Notification

From: 911 Outage Report

Sent: Monday, September 04, 2017 4:38:13 PM (UTC-06:00) Central Time (US& Canada)

**To:** 911 Outage Report

Subject: Initial 911 PSAP Outage Notification



### Initial 911 PSAP Outage Notification

You are receiving this email because you are a designated contact person for outage communications for this facility. There is a network event that is causing a potential 911 PSAP/Central Office/ALI Outage in your area. CenturyLink is attempting/or has contacted your PSAP via telephone to inform you of this possible 911 outage. CenturyLink is sending this email notification pursuant to Section 4.9(h) of the Rules of the Federal Communications Commission, 47 C.F.R. § 4.9(h).

You may contact CenturyLink by calling the number below and referencing Ticket Number

Ticket Id	Ticket Number
PSS ld	9029
NMA Ticket	wd74u

or by replying to this email to get further action taken regarding the outage and to discuss any steps to help mitigate the 911 impact.

### CenturyLink NROC Voice NRC Littleton

700 W Mineral Ave. Littleton CO 80120

Tel: 800-830-0722 Option 1, option 3

Email: 911.Outage.Report@centurylink.com

<sup>\*\*\*</sup> For 911 Reroute Requests Call 800-357-0911

911 Outage Report

Sent:

Monday, September 04, 2017 3:57 PM

To:

911 OUTAGE DUTY LIST

Subject:

FW: Follow Up 911 PSAP Outage Notification

From: 911 Outage Report

Sent: Monday, September 04, 2017 4:56:42 PM (UTC-06:00) Central Time (US& Canada)

To: 911 Outage Report

Subject: Follow Up 911 PSAP Outage Notification



### Follow Up 911 PSAP Outage Notification

You are receiving this email because you are a designated contact person for outage communications for this facility. There is a network event that is causing a potential 911 PSAP/Central Office/ALI Outage in your area. CenturyLink is attempting/or has contacted your PSAP via telephone to inform you of this possible 911 outage. CenturyLink is sending this email notification pursuant to Section 4.9(h) of the Rules of the Federal Communications Commission, 47 C.F.R. § 4.9(h).

# BELOW IS THE BEST-AVAILABLE INFORMATION KNOWN ABOUT THIS EVENT AT THIS TIME. THIS INFORMATION MAY CHANGE AS CENTURYLINK CONTINUES IT'S INVESTIGATION.

Cause of 911 Impact

Under investigation

Geographic Scope of Outage

Stevens County,

Time of Repair

Unknown Time

Action Taken to Minimize 911 Impact

Stevens County 911 has been abandoned to Spokane County at

251 PDT

You may contact CenturyLink by calling the number below and referencing Ticket Number

Ticket Id	Ticket Number
PSS ld	9029
WFA Ticket	MW096200
NMA Ticket	WD74U

or by replying to this email to get further action taken regarding the outage and to discuss any steps to help mitigate the 911 impact.

CenturyLink 911 Public Safety Services

200 S 5th St

Minneapolis MN 55402 Tel: 800-357-0911€ Opt 1

Email: 911.Outage.Report@centurylink.com

<sup>\*\*\*</sup> For 911 Reroute Requests Call 800-357-0911 \* \*\*\*

911 Outage Report

Sent:

Monday, September 04, 2017 4:45 PM

To:

911 OUTAGE DUTY LIST

Subject:

FW: Follow Up 911 PSAP Outage Notification

From: 911 Outage Report

Sent: Monday, September 04, 2017 5:45:12 PM (UTC-06:00) Central Time (US& Canada)

To: 911 Outage Report

Subject: Follow Up 911 PSAP Outage Notification



### Follow Up 911 PSAP Outage Notification

You are receiving this email because you are a designated contact person for outage communications for this facility. There is a network event that is causing a potential 911 PSAP/Central Office/ALI Outage in your area. CenturyLink is attempting/or has contacted your PSAP via telephone to inform you of this possible 911 outage. CenturyLink is sending this email notification pursuant to Section 4.9(h) of the Rules of the Federal Communications Commission, 47 C.F.R. § 4.9(h).

# BELOW IS THE BEST-AVAILABLE INFORMATION KNOWN ABOUT THIS EVENT AT THIS TIME. THIS INFORMATION MAY CHANGE AS CENTURYLINK CONTINUES IT'S INVESTIGATION.

Cause of 911 Impact

Suspect fiber cut

Geographic Scope of Outage

Stevens County,

Time of Repair

Unknown Time

**Action Taken to Minimize 911 Impact** 

Technicians investigating suspected fiber failure affecting 4,504

Colville customers

You may contact CenturyLink by calling the number below and referencing Ticket Number

Ticket Id	Ticket Number
PSS ld	9029
WFA Ticket	MW096200
NMA Ticket	WD74U

or by replying to this email to get further action taken regarding the outage and to discuss any steps to help mitigate the 911 impact.

CenturyLink 911 Public Safety Services

200 S 5th St

Minneapolis MN 55402 Tel: 800-357-0911 © Opt 1

Email: 911.Outage.Report@centurylink.com

<sup>\*\*\*</sup> For 911 Reroute Requests Call 800-357-0911 \*\*\*

1

From:

**Regulatory NEMC** 

Sent:

Monday, September 04, 2017 4:08 PM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002 I



# **PUC Report**

Report Number: WA.090417.002

Impacted Company: CenturyLink

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Phil Grate 206-345-6224

The communications path between Stevens County

Reason for Outage PSAP and CenturyLink cannot transmit 911/E911

Notification: calls and CenturyLink is not able to re-route

911/E911 calls to [PSAP Name].

Cause of Outage:

Location of Outage: SPOKANE/WA

Exchange Name / SPKNWAFA Wire Center:

Expected Duration: 04-SEP-2017 18:32:26

**Duration**: 0001:27:10

Number of

Customers/ Cable 14425

pair impacted:

**Services Affected: 911,FACILITY** 

Agencies Notified: PSAP

Significant Update:

Resolution:

Restore Date/Time:

1

From:

Regulatory NEMC

Sent:

Monday, September 04, 2017 4:13 PM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002 U



# **PUC Report**

**Report Number: WA.090417.002** 

Impacted Company: CenturyLink

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Phil Grate 206-345-6224

The communications path between Stevens County

Reason for Outage PSAP and CenturyLink cannot transmit 911/E911

Notification: calls and CenturyLink is not able to re-route

911/E911 calls to [PSAP Name].

Cause of Outage:

Location of Outage: SPOKANE/WA

Exchange Name / SPKNWAFA

Wire Center:

**Expected Duration: 04-SEP-2017 18:32:26** 

**Duration**: 0001:27:10

Number of

**Customers/ Cable 14425** 

pair impacted:

**Services Affected: 911, FACILITY** 

Agencies Notified: PSAP

<u>Significant Update</u>:

**Resolution**:

Restore Date/Time:

From:

**Regulatory NEMC** 

Sent:

Monday, September 04, 2017 4:55 PM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002\_U



# **PUC Report**

**Report Number: WA.090417.002** 

Impacted Company: CenturyLink

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Phil Grate 206-345-6224

The communications path between Stevens County

Reason for Outage PSAP and CenturyLink cannot transmit 911/E911

Notification: calls and CenturyLink is not able to re-route

911/E911 calls to [PSAP Name].

Cause of Outage:

**Location of Outage: SPOKANE/WA** 

Exchange Name / SPKNWAFA Wire Center:

**Expected Duration**: 04-SEP-2017 18:32:26

**Duration**: 0002:08:09

Number of

Customers/ Cable 14425

pair impacted:

Services Affected: 911,ETHERNET,DSL,FACILITY

**Agencies Notified: PSAP** 

Significant Update: Technician en route

Resolution:

Restore Date/Time:

1

From:

**Regulatory NEMC** 

Sent:

Monday, September 04, 2017 7:27 PM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002\_U



# **PUC Report**

Report Number: WA.090417.002

Impacted Company: CenturyLink

**Date and Time**: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Phil Grate 206-345-6224

The communications path between Stevens County

Reason for Outage PSAP and CenturyLink cannot transmit 911/E911

Notification: calls and CenturyLink is not able to re-route

911/E911 calls to [PSAP Name].

Cause of Outage: Fiber Cut

Location of Outage: SPOKANE/WA

Exchange Name / SPKNWAFA

**Expected Duration: 04-SEP-2017 20:00:00** 

**Duration**: 0004:10:01

Number of

Customers/ Cable 14425

pair impacted:

**Services Affected: 911,ETHERNET,DSL,FACILITY** 

**Agencies Notified: PSAP** 

Significant Update: Technician driving fiber route to locate fiber cut.

**Resolution:** 

Restore Date/Time:

From:

Regulatory NEMC

Sent:

Monday, September 04, 2017 9:22 PM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002\_U



# **PUC Report**

**Report Number: WA.090417.002** 

Impacted Company: CenturyLink

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE**: PDT

For Questions Contact: Phil Grate 206-345-6224

The communications path between Stevens County Reason for Outage PSAP and CenturyLink cannot transmit 911/E911

Notification: calls and CenturyLink is not able to re-route

911/E911 calls to [PSAP Name].

Cause of Outage: Fiber Cut

Location of Outage: SPOKANE/WA

Exchange Name / SPKNWAFA Wire Center:

**Expected Duration**: 04-SEP-2017 23:30:00

**Duration**: 0006:36:02

Number of

Customers/ Cable

pair impacted:

<u>Services Affected</u>: 911,ETHERNET,DSL,FACILITY

**Agencies Notified: PSAP** 

Significant Update:

**Resolution**:

Restore Date/Time:

1

From:

Regulatory NEMC

Sent:

Monday, September 04, 2017 10:50 PM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002\_U



# **PUC Report**

**Report Number: WA.090417.002** 

Impacted Company: CenturyLink

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Contact: Phil Grate 206-345-6224

Reason for Outage
Notification:
Facilities are cut/damaged from SPOKANE and is unable to complete 911/E911 calls; no re-route is

Notification : available.

Cause of Outage: 12 strand fiber cable was cut

**Location of Outage: SPOKANE/WA** 

Exchange Name / SPKNWAFA
Wire Center:

**Expected Duration**: 05-SEP-2017 03:00:00

Duration: 0008:03:32

Number of

Customers/ Cable 14425

pair impacted:

**Services Affected: 911,ETHERNET,DSL,FACILITY** 

**Agencies Notified: PSAP** 

Technicians have located the cut and contractors are on the way to the location with excavator and new cable to splice and repair, they will be on site

Significant Update:

by 0000 PDT, emergency locates have been called in and will be needed before the repair can be made. repairs will be made through the night.

**Resolution**:

Restore Date/Time:

1

From:

Regulatory NEMC

Sent:

Tuesday, September 05, 2017 1:00 AM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002\_U



# **PUC Report**

Report Number: WA.090417.002

**Impacted Company: CenturyLink** 

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Phil Grate 206-345-6224

Reason for Outage
Notification: Facilities are cut/damaged from SPOKANE and is unable to complete 911/E911 calls; no re-route is available.

Cause of Outage: 12 strand fiber cut

Location of Outage: SPOKANE/WA

Exchange Name / SPKNWAFA Wire Center:

Expected Duration: 05-SEP-2017 03:00:00

**Duration**: 0008:18:20

Number of

Customers/Cable 14425

pair impacted:

Services Affected: 911,ETHERNET,DSL,FACILITY

Agencies Notified: PSAP

Significant Update: contractors on site

**Resolution**:

Restore Date/Time:

From:

Regulatory NEMC

Sent:

Tuesday, September 05, 2017 2:45 AM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002\_U



## **PUC Report**

Report Number: WA.090417.002

**Impacted Company: CenturyLink** 

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Phil Grate 206-345-6224

Reason for Outage
Notification:

Facilities are cut/damaged from SPOKANE and is unable to complete 911/E911 calls; no re-route is

Notification : available.

Cause of Outage: 12 strand fiber cut

**Location of Outage: SPOKANE/WA** 

Exchange Name / SPKNWAFA Wire Center:

**Expected Duration**: 05-SEP-2017 03:30:00

**Duration**: 0010:43:40

Number of

Customers/ Cable 14425

pair impacted:

**Services Affected: 911,ETHERNET,DSL,FACILITY** 

Agencies Notified: PSAP

the technicians have started splicing on one end of

the cable and are preparing the other end to start

Significant Update: splicing at 0300 PDT, they expect service to start

restoring around 0330 PDT while splicing

continues.

Resolution:

Restore Date/Time:

1

From:

Regulatory NEMC

Sent:

Tuesday, September 05, 2017 4:48 AM

To:

Grate, Phil

Subject:

PUC\_WA.090417.002\_U



## **PUC Report**

**Report Number: WA.090417.002** 

Impacted Company: CenturyLink

**Date and Time**: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Phil Grate 206-345-6224

Reason for Outage Notification: Facilities are cut/damaged from SPOKANE and is unable to complete 911/E911 calls; no re-route is available.

Cause of Outage: 12 strand fiber cut

Location of Outage: SPOKANE/WA

Exchange Name / SPKNWAFA Wire Center:

**Expected Duration**: 05-SEP-2017 06:00:00

**Duration**: 0013:35:21

Number of

Customers/ Cable 14425

pair impacted:

**Services Affected : 911,ETHERNET,DSL,FACILITY** 

**Agencies Notified: PSAP** 

the technicians have completed splicing one end of

the cable and have moved to the other end and are

Significant Update:

now splicing that side, they expect to have the cable

repaired by 0600 PDT.

Resolution:

Restore Date/Time:

From:

Regulatory NEMC

Sent:

Tuesday, September 05, 2017 5:24 AM

To:

Grate, Phil

Subject:

PUC WA.090417.002 F



# **PUC Report**

**Report Number: WA.090417.002** 

Impacted Company: CenturyLink

Date and Time: 04-SEP-2017 14:32:26

**TIMEZONE: PDT** 

For Questions Contact: Phil Grate 206-345-6224

Reason for Outage is unable to complete 911/E911 calls; no re-route is available.

Cause of Outage: 12 strand fiber cut

Location of Outage: SPOKANE/WA

Exchange Name / Wire Center: SPKNWAFA

Expected Duration: 05-SEP-2017 06:00:00

Duration: 0014:16:27

Number of

Customers/ Cable 14425

pair impacted:

Services Affected: 911,ETHERNET,DSL,FACILITY

**Agencies Notified: PSAP** 

Significant Update: the 12 strand fiber cable has been repaired and all service has been restored.

 $\underline{\textbf{Resolution}}: \frac{\textbf{technicians completed splicing the 12 strand}}{\textbf{fiber cable.}}$ 

Restore Date/Time: 9/5/2017 5:11:00 AM PDT

Eastern WA Outage 9/4- 9/5

Tweets on @centurylinkewa

date time content

7 7 7 7	9/4/2017 9/4/2017 9/5/2017 9/5/2017	5:29 PM 911 & phone services are down for approx. 14k & approx. 3100 internet cust. In N. Spokane & communites to Northport. Tech investigting now. 7:54 PM Investigation continues on damaged fiber imacting 911 in Stevens Co. & phone erive for approx. 14K; 3,000 internet cust. In Spokane &nStevens Co. 3:14 AM Repair work continues on damaged fiber inacting over 14K 911 & phone cust. In Stevens Co. 911 calls now rerouted to Spokane Co. more soon 5:37 AM All 911, home & internet services are now restored to customers in N. Spokane and Stevens Counties. Techs comleted work at 5:30 AM
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Attachment 1.4 to Staff requests re September 4, 2017

Docket No. UT-140280 CenturyLink's September 15, 2017 Responses to Staff Requests 1-3 regarding the September 4, 2017 outage.

1 .

2. Please provide commission staff a marked confidential copy, if filed with the FCC, of the CenturyLink FCC NORS report. Reference and file in Docket UT-140280 regarding September 4, 2017 CenturyLink Stevens County/Spokane outage.

**Response:** Please see Confidential Attachment 2C, which are the first two reports. The final report will be provided when it is filed.

NORS Outage Report Details

**REDACTED - 9 PAGES** 

Docket No. UT-140280 CenturyLink's September 15, 2017 Responses to Staff Requests 1-3 regarding the September 4, 2017 outage.

3. Please include in the major outage report with the UTC status on route diversity commitment as identified in the 11/17/16 CenturyLink Final Root Cause Analysis Report (attached.)

**Response:** The status on the route diversity referenced in the 11/17/2016 root cause analysis is that a portion of the diverse route has been built, but due to the scope of the project it is not complete and has been split over multiple budget cycles.