

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

v.

CENTURYLINK COMMUNICATIONS, LLC,

Respondent.

DOCKET UT-181051

RESPONSE TESTIMONY

OF

~~STACY J. HARTMAN~~

JEANNE W. STOCKMAN

ON BEHALF OF

CENTURYLINK COMMUNICATIONS, LLC

March 31, 2022

Rev. October 21, 2022

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1 **I. BACKGROUND AND SUMMARY OF TESTIMONY**

2 **Q. PLEASE STATE YOUR NAME AND SUMMARIZE YOUR CURRENT ROLE AT**
3 **LUMEN.**

4 **A. Please see Exhibit JWS-16.** ~~My name is Stacy J. Hartman, and I am the Vice President of~~
5 ~~Public Policy Compliance at Lumen. I have over 22 years of industry experience at Lumen~~
6 ~~and its predecessor companies. In my current role, I am responsible for overseeing an~~
7 ~~organization of 51 professionals who develop Lumen’s corporate policies, support tariff~~
8 ~~filings, implement and maintain rates, provide analytical and mapping support, ensure~~
9 ~~continued compliance with regulatory requirements, and negotiate the development of~~
10 ~~industry standards and procedures. Further, I represent Lumen as the subject matter expert~~
11 ~~for regulatory reporting requirements in connection with network reliability, outage~~
12 ~~reporting, and 911 related issues. I also serve as the single point of contact for the Federal~~
13 ~~Communications Commission (“FCC”) on these issues.~~

14 ~~— Since 2004, when the FCC clarified and expanded its outage reporting rules, I have been~~
15 ~~the public policy and regulatory reporting subject matter expert, and FCC point of contact,~~
16 ~~for network reliability, outage reporting, and 911 related issues for Lumen and its~~
17 ~~predecessor companies. In this role, I am responsible for the development of the~~
18 ~~company’s corporate policies, completing in depth research, interpreting, providing~~
19 ~~recommendations, and advocating on behalf of the company on a myriad of complex~~
20 ~~regulatory and technical issues. These issues include intermittent outages, point of~~
21 ~~discovery, OC3 user minutes, telecommunication service priority, network reliability,~~
22 ~~CAMA trunks, NG911, multi-state outages, disaster impacts, PSAP notifications, network~~
23 ~~infrastructure, emergency stand alone, reporting timeliness, and many other issues.~~

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1 ~~Further, I represent Lumen at various industry forums, including Alliance for~~
2 ~~Telecommunications Industry Solutions (ATIS). I was the ATIS Network Reliability~~
3 ~~Steering Committee (NRSC) Co-Chair from 2008 to 2018. The NRSC strives to improve~~
4 ~~network reliability by providing timely consensus-based technical and operational expert~~
5 ~~guidance to all segments of the public communications industry. The NRSC addresses~~
6 ~~network reliability improvement opportunities in an open, noncompetitive environment.~~
7 ~~The NRSC advises the communications industry through developing and issuing standards,~~
8 ~~technical requirements, technical reports, bulletins, Best Practices, and annual reports.~~
9 ~~Under my leadership, the NRSC convened a multitude of special studies and special~~
10 ~~initiatives, as well as reviewed and commented on numerous high-profile filings. The~~
11 ~~topics focused on included Large DS3 Outage Investigation, E911 Outage, E911 CAMA~~
12 ~~Trunk Throughput Optimization, Mass Call Overload, Normalization, Outage Index~~
13 ~~Review, Standard Outage Classification, State Legislation for Copper Theft Deterrent,~~
14 ~~Wireless Outages, Copper Theft Deterrent, Fiber Cuts, IP Reliability, Service Provider~~
15 ~~Procedural Outages, Large DS3 Outage Investigation, DS3 Simplex Conditions, Planned~~
16 ~~Maintenance, Industry Best Practices, Hurricane Preparation Checklist, and VoIP outage~~
17 ~~reporting among others.~~

18 **Q. PLEASE DESCRIBE YOUR EDUCATION.**

19 **A.** ~~Please see Exhibit JWS-16. I have Bachelor of Science in Exercise and Sport Sciences from~~
20 ~~Colorado State University and am pursuing a Master in Telecommunications Management~~
21 ~~from Webster University.~~

1 ~~— In addition to my formal education, I began my career at US WEST in 1999 as a~~
2 ~~collocation design engineer. As I gained more knowledge and experience, I have been~~
3 ~~promoted into new roles with expanding responsibilities.~~

4 **Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE AT LUMEN AND ITS**
5 **PREDECESSORS.**

6 **A.** ~~Please see Exhibit JWS-16. I joined US WEST in 1999 as a Collocation Design Engineer.~~
7 ~~In that role, I was responsible for analyzing, planning, and engineering collocation jobs~~
8 ~~(including caged, cageless, virtual and Interconnection Distribution Frame) in Colorado~~
9 ~~and Wyoming. From 2001-2002, I served as Manager Technical Regulatory~~
10 ~~Interconnection Planning. In that role, I served as a subject matter expert for Field~~
11 ~~Connection Point, Remote Collocation, Resale, Unbundled Packet Switching, and~~
12 ~~Wireless. From 2003-2009, I served as Manager Network Public Policy. I performed~~
13 ~~many responsibilities in that role, including serving as the company's public policy~~
14 ~~representative responsible for all outage reporting criteria as outlined in the FCC Outage~~
15 ~~Order and State Commission rules. From 2009-2011, I served as Staff Director Public~~
16 ~~Policy. In that role, I represented the company as the subject matter expert for federal and~~
17 ~~state regulatory reporting requirements in connection with network service outages. As~~
18 ~~part of that job, I interpreted and communicated new and existing obligations for the~~
19 ~~network operations and compliance organizations on matters related to outage reporting,~~
20 ~~cybersecurity, poles, ducts and rights of way. From 2011-2018, I served as Director Public~~
21 ~~Policy. Among many responsibilities, I led the Public Policy department and represented~~
22 ~~the corporation as an expert on cyber and homeland security, network reliability, and~~
23 ~~outage reporting. I served as the single point of contact for the FCC for these issues. I was~~
24 ~~responsible for leading and overseeing the development of CenturyLink's corporate~~

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1 ~~regulatory policies, advocating on behalf of the company, and supporting and participating~~
2 ~~in the development of industry standards and procedures.~~

3 **Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION OR ANY OTHER**
4 **REGULATORY OR JUDICIAL BODY?**

5 **A.** ~~Please see Exhibit JWS-16. Yes, I have. I testified as part of a panel before this~~
6 ~~Commission in Docket UT-140597, which addressed a 2014 statewide 911 outage. In~~
7 ~~addition, I testified in three proceedings: (1) an arbitration (Case No. 2017-0239A)~~
8 ~~between CenturyLink and Intrado regarding the same 2014 outage; (2) a Wyoming docket~~
9 ~~concerning a 2006 network outage caused by a fiber cut (Docket No. 70000-1271-TI-06);~~
10 ~~and (3) a Colorado PUC investigation (Proceeding No. 13I-1147T) regarding a 2013~~
11 ~~network outage caused by a large flood.~~

12 **Q. YOU MENTION THAT YOU'RE AN EMPLOYEE OF LUMEN. THE**
13 **COMPLAINT NAMES CENTURYLINK COMMUNICATIONS, LLC ("CLC") AS**
14 **A RESPONDENT. THE STAFF AND PUBLIC COUNSEL TESTIMONY OFTEN**
15 **USE THE NAME "CENTURYLINK." CAN YOU DESCRIBE THE**
16 **DIFFERENCES?**

17 **A.** Yes. Lumen Technologies, Inc. ("Lumen") is the ultimate corporate parent; the company's
18 name was changed to Lumen from CenturyLink, Inc. ("CenturyLink") in 2020. Neither
19 "Lumen" nor "CenturyLink" is a regulated operating company. The operating companies –
20 including Qwest Corporation and CLC – are subsidiaries of Lumen (formerly
21 CenturyLink). Staff filed its complaint against CLC, which is regulated by the
22 Commission as an interexchange carrier ("IXC") and competitive local exchange carrier
23 ("CLEC"). While CLC is a registered CLEC, there is no allegation by Staff or Public

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1 Counsel that any of the failed 911 calls came from a CLC end user. Thus, for purposes of
2 this case, CLC is acting as an IXC on calls destined for 47 PSAPs served by Comtech as
3 the 911 service provider. Qwest Corporation is, of course, the largest incumbent local
4 exchange carrier (“ILEC”) in the state. Qwest Corporation is not a Respondent in this case.

5 In our Response Testimony, the company’s witnesses will do our best to carefully use
6 “CLC” and “CenturyLink” where appropriate.¹ Again, this complaint only pertains to
7 CLC, as Staff did not name any other operating company as a Respondent. As I read
8 Staff’s and Public Counsel’s Direct Testimony, it became evident that they use
9 “CenturyLink” generically and in the process obscure the entity about which they’re
10 complaining. Only allegations about CLC’s conduct are rightfully at issue in this
11 complaint given Staff’s choice to bring its complaint against CLC. Distinguishing between
12 these entities is critical because, as discussed below, this 911 outage complaint doesn’t
13 focus on CenturyLink’s provision of 911 service in December 2018 – but instead focuses
14 on CLC’s provision of non-regulated transport services as a direct and indirect vendor of
15 the state’s 911 service provider at the time (Comtech). Staff and Public Counsel’s use of
16 the name “CenturyLink” blurs the lines among entities and causes confusion. I believe it is
17 important for the Commission to pay close attention to the true scope of the complaint (the
18 operation of CLC’s national transport network), as it has important implications concerning
19 jurisdiction and the facts underlying the causes of action identified by Staff in the
20 complaint.

¹ In its Response Testimony, CLC will refer to “CLC” where the conduct relates to that entity, and will refer to “CenturyLink” where the conduct is performed by multiple affiliated entities. For example, when the company was still a 911 service provider in Washington, that service was provided by multiple affiliated entities. The transport was provided by CLC, while the last mile connection to the PSAP was provided by local exchange carriers, including Qwest Corporation. When CLC witnesses discuss the company’s role as a 911 service provider (notably, not at issue in this case), we will refer to “CenturyLink.”

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1 **Q. PLEASE PROVIDE A BRIEF SUMMARY OF YOUR RESPONSE TESTIMONY?**

2 **A.** My testimony provides an overarching review of Staff's and Public Counsel's Direct
3 Testimony, provides a brief summary of the 911 transition in Washington, addresses in
4 detail each of Staff's four causes of action and walks through the Commission's
5 enforcement guidelines. Based on my thorough review of the Direct Testimony and of the
6 information produced in this docket, I reach the following conclusions:

7 * Staff and Public Counsel have abandoned their prior advocacy and are attempting
8 to place liability on the responsible 911 service provider's vendor, rather than the
9 911 service provider itself.

10 * Staff and Public Counsel barely investigated Comtech's responsibility for the
11 failed 911 calls, and are inexplicably ignoring that 911 calls in Washington failed
12 due to Comtech's flawed network design.

13 * Public Counsel fails to understand or ignores several key facts, undermining its
14 entire theory of liability.

15 * Staff and Public Counsel appear to disagree with one another on issues critical to
16 the resolution of this case.

17 * The December 2018 outage occurred during Phase 1 of the 911 transition and
18 occurred on Comtech's side of the demarcation point between the CenturyLink
19 and Comtech SS7 networks.

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1 * The 911 calls that did not reach Comtech's PSAPs during the December 2018
2 event failed as a result of Comtech's network design flaw, a critical error they
3 were aware of and failed to correct or communicate.

4 * Staff and Public Counsel have not identified facts demonstrating that CLC is
5 liable for penalties under any of the statutes or rules cited by Staff in its
6 complaint. In two instances, Staff and Public Counsel fail to discuss the merits of
7 the claims in the testimony at all (leaving little for CLC to rebut), and for the
8 other two claims ignore critical facts and make arguments inconsistent with
9 Washington statutes and rules, as well as Commission decisions.

10 * While CLC is not subject to any penalty liability in this case, Staff and Public
11 Counsel often misapply the Commission's enforcement guidelines, which lead to
12 penalty recommendations that cannot be justified under any circumstances.

13 **Q. WHAT OTHER INDIVIDUALS ARE FILING RESPONSE TESTIMONY ON**
14 **BEHALF OF CLC?**

15 **A.** Four additional witnesses are filing testimony on behalf of CLC.

16 Martin Valence, Vice President Network Operations Center, will provide an overview of
17 CLC's national transport network, will provide a technical description of the December
18 2018 network event and why the network outage was unforeseeable (including by attaching
19 an affidavit from Infinera, the company that produced the node that prompted the packet
20 storm), will discuss an earlier network event on a different CLC transport network, and will
21 address certain aspects of the 911 network architecture of CenturyLink and Comtech in the
22 state of Washington. Mr. Valence will also explain and document the manner in which

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1 Comtech and its vendor Transaction Network Services (“TNS”) ordered circuits from CLC
2 for use in Comtech’s SS7 network, but without availing themselves of opportunities to
3 ensure greater resilience and diversity.

4 Stephen Turner, of FTI Consulting, will provide expert testimony regarding Comtech’s
5 flawed network design, Comtech’s decision not to seek supplier diversity (even from
6 CenturyLink), the transition from CenturyLink to Comtech, the actual and logical
7 demarcation point between the CenturyLink and Comtech networks during Phase 1, why
8 the CLC transport network outage was unforeseeable, and will explain that the use of SS7
9 signaling to support 911 calling is commonplace and perfectly appropriate.

10 Carl Klein, Manager, NOC, will provide testimony regarding the transition from
11 CenturyLink to Comtech as the state’s 911 service provider, and will address design
12 differences between the CenturyLink and Comtech 911 networks during Phase 1 of the
13 transition. Mr. Klein also rebuts Staff witness Webber’s testimony regarding failed calls to
14 CenturyLink-served PSAPs and Public Counsel witness Rosen’s testimony regarding the
15 use of SS7 services.

16 Valerie Lobdell, Senior Lead Program Manager - Federal, will provide testimony regarding
17 the transition from CenturyLink to Comtech and will address Public Counsel’s inaccurate
18 assertion that CenturyLink dictated design decisions regarding the transition and
19 Comtech’s Phase 1 network.

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1 **II. OVERVIEW OF STAFF/PUBLIC COUNSEL DIRECT TESTIMONY**

2 **Q. DID YOU READ DIRECT TESTIMONIES OF JACQUE HAWKINS-JONES**
3 **(STAFF), JAMES WEBBER (STAFF), STEPHANIE CHASE (PUBLIC COUNSEL)**
4 **AND BRIAN ROSEN (PUBLIC COUNSEL)?**

5 **A.** Yes.

6 **Q. PLEASE PROVIDE YOUR GENERAL IMPRESSIONS OF THE DIRECT**
7 **TESTIMONY.**

8 **A.** Staff's and Public Counsel's Direct Testimonies seem highly peculiar for a number of
9 reasons. To start, Staff and Public Counsel almost exclusively focused on CLC in both
10 their investigations (before and after the complaint was filed in December 2020) and in
11 their Direct Testimony. The 911 calls directed to CenturyLink Public Service Answering
12 Points ("PSAPs") in Washington were not affected by the network event and completed;²
13 the 911 calls that did not complete as a result of the network event were destined to
14 Comtech PSAPs.³ All of the uncompleted 911 calls failed because of an outage on
15 Comtech's SS7 network (specifically, as Mr. Turner explains, the calls failed because of an
16 outage on the SS7 signaling links connecting Comtech's Signaling Transfer Point ("STP")

² See Response Testimony of Carl Klein (Exh. CDK-1TC) ("Klein Response"), at 11-12. In response to discovery, Public Counsel admits that it is aware of no failures in the call flow (as displayed in the diagram attached to Mr. Rosen's Direct Testimony as Exhibit BR-5. See Exhibit SJH-2, Public Counsel responses to:

- CLC Data Request ("DR") 5 (CenturyLink did not fail to identify whether call destined for CLC or Comtech PSAP);
- CLC DR 6 (no errors or failures within the CenturyLink/Intrado selective router);
- CLC DR 7 (no errors or failures within the CenturyLink/Intrado STP);
- CLC DR 8 (no evidence of failure apart from the Comtech SS7 links); and
- CLC DR 9 (no errors or failures of CenturyLink CAMA trunks).

³ Direct Testimony of James D. Webber (Dec. 15, 2021) ("Webber Direct"), Exhs. 27C, 28C and 30C.

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1 and Comtech’s Local Network Gateway (“LNG,” also referred to as Remote Co-Location
2 (“RCL”)).

3 Yet, Staff does not appear to have investigated Comtech’s involvement and responsibility
4 before filing a \$7.215 million complaint against CLC and did not name Comtech as a
5 Respondent. Public Counsel’s testimony likewise is careful to avoid any hint that Comtech
6 bears responsibility for the uncompleted calls. This is despite the fact that Public Counsel
7 agrees with CLC that Comtech’s network design was flawed in its lack of supplier diversity
8 for the SS7 links that failed during the outage.⁴ When directly asked its opinion on
9 whether Staff should have more thoroughly investigated Comtech and/or named Comtech
10 in the complaint, Public Counsel (despite its expressed mandate to represent the people of
11 the state of Washington) simply deflects, deferring generically to Staff’s “prosecutorial
12 discretion.”⁵ Given how 911 calls were being handled in Washington at this stage of the
13 transition from CenturyLink to Comtech, it is incomprehensible that either Staff or Public
14 Counsel could properly assign responsibility for uncompleted 911 calls without thoroughly
15 investigating Comtech’s involvement in the event and determining whether Comtech was
16 primarily responsible for the 911 call failures in Washington.

⁴ See Exhibit SJH-2, Public Counsel’s response to CLC DR 14 (“Did Comtech err by not creating a signaling network to support its 911 network using supplier diversity? If your answer is anything other than yes, please fully describe the basis for your answer. **RESPONSE:** Yes. They were aware of the issue and were engaged in bringing on another supplier at the time of the incident.”).

⁵ See Exhibit SJH-2, Public Counsel’s response to CLC DR 2 (deferring to Staff’s “prosecutorial discretion” and noting “Whether Comtech “should be held accountable” is beyond the scope of the proceeding, and Public Counsel has not addressed whether Comtech should bear any responsibility.”).

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1 **Q. IN THE PRIOR ANSWER, YOU SAID THAT STAFF DOES NOT APPEAR TO**
2 **HAVE THOROUGHLY INVESTIGATED COMTECH. CAN YOU EXPAND ON**
3 **THAT?**

4 **A.** Yes. Staff opened up its investigation immediately after the December 2018 outage.
5 Through that investigation, Staff sent 4 rounds of detailed data requests to CenturyLink.
6 Staff sought information from CenturyLink in January 2019, September 2019, January
7 2020 and August 2020. Yet, during the two years preceding Staff filing the formal
8 complaint against only CLC, Staff sent just two sets of questions to Comtech (in February
9 2019 and August 2019).⁶ For reasons unknown to CLC, and with full knowledge that
10 [REDACTED] of Comtech PSAP 911 calls had failed, Staff did not appear to scrutinize
11 Comtech’s answers and didn’t appear to allow for the possibility that Comtech’s network
12 design was directly responsible for the 911 impacts in Washington. Instead, Staff focused
13 exclusively on CenturyLink. In its complaint, Staff ignored the information CenturyLink
14 produced which demonstrated that CenturyLink PSAP calls were unaffected by the
15 network event and that [REDACTED] of Comtech PSAP 911 calls failed.⁷ Instead, in its
16 complaint, Staff gave the impression that no CenturyLink 911 calls in Washington
17 completed over a 48-hour period.⁸

18 Staff’s hyper-focus on CenturyLink (and apparent refusal to consider that Comtech may
19 have been directly responsible for the failed 911 calls) continued during the discovery

⁶ See Exhibit SJH-3C, Staff Investigation Report Amendment M (Comtech Response to Informal Data Requests) and Staff August 2019 questions to Comtech; see also, Exhibit JDW-3C, at 15.

⁷ In his Direct Testimony, Mr. Webber presents a calculation purporting to show [REDACTED] failed calls to CenturyLink PSAPs. Webber Direct, at 44-60. Mr. Webber is incorrect, as explained by Mr. Klein. Klein Response, at 11-12.

⁸ Complaint, ¶15 (“Based on Washington 911 call data [showing 12,000 calls daily on average], the 2018 outage likely affected up to 24,000 calls placed to 911.”).

1 phase of this case. Prior to Comtech making a late-filed motion to intervene in July 2021,
2 Staff objected to CLC's request to seek information from Comtech through third-party
3 discovery.⁹ On its face, it appears that Staff sidestepped facts that undermine its desire for
4 the Commission to place responsibility on CLC for failures that occurred on Comtech's
5 911 network in December 2018. It is unclear to me why Staff (and Public Counsel) would
6 overlook these facts and give Comtech a complete pass on these 911 call impacts.

7 **Q. COULD STAFF HAVE PURSUED A COMPLAINT AGAINST COMTECH IN**
8 **THIS CASE?**

9 **A.** I believe so, yes, although I am not testifying as a legal expert. As I understand it,
10 Comtech is regulated by the Commission and is subject to its jurisdiction. Comtech's
11 predecessor, TeleCommunication Systems, Inc., is registered with the Commission. In
12 2016, Comtech gave two notices to the Commission concerning its acquisition of
13 TeleCommunication Systems, Inc. Those notices are available on the Commission's
14 website under Docket UT-160238.

15 **Q. ARE YOU TESTIFYING THAT STAFF SHOULD HAVE FILED A FORMAL**
16 **COMPLAINT AGAINST COMTECH?**

17 **A.** No. It is not for CLC to say whether a complaint or enforcement proceedings are
18 appropriate relative to another regulated company. That is ultimately in the purview of the
19 Commission. With that said, it is extremely difficult to understand why Staff appears to
20 have given a pass to the 911 service provider that had call failures, namely Comtech, and
21 only investigate and pursue enforcement against CLC, who was acting as a vendor to

⁹ See Commission Staff Response to Motion for Third Party Discovery (July 20, 2021).

1 Comtech's SS7 vendor, TNS, on the calls that did not complete due to the network event.
2 This is completely contrary to how prior outages and complaints have been handled by
3 Staff.

4 **Q. WHAT ELSE DO YOU FIND UNUSUAL ABOUT STAFF'S AND PUBLIC**
5 **COUNSEL'S DIRECT TESTIMONY?**

6 **A.** Staff and Public Counsel appear to contradict their prior advocacy and ask the Commission
7 to levy penalties (in this case, [REDACTED] of dollars of penalties) against the 911 service
8 provider's vendor's (TNS) vendor (CLC) without placing any responsibility on the 911
9 service provider (Comtech) itself.

10 **Q. PLEASE EXPLAIN WHAT YOU MEAN.**

11 **A.** There is no supported allegation in this case by Staff or Public Counsel that CenturyLink's
12 911 network experienced any errors or failures.¹⁰ In earlier 911 complaints brought before
13 this Commission, errors had occurred within the Intrado selective router,¹¹ and Staff and
14 Public Counsel sought significant penalties from CenturyLink (as the 911 service provider)
15 and not from Intrado, CenturyLink's 911 vendor. Intrado is itself a regulated
16 telecommunications company in Washington subject to the Commission's jurisdiction; yet
17 Intrado was never named as a Respondent.

18 In this case, Comtech (likewise a regulated company subject to Commission jurisdiction)
19 was the 911 service provider for the uncompleted calls, but Staff and Public Counsel ignore
20 Comtech and focus entirely on CLC. CLC's sole involvement was that Comtech *directly*

¹⁰ See Klein Response, at 6 (Figure 1), Exhibit CDK-3.

¹¹ See Dockets UT-140587 and UT-190209.

1 leased two CLC transport circuits and *indirectly* (through its SS7 vendor, TNS) leased two
2 additional CLC transport circuits to be used as SS7 links. Neither Comtech nor TNS
3 disclosed to CLC that these circuits would be used for SS7 or 911 services, and neither
4 sought diversity or priority handling for the circuits. Thus, CLC was unknowingly
5 Comtech’s vendor for two SS7 links and its vendor’s vendor for the other two SS7 links
6 that became inoperable during the network outage.

7 **Q. DO YOU HAVE EXAMPLES OF STAFF’S AND PUBLIC COUNSEL’S PRIOR**
8 **ADVOCACY ON THE QUESTION OF WHETHER THE 911 SERVICE**
9 **PROVIDER OR ITS VENDOR/CONTRACTOR IS RESPONSIBLE FOR**
10 **NETWORK OUTAGES?**

11 **A.** There are many. In the outages that led to the enforcement complaints in Dockets UT-
12 140587 and UT-190209, the root cause of both interruptions were unexpected events on the
13 network of CenturyLink’s vendor, Intrado (previously known as West). In those cases,
14 both Staff and Public Counsel made it very clear that CenturyLink was fully responsible for
15 ensuring that 911 calls were delivered to the PSAPs it served and was fully responsible for
16 the equipment, process, or service failures of its vendor, Intrado.

17 Docket UT-140587 involved an April 2014 statewide 911 outage stemming from the
18 failure of CenturyLink’s vendor (Intrado) to re-route overflow 911 calls from one
19 Emergency Communications Management Center (“ECMC”) to the secondary ECMC, as
20 designed. In that case, Public Counsel’s witness testified as follows:

21 “As CenturyLink conceded to the FCC *** CenturyLink is responsible for the
22 failures of its third-party vendor [Intrado]. In this regard, CenturyLink’s facilities,

1 instrumentality, and equipment were not kept in good condition and repair, as
2 required by RCW 80.36.080.”¹²

3 “As the sole provider of 911 service, CenturyLink is responsible for the 911
4 system in Washington. The outage resulted from a defect in a portion of the 911
5 system that CenturyLink’s third-party vendor controlled, and as a result, the
6 responsibility rests with CenturyLink.”¹³

7 “Q: It appears that the root cause of the 911 outage in Washington was a failure
8 of Intrado’s router in Colorado. Does this absolve CenturyLink from being
9 penalized?

10 A: No, as demonstrated by the Multi-Party Settlement Agreement and the
11 supporting testimony. It is the Washington-related impact of the failures and the
12 danger to Washingtonians resulting from the April 2014, 911 outage. This
13 Commission’s primary role is to regulate Washington utilities and their service to
14 Washingtonians. CenturyLink is a Washington utility, and Washingtonians were
15 put at risk. And CenturyLink, as a Washington utility, should not be able to
16 ‘contract away’ its duties under Washington law and policy. [FN: “See, e.g.,
17 Wash. Util. and Trans. Comm’n. v. Cascade Nat. Gas Co., Docket UG-060256,
18 Order (August 16, 2007), 2007 WL 2383017 (Wash. U.T.C.), ¶ 9; Wash. Util. and
19 Trans. Common. v. Puget Sound Energy, Inc., Docket PG-060215, Order (April

¹² Docket UT-140587, Direct Testimony of David C. Bergmann (Oct, 27, 2015), Exh. DCB-1T (“Bergman Direct”), at 16-17 (footnotes omitted).

¹³ Docket UT-140587, Bergman Direct, at 17.

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1 3, 2008), 2008 WL 946034 (Wash. U.T.C.) at 2.”] CenturyLink does not deny
2 this responsibility in its testimony.”¹⁴

3 Docket UT-190209 involved a July 2017 outage as a result of a software change
4 undertaken by CenturyLink’s 911 vendor, Intrado. In that case, Commission Staff’s
5 witness testified as follows:

6 “Q. Was the CenturyLink network responsible for the failure?

7 A. Yes. CenturyLink contracts with a vendor, West [Intrado], which routes
8 Washington 911 calls through facilities in Englewood, Colorado. West may have
9 carried out the system change that resulted in the 911 system failure but
10 CenturyLink is responsible for the outage under its contract with WMD.”¹⁵

11 “The adequacy and sufficiency of a company’s facilities are only as good as the
12 company’s procedures and its overall commitment to quality. CenturyLink’s
13 facilities, through its contractor Intrado, were not adequate nor sufficient and
14 failed to provide reliable 911 service to Washington consumers.”¹⁶

¹⁴ Docket UT-140587, Bergman Direct, at 33 (footnotes omitted).

¹⁵ Docket UT-190209, Pre-Filed Direct Testimony of Michael L. Turcott (Oct. 25, 2019) (“Turcott Direct”), at 5. The Staff investigation report, attached to the Staff’s Direct Testimony in Docket UT-190209, similarly insists that the 911 service provider is responsible for the errors and failures of its contractor. See Turcott Direct, Exhibit MLT-2, at 11 (“Although the outage itself was unintentional, evidence suggests that it was preventable. CenturyLink’s vendor, West, attempted a software configuration change at the Englewood ECMC that failed and caused this partial 911 outage. The commission issued significant penalties against CenturyLink in Docket UT-140597 after a software failure at Englewood caused a massive 911 outage in April 2014. **By failing to ensure that its vendors properly test software configuration changes before implementation and have redundancy in place to prevent future failures, CenturyLink allowed this outage to occur.**” (emphasis added))

¹⁶ Docket UT-190209, Rebuttal Testimony of Michael L. Turcott (Feb. 13, 2020 (“Turcott Rebuttal”), at 7.

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1 In Docket UT-190209, Staff made precisely the same argument in its brief (repeatedly
2 stating that the 911 service provider is responsible for the mistake of its contractors), which
3 makes the complaint and Staff’s Direct Testimony in the present case even more puzzling:

4 “CenturyLink was the statewide 911 provider at the time of the failure and now
5 seeks to evade responsibility by raising various technicalities in the state
6 regulatory regime and in the design of the 911 system. CenturyLink, however, is
7 responsible because the actions of its vendor [Intrado] resulted in a partial outage
8 of the 911 system, the most important public safety network in the state.”¹⁷

9 “When CenturyLink’s vendor [Intrado] migrated to the new switch and caused a
10 system malfunction, CenturyLink failed to meet this standard for service [RCW
11 80.36.080] in Washington.”¹⁸

12 “In other words, according to Intrado, the carriers of callers trying to reach 911
13 were responsible for the call at that point. Whether the underlying carriers acted to
14 mitigate the problem Intrado caused, however, does not change the fact that
15 CenturyLink’s 911 service was malfunctioning and Intrado caused it.”¹⁹

16 “First, the service failure resulted from an act and omission by CenturyLink’s
17 vendor (carrying out the upgrade and failing to implement all of the possible
18 checks). This is not a case in which the outage was caused by a third party, such

¹⁷ Docket UT-190209, Brief on Behalf of Commission Staff (“Staff Brief”), at 1.

¹⁸ Docket UT-190209, Staff Brief, at 3.

¹⁹ Docket UT-190209, Staff Brief, at 4.

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1 as a car running into a telephone pole. *This is a case in which CenturyLink's*
2 *vendor affirmatively caused the outage.*²⁰

3 “*CenturyLink is no longer the statewide provider of 911 service, but it still should*
4 *be held accountable for its vendor's failure.* Pursuing enforcement for this outage
5 is also important because it may have implications for the Commission's
6 enforcement relationship with the new provider. Accordingly, we ask the
7 Commission to especially consider the policy of general deterrence as it evaluates
8 this case.”²¹

9 **Q. DO YOU HAVE ANY OTHER GENERAL OBSERVATIONS ABOUT STAFF'S**
10 **AND PUBLIC COUNSEL'S DIRECT TESTIMONY IN THIS COMPLAINT CASE?**

11 **A.** I do. Another oddity surrounding Staff's and Public Counsel's testimony and position in
12 this case is that they do not point to any failure of the CenturyLink 911 network (unlike the
13 prior 911 complaints), but instead are asking the Commission to scrutinize the operation of
14 CLC's national transport network. The transport services utilized by Comtech are
15 interstate services provided over interstate facilities. While I am not offering legal
16 testimony, I do not believe the Commission has jurisdiction over those services or that
17 specific network. Staff and Public Counsel gloss over the underlying facts and context of
18 this case, which are very different from Dockets UT-140597 and UT-190209 and are in
19 essence asking the Commission to exercise oversight and assess significant penalties on
20 interstate services and networks.

²⁰ Docket UT-190209, Staff Brief, at 8 (emphasis added).

²¹ Docket UT-190209, Staff Brief, at 8-9 (emphasis added).

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1 **Q. IN REVIEWING PUBLIC COUNSEL’S TESTIMONY, DID YOU DRAW A**
2 **CONCLUSION REGARDING THEIR WITNESSES’ UNDERSTANDING OF THE**
3 **CENTRAL FACTS OF THE CASE?**

4 **A.** Unfortunately, in at least three critical ways Public Counsel misunderstands or misstates
5 critical facts. First, Public Counsel premises much of its argument on the entirely false
6 notion that CLC compelled the Washington Military Department (“WMD”) and Comtech
7 to utilize TDM/SS7-based interconnection of the two companies’ ESInets.²² As CLC
8 witness Lobdell explains in her Response Testimony, this is plainly false. The design of
9 the transition, as well as the network designs to be utilized before Comtech took full
10 control of all aspects of 911 service in Washington, was a cooperative, iterative process led
11 by Comtech. CLC did not dictate network designs. The companies, with WMD fully
12 involved, worked together throughout this entire process. This is confirmed by WMD’s
13 recent data request responses.²³

14 **Q. WHAT IS THE SECOND CRITICAL FACTUAL MISUNDERSTANDING BY**
15 **PUBLIC COUNSEL?**

16 **A.** Public Counsel, singularly focused on blaming the use of SS7 interconnection for the
17 outage, asserts that CLC designed Comtech’s SS7 links by placing them all on the same
18 (Infinera) network. This is also false. Comtech (and not CLC) was responsible for
19 designing, constructing, and maintaining its own network, including the SS7 links

²² See Direct Testimony of Brian Rosen (Dec. 15, 2020), Exh. BR-1CT) (“Rosen Direct”), at 4-5, 22-26, 30-31. Both CenturyLink and Comtech operated their own Emergency Services IP Network (“ESInet”). An ESInet provides the network to support and transport 911 calls for completion to PSAPs.

²³ See Exhibit SJH-4, WMD response to data requests CLC 5-6 (“WMD did not insist on IP-based interconnection; while Comtech originally discussed IP-based interconnection of the ESInets during Phase 1, Comtech changed its recommendation, with WMD's support, to SS7 interconnection based on discussions with CenturyLink and Intrado).

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1 connecting the Comtech STP and the Comtech gateway. Comtech does not assert (nor
2 could it) that CLC designed and/or intentionally placed all of Comtech’s SS7 links on the
3 same transport network. As discussed below, Comtech (directly and through TNS) ordered
4 four transport circuits from CLC, but did not inform CLC in any way of their intended use.
5 Neither Comtech nor TNS identified the circuits as SS7 links, let alone links supporting
6 911 calling. They did not seek assistance providing diversity (as was their explicit option).
7 And they did not seek a Telecommunications Service Priority (“TSP”) designation, which
8 when provided to a service provider informs them that circuits in question require
9 prioritized restoration following a network outage. Comtech simply ordered (without
10 explanation) four basic circuits, identifying the A and Z ends, and CLC provisioned them.
11 Had Comtech informed CLC how those circuits would be used and the critical traffic they
12 would be carrying, CLC would have been happy to work with Comtech to ensure diversity
13 on separate optical networks, which would have created supplier diversity that Public
14 Counsel’s expert and Comtech both describe as a best practice when provisioning 911
15 circuits. Perhaps not wanting to pay the additional costs associated with the assurance of
16 network/supplier diversity, Comtech was silent. In his Response Testimony, Mr. Valence
17 (at pages 20-22) describes the options, ignored by Comtech, that would have assured it
18 obtained circuits with supplier diversity. Mr. Valence likewise discusses the costs of
19 obtaining TSP and diversity protections.

20 **Q. WHAT IS THE THIRD CRITICAL FACTUAL MISUNDERSTANDING BY**
21 **PUBLIC COUNSEL?**

22 **A.** Public Counsel appears to fundamentally misunderstand the difference between
23 CenturyLink’s Washington 911 system in December 2018 and CenturyLink’s national
24 transport networks. Mr. Rosen argues that calls failed because CLC placed all of

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1 Comtech’s SS7 links on the same transport network.²⁴ The network event did not occur on
2 any part of CenturyLink’s 911 network, but on one of the Infinera transport networks being
3 operated by CenturyLink. Mr. Rosen’s failure to grasp this basic fact skews much of his
4 analysis.

5 **Q. DID PUBLIC COUNSEL MAKE ANY ASSERTIONS THAT YOU AGREE WITH?**

6 **A.** Actually, yes. Many of the core principles Mr. Rosen testifies to are correct. His
7 conclusions are flawed, however, because he misunderstands or misstates key facts (as
8 discussed above).

9 As an example, Mr. Rosen echoes CLC’s position that supplier diversity is a guiding
10 principle of 911 network design.²⁵ Mr. Rosen misapplies this key tenet by repeatedly
11 chiding CLC for not providing “supplier diversity” for Comtech’s SS7 links. He ignores,
12 did not research, or doesn’t understand that CLC was unaware that Comtech was ordering
13 transport circuits for use as SS7 links in conjunction with the interconnection of the
14 CenturyLink and Comtech Washington 911 networks during Phase 1 of the transition. He
15 also ignores or failed to verify that Comtech, not CLC, was responsible for designing,
16 ordering and maintaining Comtech’s own SS7 network.

²⁴ Rosen Direct, at 20-21 (“I believe the failure occurred because all four links used the same optical network. In building 9-1-1 systems, I generally advise that supplier diversity be used to guard against the kind of failure that occurred here. In this case, there was no supplier diversity. CenturyLink supplied Comtech with all four SS7 signaling links, and CenturyLink provisioned all four links on the same optical network.” (footnotes omitted).

²⁵ Rosen Direct, at 20-21.

1 **Q. DO YOU HAVE ANY OTHER GENERAL OBSERVATIONS REGARDING**
2 **STAFF’S AND PUBLIC COUNSEL’S DIRECT TESTIMONY?**

3 **A.** Yes. Both Staff and Public Counsel appear to cherry pick facts and ignore those that
4 contradict their argument. For example, both Mr. Rosen (at pages 4-5, 22-26, 30-31) and
5 Mr. Webber (at page 34, FN 77) repeatedly insist that CLC forced TDM/SS7
6 interconnection on Comtech and WMD during Phase I of the transition, rejecting
7 Comtech’s alleged plea for IP-based interconnection. This is false, as both Staff and Public
8 Counsel should have known at the time they filed their Direct Testimony on December 15,
9 2021. In October 2021, CLC produced a February 7, 2017 email from Comtech to Intrado
10 (CenturyLink’s 911 vendor) and WMD in which Comtech [REDACTED]

11 [REDACTED] In that email,
12 [REDACTED]
13 [REDACTED]

14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED] ²⁶

19 WMD did not push back or contest Comtech’s recommendation, but instead simply
20 forwarded it to CenturyLink. Despite being in possession of this correspondence from
21 Comtech for two months prior to submitting Direct Testimony, Mr. Webber and Mr. Rosen
22 argue that CenturyLink forced TDM/SS7 interconnection on an unwilling and powerless
23 Comtech. The facts clearly show otherwise.

²⁶ See Exhibit SJH-5C, CLC’s response to DR PC 37.

1 **Q. DO YOU HAVE OTHER EXAMPLES OF STAFF AND PUBLIC COUNSEL**
2 **IGNORING FACTS UNHELPFUL TO THEIR POSITION?**

3 **A.** Yes, there are many, but I will stick to the most significant. Another common refrain
4 found in Mr. Webber’s, Ms. Hawkins-Jones’s, and Mr. Rosen’s testimony is that
5 CenturyLink was not fully cooperative in the course of the Staff’s investigation, and more
6 specifically with regard to providing call detail records regarding the outage. For example,
7 Ms. Hawkins-Jones (at page 16) states that CenturyLink was cooperative “in some ways”
8 with Staff’s investigation, “[b]ut CenturyLink refused to provide the number of failed calls,
9 and Staff had to reconstruct what had happened from third party sources until Staff’s
10 consultants helped piece together discovery requests that produced the information used to
11 calculate the number of failed calls.” Similarly, Mr. Webber testifies (at pages 44-45) that
12 “Staff experienced difficulty obtaining through discovery complete and accurate data from
13 CenturyLink concerning these calls, and our investigation on this issue is ongoing.”

14 These descriptions are not accurate. In August 2020, Staff issued a fourth set of informal
15 data requests to CenturyLink as it continued its pre-complaint investigation. In response,
16 the company provided hour-by-hour, PSAP-by-PSAP breakdowns of attempted, completed
17 and uncompleted 911 calls. Separate files were provided for CenturyLink PSAPs and
18 Comtech PSAPs. The breakdown also included a specific account of the varying error
19 codes associated with each uncompleted 911 call. These worksheets were derived from
20 Intrado Call Data Records (“CDRs”) from December 27-29, 2018. CLC provided the same
21 data to Public Counsel (and all other parties) in formal discovery in 2021.²⁷ In addition,
22 CLC produced the raw CDR files to Staff (and all other parties) on September 15, 2021.²⁸

²⁷ See Exhibit SJH-6, CLC response to DRs PC 6.

²⁸ See Exhibit SJH-7, CLC response to DR Staff 20.

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1 Yet, Staff and Public Counsel testify that CLC withheld data and was uncooperative and in
2 the process paint a misleading picture for the Commission.²⁹

3 **Q. DO YOU HAVE ANY FINAL GENERAL OBSERVATIONS REGARDING**
4 **STAFF’S AND PUBLIC COUNSEL’S DIRECT TESTIMONY?**

5 **A.** Yes. Staff and Public Counsel are inconsistent and/or disagree on key issues. While they
6 agree that the Commission should impose enormous penalties on CLC, they contradict
7 each other on the fundamental points that underpin their positions. These include the
8 following:

Issue	Staff Position	Public Counsel Position
Reliability of SS7	“SS7 is a very flexible technology that can perform many other functions, including transmitting the geographic address of a person dialing 911 to the PSAP receiving an emergency call, in order to speed the response time of the appropriate public safety agency.”	Old, outdated and subject to well-known failures

²⁹ Another example of Public Counsel skewing the facts is Mr. Rosen’s repeated assertions that CenturyLink has only one national transport network. Rosen Direct, at 6, 18, 19, 20. That is untrue, as both the FCC’s August 2019 report and CLC’s responses to Public Counsel data requests reflect. At page 5 (¶7) of the FCC’s report (see Exhibit SJH-13), the FCC identifies that the Infinera network impacted by the December 2018 event was one of six transport networks operated by CenturyLink. See also Exhibit SJH-8C, CLC’s responses to Public Counsel DRs 16 and 40C. The multiplicity/diversity of the company’s networks is a significant fact. Had Comtech communicated to CLC how it intended to utilize the four circuits that were ultimately affected by the Infinera network outage, CLC and its affiliates could have worked with Comtech to ensure network/supplier diversity by suggesting that some of those circuits (used for SS7 signaling links) sit on different CLC or affiliate networks.

Issue	Staff Position	Public Counsel Position
Comtech’s failure to ensure adequate diversity for SS7 links	Staff silent	Public Counsel acknowledges failed design, but refuses to take a position on whether Staff should have pursued enforcement against Comtech
Foreseeability of Infinera network outage (Dec 2018)	Staff argues CLC should have foreseen	Public Counsel silent

1

2

III. TRANSITION OF 911 SERVICES IN WASHINGTON

3

Q. WHEN THE OUTAGE OCCURRED IN DECEMBER 2018, THE STATE OF WASHINGTON WAS TRANSITIONING FROM CENTURYLINK TO COMTECH AS THE STATE 911 SERVICE PROVIDER. CAN YOU DESCRIBE THE TRANSITION?

6

7

A. Yes. CenturyLink (and its predecessors) had been the State’s 911 service provider for many years. The most recent agreement between CenturyLink and WMD, the state agency responsible for managing emergency calling services in Washington, dates back to 2009. In February 2016, WMD accepted proposals under Request for Proposal (“RFP”) RFP-16-GS-011 for the role of state 911 service provider. CenturyLink bid, but the contract was awarded to Comtech, effective June 24, 2016.

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1 **Q. WERE YOU INVOLVED WITH THE TRANSITION OF 911 SERVICES FROM**
2 **CENTURYLINK TO COMTECH?**

3 **A.** I was not, but both CLC witnesses Val Lobdell and Carl Klein were directly involved.
4 Both will discuss the transition, and Ms. Lobdell in particular will refute Mr. Rosen's
5 inaccurate assertions that CenturyLink dictated the transition network design and
6 Comtech's network design.

7 **Q. WAS THE STATE 911 SYSTEM FLASH CUT OVER TO COMTECH IN 2016?**

8 **A.** No, it was not. As Ms. Lobdell describes in her Response Testimony,³⁰ CenturyLink's
9 recommendation and strong preference was for CenturyLink, once Comtech's 911 system
10 was ready for launch, to transfer responsibility and allow Comtech to provide end to end
11 911 service to all PSAPs from day one. WMD had evaluated Comtech's competence and
12 credentials to provide 911 service and had selected Comtech as the state's new provider.
13 From CenturyLink's perspective, it was unduly complicated and created unnecessary risk
14 for CenturyLink to remain in the middle of call flows destined for Comtech PSAPs. WMD
15 and Comtech rejected this proposal, and instead a three-phase transition plan was adopted.

16 **Q. PLEASE DESCRIBE THE THREE PHASES.**

17 **A.** Mr. Klein summarizes the three phases of the Washington transition in his Response
18 Testimony (see Klein Response, at pages 5-6). The December 2018 outage occurred
19 during Phase 1. At that time, all 911 calls in Washington were first routed on the
20 CenturyLink 911 network and either routed from the Intrado selective router to the
21 CenturyLink PSAP or (in the case of Comtech PSAP calls) from the Intrado selective

³⁰ See Lobdell Response, at 3-5.

1 router to the Intrado/CenturyLink gateway, over an inter-tandem trunk (“ITT”), and to the
2 Comtech gateway for handling to the Comtech PSAP. The Phase I call flow is succinctly
3 summarized in Mr. Klein’s testimony at pages 6 (Figure 1) and 10 (Figure 2), as well as
4 Exhibits CDK-3 and CDK-4.

5 **Q. HOW DID CENTURYLINK’S CONTRACTUAL RELATIONSHIP WITH WMD**
6 **CHANGE ONCE WMD SELECTED COMTECH AS THE NEW 911 SERVICE**
7 **PROVIDER?**

8 **A.** In July 2017, the company and WMD executed Amendment M to the 2009 contract under
9 which the company had operated as the state’s 911 service provider. Section 11.1.a of
10 Amendment M sets out the relative responsibilities of Comtech and CenturyLink during
11 Phase 1 of the transition. It states:

12 “Prior to this cutover, Contractor [CenturyLink] shall route calls over ESInet I to
13 the appropriate PSAP and, as such, during this time, Contractor is a Covered 911
14 Service Provider as defined in 47 C.F.R. §12.4(a)(i)(A) (‘Covered 911 Service
15 Provider’) for all PSAPs in the State. Upon the Department’s cut over of one or
16 more PSAPs to ESInet II (‘Migrated PSAPs’), the Department’s successor
17 provider [Comtech] shall be a Covered 911 Service Provider for such Migrated
18 PSAPs and shall be solely responsible for routing calls from the Demarcation
19 Point between ESInet I and ESInet II to such Migrated PSAPs. *During the PSAP*
20 *Migration, Contractor remains responsible for routing calls to PSAPs that have*
21 *not migrated to ESInet II (‘Unmigrated PSAPs’), and for routing calls intended*
22 *for Migrated PSAPs to the Demarcation Point at ESInet II, at which point the*

1 *successor provider assumes responsibility for delivering such calls to Migrated*
2 *PSAPs and is therefore the Covered 911 Service Provider.”*³¹

3 **Q. IS “DEMARCATION POINT” DEFINED BY THE CONTRACT OR BY THE**
4 **STAKEHOLDERS?**

5 **A.** For reasons unknown to me, the contract itself does not appear to define “Demarcation
6 Point.” However, in November 2016 Comtech (during the course of leading the transition
7 design and planning) identified the demarcation point,³² and that point is reflected on
8 CLC’s call flow diagram.³³ CLC witness Steven Turner’s testimony describes Comtech’s
9 process of pinpointing of the demarcation, and explains how it logically represents the
10 point at which the functional responsibility has been handed over to Comtech for a 911 call
11 destined for a Comtech PSAP.³⁴ As Mr. Turner discusses, for Washington 911 calls that
12 were first routed via the CenturyLink 911 network for delivery to a Comtech PSAP, the
13 demarcation point on the signaling network was the point where the CenturyLink/Intrado
14 STP sent an initial address message (“IAM”) to the Comtech STP. After that IAM
15 message was sent, Comtech’s STP would ping the Comtech gateway to determine what
16 channel was available on Comtech’s ITT connecting the two ESInets so that the voice call
17 could be completed. The SS7 links carrying the message between the Comtech STP and
18 the Comtech gateway are part of the Comtech 911 network, not the CenturyLink 911
19 network. Those are the network components that failed during the network event.

³¹ See Exhibit SJH-9C (italics added).

³² See Response Testimony of Steven E. Turner (Exh SET-1TC) (“Turner Response”), at 44, Exhibit SET-5C.

³³ See Exhibit CDK-3.

³⁴ Turner Response, at 44.

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1 **Q. DO THE OTHER PARTIES TO THIS CASE AGREE WITH THE**
2 **DEMARCATION POINT DESCRIBED BY COMTECH IN DECEMBER 2016?**

3 **A.** Based on my review of the testimony, no, although their positions are unsupported and
4 illogical. To this end, citing a WMD data request response, Public Counsel takes the
5 position that the demarcation point was the Comtech PSAP.³⁵ WMD’s “position,” as
6 reflected in the data request response relied upon by Public Counsel, is equivocating and
7 less than clear.

8 “*WMD believes* CenturyLink retained a role, and thus an obligation, under the
9 Washington Military Department (WMD) and CenturyLink, Contract No. E09-
10 196, until there were no parts of the originating network nor the terminating
11 network connected to the CenturyLink/Intrado ESInet. *Generally speaking,*
12 *WMD believes* that the citizens of Washington expect that any entity involved in
13 the process of completing a 911 call, from a “call-maker” (the citizen) to a ‘call-
14 taker’ (the PSAP), has an obligation to ensure the call is successfully
15 completed.”³⁶ (emphasis added)

16 WMD offered an equally indefinite response to a CLC data request asking whether WMD
17 contends “that it has always (since 2017) believed that the Comtech RCL [gateway] was
18 the demarcation point...” In response, WMD responded in part that “WMD *simply*
19 *assumed* the demarcation points for the interconnecting trunks were the Comtech ESInet
20 ingress gateways-shown as the Comtech RCLs on the drawing provided by CenturyLink.

³⁵ Rosen Direct, at 28-30.

³⁶ See Exhibit BR-27, WMD Supplemental Response to DR PC-7.

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1 WMD believes this was a valid assumption since no specific demarcation points were
2 identified for the interconnecting trunks.”³⁷

3 In response to discovery, Public Counsel takes the extreme position that CLC was
4 responsible for any call failure for a 911 call headed to a Comtech PSAP regardless of
5 whether CLC was involved in any way with the call failing to reach the PSAP. Public
6 Counsel appears to assert that CLC would still have been responsible and subject to
7 [REDACTED] of dollars in penalties had Comtech utilized another vendor for its SS7 links and
8 had those links failed and/or if the call failed due to an error within the Comtech gateway.³⁸
9 This seems like an extreme position to take.

10 **Q. DO YOU HAVE ANY OTHER OBSERVATIONS REGARDING THE LOCATION**
11 **OF THE DEMARCATION POINT BETWEEN THE CENTURYLINK AND**
12 **COMTECH NETWORKS AS OF DECEMBER 2018?**

13 **A.** I’ll note that, in addition to improperly identifying the location of the demarcation point
14 relevant to this case, Public Counsel and perhaps the other parties ignore that there are
15 actually two demarcation points, one for the voice portion of the call and one for the SS7
16 network. As Mr. Turner explains,³⁹ there are two separate networks at play when
17 completing a call: the signaling network and the voice network. Both have separate
18 facilities. Both CLC and Comtech had their own signaling circuits (called links), and their
19 own voice circuits (called trunks). As Mr. Turner explains, the entire purpose of a
20 demarcation point is to identify where one carrier’s facilities and responsibilities end and
21 the other’s begin. It is therefore obvious that there will be two demarcation points here,

³⁷ See Exhibit SJH-4, WMD’s Response to DR CTL-7 (emphasis added).

³⁸ See Exhibit SJH-2, Public Counsel Response to DR CTL-15.

³⁹ See Turner Response, at 15-16.

1 one on the signaling network and one on the voice network. Given that the calls in
2 question failed on Comtech’s signaling links, it is evident that the failure occurred on the
3 Comtech side of the demarcation point on the signaling network.

4 **IV. THE DECEMBER 2018 OUTAGE**

5 **Q. IS THERE A COMMON UNDERSTANDING OF WHAT OCCURRED DURING**
6 **THE DECEMBER 2018 OUTAGE?**

7 **A.** In general, yes. All parties understand that there was a packet storm network event on one
8 of CLC’s national transport networks (the Infinera “Green” network), and that Comtech
9 was utilizing DS-1 circuits provisioned on the affected network to provide SS7
10 functionality in support of its Washington 911 services. Mr. Turner explains the function
11 of these SS7 links in greater detail in his Response Testimony.⁴⁰ The Infinera network
12 event did not cause 911 calls destined to CenturyLink PSAPs to fail, the difference being
13 that CenturyLink and Comtech designed their SS7 networks in different ways. CLC
14 witnesses Martin Valence and Steven Turner describe the nature of the Infinera network
15 event (and go into detail about how it was not foreseeable, predictable or preventable), and
16 CLC witness Carl Klein describes how 911 calls destined for Comtech PSAPs were
17 impacted, and why the Infinera network event did not prevent CenturyLink 911 calls from
18 completing.

⁴⁰ See Turner Response, at 15-18.

1 **Q. SHOULD THE COMMISSION BE SCRUTINIZING THE DESIGN AND**
2 **FUNCTIONING OF CLC’S INFINERA NATIONAL TRANSPORT NETWORK?**

3 **A.** While I am not offering a legal opinion, it is my understanding that the Commission does
4 not regulate CLC’s national transport services. The facilities and services that were
5 directly impacted by the December 2018 Infinera event are not intrastate in nature. The
6 affected circuits are interstate and were billed by CLC out of a contract. They were not
7 ordered or billed as intrastate circuits. The end points of the circuits were Los Angeles,
8 Phoenix, Las Vegas and Seattle. Comtech’s orders are more fully described in Mr.
9 Valence’s Response Testimony.⁴¹

10 **Q. IN YOUR OPINION, WAS THE PACKET STORM ON THE INFINERA GREEN**
11 **NETWORK THE DIRECT CAUSE OF THE FAILED 911 CALLS IN**
12 **WASHINGTON?**

13 **A.** No, it was not. There is little doubt that the unexpected network event on the Infinera
14 Green network impaired CLC’s long haul network. Unbeknownst to CLC, in this
15 circumstance, Comtech designed its network in such a way that all four of the signaling
16 links supporting its 911 network traversed the same CLC long haul network and those links
17 were impacted. This is why 911 networks—both voice networks and signaling networks—
18 should have both geographic and carrier diversity (what Mr. Turner refers to as “route
19 diversity”) whenever possible. Comtech’s failure to design its network with carrier
20 diversity was the direct cause of the outage. Had Comtech properly designed its SS7
21 network, and informed CLC that the four circuits it was purchasing from CLC (directly,
22 and via TNS) were being used for 911 or SS7 services, CLC could have worked with

⁴¹ Valence Response, at 22-24, Exhibit MDV-8C.

1 Comtech to proactively address this design flaw and Comtech’s 911 calls would likely
2 have completed, just as CenturyLink’s did.

3 **Q. IS YOUR OPINION BUTTRESSED BY TESTIMONY FILED IN THIS CASE?**

4 **A.** Yes, it is. In his Direct Testimony on behalf of Public Counsel, Mr. Rosen goes to great
5 lengths to discuss the imperative for supplier diversity when designing a 911 network.
6 Mr. Rosen concludes, “I believe the failure occurred because all four links used the same
7 optical network. In building 9-1-1 systems, I generally advise that supplier diversity be
8 used to guard against the kind of failure that occurred here. In this case, there was no
9 supplier diversity.”⁴²

10 **Q. DO YOU AGREE WITH MR. ROSEN?**

11 **A.** Mr. Rosen is correct. As an initial matter, it is important to understand supplier diversity.
12 As Mr. Turner discusses, supplier diversity refers to obtaining duplicative services or
13 facilities that ensure that one network event or outage (including a software outage) cannot
14 take down both circuits.⁴³ Supplier diversity can be thought of as network diversity (even
15 if those networks are commonly owned or operated).

16 Comtech could and should have obtained supplier/network diversity from CenturyLink or
17 another provider. Supplier diversity is an important principle of network design,⁴⁴
18 especially when designing emergency service networks. However, Mr. Rosen ignores or
19 fails to grasp that Comtech – not CLC – made the decision to purchase all four links on the
20 same CLC optical network, and that CLC had no knowledge (until the outage) that

⁴² Rosen Direct, at 21-22 (footnotes omitted).

⁴³ Turner Response, at 25-38.

⁴⁴ Turner Response, at 25-38.

1 Comtech and TNS were using these four links as their exclusive SS7 links in support of
2 Comtech’s entire Washington 911 network. Even Comtech knew at the time that it was
3 problematic for them to have all four links on the same network. Despite recently
4 explaining that it was *preferable* to have all four circuits on the same supplier’s network,⁴⁵
5 Comtech knew before the outage⁴⁶ and after the outage⁴⁷ that supplier diversity was needed.
6 Mr. Rosen acknowledges this and states that “[REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]”⁴⁸ Mysteriously, Comtech never informed anyone, including CLC, of this
10 known design flaw.⁴⁹ Mr. Rosen appears to acknowledge that Comtech caused the 911
11 calls to fail in Washington, yet does not testify that Comtech should be held responsible for
12 the outage. Instead, he ignores Comtech’s role and takes the position that CLC should be
13 fined [REDACTED].

14 **Q. DID COMTECH RECENTLY ACKNOWLEDGE THAT IT KNOWINGLY**
15 **LACKED SUPPLIER DIVERSITY FOR ITS SS7 LINKS IN DECEMBER 2018?**

16 **A.** Yes, it did. In response to recent CLC discovery, Comtech admitted that it was aware
17 (prior to the outage) that it needed supplier diversity for the SS7 links and that it was
18 attempting to provision diverse circuits from another provider. It also very recently

⁴⁵ See Exhibit SJH-10C, Comtech response to DR PC-2 (“The intended redundancy was to have [REDACTED]
[REDACTED], which is most certain using a single vendor since different vendors will not share
information with one another about the physical paths they use.”).

⁴⁶ See Rosen Direct, Exhibit BR-17C, Comtech response to DR PC-3.

⁴⁷ See Exhibit SJH-11C, Staff DR 2 (to Comtech) Attachment B, at 6 (Comtech’s after-outage root cause analysis:
“[REDACTED]”).

⁴⁸ Rosen Direct, at 21.

⁴⁹ See Exhibit SJH-12C, Comtech’s response to DR CTL-4.

1 disclosed emails from months prior to the outage indicating that [REDACTED]

2 [REDACTED]
3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]
11 [REDACTED]
12 [REDACTED]
13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 [REDACTED]
17 [REDACTED]
18 [REDACTED]
19 [REDACTED]

50 Comtech also admitted that it never communicated to CenturyLink or WMD that it lacked supplier diversity on its SS7 network.⁵¹

7 **Q. DID THE FCC INVESTIGATE THE DECEMBER 2018 OUTAGE?**

8 **A.** It did. The FCC’s Public Safety and Homeland Security Bureau performed an
9 investigation and issued a “Network Outage Report”⁵² in August 2019. The Enforcement
10 Bureau continued its investigation into 2020, and a Consent Decree was entered into by the
11 FCC and the company in December 2020.

12 **Q. PLEASE SUMMARIZE THE FINDINGS AND ENFORCEMENT PROVISIONS OF**
13 **THE CONSENT DECREE?**

14 **A.** I’ve attached a copy of the order as Exhibit SJH-14. In summary, the FCC found that,
15 nationwide, eleven (11) calls to CenturyLink PSAPs were impacted by the December 2018
16 outage. All eleven calls were in Arizona (none in Washington). CenturyLink paid a fine of
17 \$500,000 to the FCC in connection with the nationwide impact of the outage. Even as
18 revised downward in its Direct Testimony, Staff is asking the Commission to levy a
19 penalty that equates to [REDACTED] of the FCC’s penalty for the impact on Washington calls

⁵⁰ See Exhibit SJH-12C, Comtech’s response to DR CTL-4.

⁵¹ See Exhibit SJH-12C, Comtech’s response to DRs CTL-1, 4.

⁵² See Exhibit SJH-13.

REDACTED

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1 alone, despite the fact that no calls destined for the CenturyLink PSAPs failed. Public
2 Counsel is asking the Commission to levy a penalty of over [REDACTED] of the FCC's penalty.

3
4 **V. STAFF'S CAUSES OF ACTION**

5 **Q. THE STAFF ALLEGES THAT CLC VIOLATED FOUR DIFFERENT**
6 **WASHINGTON STATUTES AND RULES. DO YOU AGREE WITH STAFF?**

7 **A.** Absolutely not. While I am not testifying as a legal expert, the complaint should be denied
8 (similarly to how the complaint in Docket UT-190209 was denied by the assigned
9 Administrative Law Judge ("ALJ"))⁵³ based on the facts that led to the December 2018
10 network event and based on how this Commission has interpreted the rules and statutes
11 cited by Staff. Docket UT-190209 concerned a 2017 outage that was prompted by an error
12 during a software change on the Intrado network. Intrado was CenturyLink's vendor for
13 many aspects of providing 911 service in Washington at the time. Neither Staff nor Public
14 Counsel challenged or sought review of the ALJ's initial order in that proceeding,
15 suggesting that they may have concluded that the ALJ was correct.

16 **Q. DO STAFF AND PUBLIC COUNSEL RELY ON THE SAME THEORIES AND**
17 **ARGUMENTS AGAINST CLC IN THIS CASE?**

18 **A.** At a high level, they both agree that CLC violated the statutes and rules identified in the
19 complaint, but in multiple respects they offer completely different, unrelated and

⁵³ UT-190209, Order No. 3 (Interim Order). CLC understands that the Commission's procedural rules indicate that Order No. 3, as an initial order, does not have precedential value. While not binding, it certainly should have provided both Staff and Public Counsel insight (prior to filing Direct Testimony in this case) into how the Commission considers complaints such as the one in this case.

REDACTED

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1 sometimes-inconsistent theories and arguments. Where possible, I will attempt to point out
2 where Staff and Public Counsel are at odds with one another.

3 **A. FIRST CAUSE OF ACTION (RCW 80.36.080)**

4 **Q. WHAT IS THE FIRST CAUSE OF ACTION AGAINST CLC?**

5 A. Staff first alleges that CLC committed [REDACTED] violations of RCW 80.36.080, a statute that
6 requires a regulated telecommunications provider to “render prompt, expeditious, and
7 efficient service, to keep its facilities, instrumentalities, and equipment in good condition
8 and repair, and to ensure that its appliances, instrumentalities, and services are modern,
9 adequate, sufficient, and efficient.” Staff alleges that CLC’s failure to meet this standard
10 resulted in [REDACTED] dropped or incomplete 911 calls in December 2018.⁵⁴ Public Counsel
11 believes that there were fewer dropped calls (and thus fewer violations), concluding that
12 there were [REDACTED] dropped or incomplete 911 calls.⁵⁵

13 **Q. DOES THE COMMISSION INTERPRET RCW 80.36.080 AS IMPOSING STRICT**
14 **LIABILITY ON TELECOMMUNICATIONS PROVIDERS?**

15 A. It does not, based on my understanding of the ALJ’s interim order denying Staff’s
16 complaint in Docket UT-190209. The ALJ was clear as to how the Commission applies
17 RCW 80.36.080.

⁵⁴ In its December 2020 complaint, Staff alleged “up to 24,000 incomplete 9-1-1 calls.” Complaint, ¶15. In Direct Testimony, Staff reduced that number to [REDACTED], thereby reducing its penalty demand from \$7.215 million to [REDACTED]. Direct Testimony of Jacque Hawkins-Jones (Dec. 15, 2021) (Exh. JHJ-1CT) (“Hawkins-Jones Direct”), at 13, 16.

⁵⁵ Direct Testimony of Stephanie Chase (Dec. 15, 2021) (Exh. SKC-1T) (“Chase Direct”), at 18.

REDACTED

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1 “Staff and Public Counsel essentially argue that the mere existence of the outage
2 is sufficient to prove the alleged violations and supports up to the maximum
3 statutory penalty for each of the uncompleted calls. The Commission, however,
4 has never interpreted the statute to impose strict liability for 911 call
5 incompleteness. Companies must adequately maintain their networks and make all
6 reasonable efforts to provide safe, modern, and efficient service, minimize the risk
7 of disruptions, and quickly detect and remedy any outages. *Failure to comply with
8 those requirements results in liability. Meeting those obligations does not.*”⁵⁶

9 “The Commission, however, has never required perfection for a service provider
10 to be in compliance with Commission rules. *Rather, a company is responsible for
11 call failures only to the extent that it has not taken all reasonable measures to
12 prevent, limit, and remedy them.*”⁵⁷

13 **Q. HOW DOES THE COMMISSION INTERPRET AND APPLY RCW 80.36.080 IN**
14 **CONJUNCTION WITH 911 OUTAGES?**

15 **A.** The ALJ’s Interim Order denying the Staff complaint in Docket UT-190209 summarized
16 the Commission’s evaluation of the statute:

17 “Penalties also punish unlawful behavior. Again, however, Staff and Public
18 Counsel complain only about the results of the malfunction that occurred during
19 CenturyLink’s switch migration project in Washington, not any particular aspects
20 of the project planning or implementation. *Punishment is not appropriate for an*

⁵⁶ Docket UT-190209, Order No. 3 ¶28 (italics added) (Interim Order).

⁵⁷ Docket UT-190209, Order No. 3 ¶29 (italics added) (Interim Order).

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1 *unforeseeable event that the Company took all reasonable measures to minimize,*
2 *detect, and quickly remedy.”⁵⁸*

3 In that case, the ALJ found that the underlying outage “was not the result of a violation of
4 RCW 80.36.080 or WAC 480-120-450(1). Rather, the incident was caused by an
5 unforeseeable network malfunction that occurred during a well-planned switch upgrade
6 that CenturyLink and Intrado promptly detected and remedied. The Commission, therefore,
7 dismisses the complaint against CenturyLink.”⁵⁹

8 **Q. DO STAFF AND PUBLIC COUNSEL FRAME THEIR ARGUMENTS**
9 **REGARDING RCW 80.36.080 CONSISTENTLY WITH HOW THE COMMISSION**
10 **DESCRIBED HOW THAT STATUTE IS APPLIED?**

11 **A.** They do not. Neither analyzes the packet malformation that occurred on the Infinera Green
12 network, and neither even attempts to explain how that packet malformation was
13 foreseeable or preventable. Public Counsel does not address the Infinera outage at all, and
14 certainly doesn’t offer any analysis suggesting that the network event was foreseeable or
15 preventable. As in prior cases, Public Counsel seems to simply assume that the existence
16 of an outage automatically amounts to a violation of the statute.

17 Staff does dedicate time to discussing foreseeability, but skips the cause of the network
18 event on the Infinera Green network. In essence, Staff ignores the first domino (the
19 malformed packet that, for reasons not even Infinera can explain, formed and escaped the
20 Denver node)⁶⁰ and jumps to the second domino by focusing exclusively on whether it was

⁵⁸ Docket UT-190209, Order No. 3 ¶31 (italics added) (Interim Order).

⁵⁹ Docket UT-190209, Order No. 3 ¶32 (Interim Order).

⁶⁰ See Valence Response, Exhibit MDV-3C, at 8.

1 foreseeable that a packet storm could occur on the Infinera “Green” network because the
2 IGCC (communications channel) was enabled. Mr. Webber cites an earlier “packet storm”
3 event on the Infinera “Red” outage to argue that the December 2018 was predictable.⁶¹ As
4 Mr. Turner and Mr. Valence discuss, the “Red” and “Green” events were completely
5 unrelated and factually distinct.⁶²

6 **Q. WHAT “FACILITIES, INSTRUMENTALITIES, AND EQUIPMENT” DOES**
7 **STAFF ALLEGE THAT CLC FAILED TO KEEP IN GOOD CONDITION AND**
8 **REPAIR?**

9 **A.** In this case, Staff does not allege that any portion of the Qwest Corporation ILEC network
10 failed to meet the requirements of RCW 80.36.080. In fact, Qwest Corporation is not a
11 Respondent in this case. Staff only named CLC as a Respondent, and does not allege that
12 any portion of CenturyLink’s 911 network in Washington failed to meet the requirements
13 of RCW 80.36.080. Instead, Staff’s entire focus is on the configuration of certain
14 communication channels (the Infinera General Communication Channel or “IGCC”) on
15 one of CenturyLink’s six national transport networks (the Infinera “Green” network). Even
16 then, Staff doesn’t claim that the network was kept in poor condition or repair. Neither
17 Ms. Hawkins-Jones nor Mr. Webber ties the IGCC channel configuration to the specific
18 requirements of RCW 80.36.080. They likewise do not address whether the underlying
19 packet malformation that gave rise to the network event was the result of some
20 unreasonable failure by CLC to properly maintain the network. Instead, Staff seems to
21 assume that, because the Red network experienced a packet storm in February 2018, the
22 existence of a packet storm on the Green network is automatic proof that CLC violated

⁶¹ Webber Direct, at 7-8.

⁶² See Turner Response, at 51-56; Valence Response, at 17-19, Exhibit MDV-3C.

1 RCW 80.36.080. Staff’s testimony also doesn’t address how the Commission has
2 jurisdiction to impose an RCW 80.36.080 analysis on the operation of CLC’s national
3 transport network(s).

4 **Q. DOES STAFF EXPLAIN WHAT “APPLIANCES, INSTRUMENTALITIES, AND**
5 **SERVICES” CLC ALLEGEDLY FAILED TO ENSURE ARE MODERN,**
6 **SUFFICIENT, AND EFFICIENT?**

7 **A.** No, neither of Staff’s witnesses directly tie the facts of the case to the statute they rely on to
8 support [REDACTED] dollars in fines against CLC.

9 **Q. DOES PUBLIC COUNSEL PUT A FINER POINT ON THE FACTS THAT**
10 **ALLEGEDLY DEMONSTRATE A VIOLATION BY CLC OF RCW 80.36.080 IN**
11 **THIS CASE?**

12 **A.** Not really. Public Counsel offered no attention to the underlying Infinera network event,
13 and instead focused almost exclusively on its inaccurate narrative that CLC compelled
14 Comtech and WMD to accept SS7/TDM interconnection, that SS7 technology is outdated
15 and inadequate, and that the existence of SS7 interconnection was the cause of the outage.
16 As discussed above, Public Counsel’s witnesses severely misunderstand the underlying
17 facts. But even if the Commission was to focus on the propriety of using SS7
18 interconnection and was to ignore that Comtech (not CLC) designed and built Comtech’s
19 SS7 network, Public Counsel still hasn’t supported its conclusion that CLC violated RCW
20 80.36.080.

21 Public Counsel appears to be taking the position that the Commission need not look closely
22 at the facts underlying the Infinera network event to determine if the event was predictable,

1 foreseeable or preventable, or what actions or inactions by CLC (if any) led directly to the
2 network outage. In that way, Public Counsel (as it has done unsuccessfully in prior cases)
3 appears to be asserting that CLC is automatically liable for any network event connected to
4 a 911 outage. As Mr. Valence and Mr. Turner detail in their Response Testimony, the
5 outage on the Infinera Green network was not predictable, preventable or foreseeable, and
6 CLC acted reasonably by relying on the express directions of the equipment
7 manufacturer.⁶³

8 **Q. IN YOUR OPINION, HAVE STAFF OR PUBLIC COUNSEL DEMONSTRATED**
9 **THAT CLC VIOLATED RCW 80.36.080?**

10 **A.** While ultimately that is a legal determination to be made by the Commission, I believe that
11 Staff and Public Counsel fail to demonstrate violation of the statute. Looking past
12 jurisdictional issues and other legal considerations concerning the applicability of the
13 statute to CLC in this context, for the reasons explained by Mr. Valence and Mr. Turner,
14 the underlying network event was neither preventable nor foreseeable. In short, it was
15 caused by an unexpected packet malformation (i.e., a malformation that caused the packets
16 to grow in size yet retain header information) that was so unusual and difficult to detect
17 that even, after the fact, Infinera could not replicate it. CLC had kept the equipment in
18 good repair and did so consistent with manufacturer instructions. After the event, the
19 manufacturer (Infinera) changed its guidance regarding whether the IGCC
20 (communications channel) should be closed for packets of all sizes (not just 64-bytes or
21 smaller), and CLC immediately reconfigured the card appropriately. There is simply no

⁶³ Valence Response, at 19-20, Exhibit MDV-3C, ¶¶ 22-24; Turner Response, at 58-59.

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1 basis for concluding that CLC or Infinera could or should have foreseen that this type of
2 event could plausibly occur.

3 **Q. DID THE STAFF INVESTIGATE WHETHER COMTECH COMPLIED WITH**
4 **RCW 80.36.080 WITH REGARD TO 911 CALLS TO PSAPS IT SERVED AT THE**
5 **TIME OF THE DECEMBER 2018 OUTAGE?**

6 **A.** It's hard to tell. The Staff sent two sets of questions to Comtech during its informal
7 investigation in 2019, but it appears they never followed up after August 2019 before
8 commencing this complaint proceeding against only CLC in December 2020. The Staff
9 Investigation Report,⁶⁴ issued on the same date as the complaint, offers no consideration or
10 analysis of Comtech's responsibility for the calls failing to reach the PSAPs it served in
11 December 2018. Staff also opposed CLC's attempt to issue third party discovery to
12 Comtech, as discussed above. Ultimately, Comtech decided to intervene in the case, and
13 Staff could no longer resist investigation of Comtech's network design.

14 It is unclear whether Staff – who held or attempted to hold Qwest Corporation responsible
15 for the errors of its vendor Intrado in Dockets UT-140587 and UT-190209 – even
16 considered whether Comtech should be held responsible for a faulty network design, one
17 lacking in diversity and redundancy, that directly led to 911 calls failing to complete to its
18 PSAPs.

⁶⁴ See Webber Direct, Exhibit JDW-3C.

1 **Q. HAD STAFF PURSUED A THOROUGH INVESTIGATION OF COMTECH'S**
2 **ROLE IN THE OUTAGE, WHAT WOULD HAVE STAFF DISCOVERED?**

3 **A.** If Staff had focused a portion of the investigation on Comtech, it would have discovered
4 prior to commencing this case only against CLC, that Comtech failed to design its SS7
5 network in a resilient way, or in a way consistent with the best practices that even Public
6 Counsel testifies are critical for any 911 system. Through *its investigation*, CLC has
7 uncovered that Comtech lacked supplier diversity in its SS7 network (the component of its
8 network that failed, leading to failed 911 calls in Washington),⁶⁵ that Comtech was aware
9 that it needed supplier diversity, and that Comtech acknowledges it never communicated to
10 WMD, CenturyLink, the Commission, or anyone else that it lacked supplier diversity on its
11 SS7 network.⁶⁶ Combined with the fact that Comtech did not indicate to CLC that it would
12 be using specific circuits that its vendor (TNS) ordered from CLC as SS7 links,⁶⁷ it is clear
13 that the direct cause of the failed calls was Comtech's Phase 1 network design. As Mr.
14 Klein testifies, CenturyLink's SS7 links utilized multiple networks.⁶⁸ The simple
15 difference between CenturyLink's and Comtech's designs accounts for the vastly different
16 911 call completion outcomes in Washington in December 2018.

17 **Q. ARE YOU TESTIFYING THAT STAFF SHOULD HAVE FILED A FORMAL**
18 **COMPLAINT AGAINST COMTECH?**

19 **A.** As I said above, I am not. It's not my place to argue that Staff should pursue enforcement
20 against another regulated provider. Even with its inadequate network design, I'm not sure

⁶⁵ See Exhibit SJH-12C.

⁶⁶ See Exhibit SJH-12C.

⁶⁷ Valence Response, at 22-24, Exh. MDV-8C.

⁶⁸ Klein Response, at 10.

1 a complaint against Comtech would be granted by the Commission because the underlying
2 network event – the packet storm on Comtech’s vendor’s (CLC) Infinera network – was
3 not predictable, foreseeable or preventable. But I do think it is important for the
4 Commission to note that Staff did not fully investigate the ultimate cause of the outage
5 abandoned its prior advocacy (that the 911 service provider is responsible for the “errors”
6 of its underlying vendor) and instead took early and exclusive aim at CLC.

7 **Q. DOES PUBLIC COUNSEL SHARE STAFF’S PERSPECTIVE THAT COMTECH**
8 **WAS NOT RESPONSIBLE FOR THE FAILED 911 CALLS AT ISSUE IN THIS**
9 **CASE?**

10 **A.** It’s difficult to say, as Public Counsel was evasive when CLC asked that question. Despite
11 acknowledging that Comtech erred by not having supplier diversity,⁶⁹ Public Counsel –
12 which seeks nearly [REDACTED] in penalties from CLC based on its false belief that CLC
13 lacked supplier diversity when provisioning SS7 circuits to Comtech – seems to give
14 Comtech a pass for the 911 impacts it experienced due to its lack of supplier diversity.
15 Public Counsel sidesteps the question, noting that Staff has prosecutorial discretion and
16 refuses to offer an opinion as to whether Staff should have named Comtech in the
17 complaint.⁷⁰

18 ***B. SECOND CAUSE OF ACTION (RCW 80.36.220)***

19 **Q. WHAT IS THE SECOND CAUSE OF ACTION AGAINST CLC?**

20 **A.** Staff next alleges that CLC committed [REDACTED] violations of RCW 80.36.220, which states:

⁶⁹ See Exhibit SJH-2, Public Counsel response to DR CLC-14.

⁷⁰ See Exhibit SJH-2, Public Counsel response to DR CLC-2.

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1 “Telecommunications companies shall receive, exchange and transmit each
2 other's messages without delay or discrimination, and all telecommunications
3 companies shall receive and transmit messages for any person...In case of the
4 refusal or neglect of any telecommunications company to comply with the
5 provisions of this section, the penalty for the same shall be a fine of not more than
6 five hundred nor less than one hundred dollars for each offense.”

7 Public Counsel believes that there were fewer dropped calls (and thus fewer violations),
8 concluding that there were [REDACTED] dropped or incomplete 911 calls, and thus [REDACTED]
9 violations of RCW 80.36.220.71

10 **Q. CAN YOU SUMMARIZE STAFF’S THEORY OF THE WAY(S) IN WHICH CLC**
11 **VIOLATED RCW 80.36.220 BASED ON THE DECEMBER 2018 OUTAGE?**

12 **A.** I cannot, as neither Ms. Hawkins-Jones nor Mr. Webber *even mention the second cause of*
13 *action*, except for Ms. Hawkins-Jones concluding (with no explanation) that CLC should
14 be penalized “[REDACTED]
15 [REDACTED]”⁷² Staff’s complaint is equally
16 nebulous, stating that “During the December 2018 outage, CenturyLink committed up to
17 24,000 violations of RCW 80.36.220 by failing to transmit up to 24,000 calls placed to 911
18 to another telecommunications company to PSAPs still receiving CenturyLink service.” So
19 fifteen months after Staff filed its formal complaint against CLC, we still do not know their
20 theory for demanding for nearly [REDACTED] in penalties, making it extremely difficult to
21 respond here, our only opportunity to provide testimony regarding this cause of action.

⁷¹ Chase Direct, at 18. It appears that Ms. Chase inadvertently transposed the total penalty demand for this cause of action and the cause of action premised on WAC 480-120-450. See Chase Direct, at 18, lines 10-11.

⁷² Hawkins-Jones Direct, at 13.

REDACTED

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1 **Q. DOES PUBLIC COUNSEL EXPLAIN ITS THEORY AS TO HOW CLC**
2 **VIOLATED RCW 80.36.220?**

3 **A.** No, it does not. Similar to Staff’s witnesses, neither Ms. Chase nor Mr. Rosen *even*
4 *mention the second cause of action*, except for Ms. Chase concluding that CLC should be
5 fined over [REDACTED] for violation of a statute Public Counsel doesn’t even discuss.

6 It’s possible that neither Staff nor Public Counsel try to connect the cause of action to the
7 facts of this case because they realize the statute has no relevance to 911 outages. I’ll note
8 that Staff didn’t raise this statute in either of the prior 911 outage dockets (Dockets UT-
9 140587 and UT-190209), making its theory of the case even less clear. That aside, it seems
10 impossible to hold CLC responsible given the plain language of the statute. The statute
11 says that carriers must “exchange and transmit each other's messages without delay or
12 discrimination,” which is exactly what CLC did. CLC did not block any voice calls.
13 CenturyLink (via Intrado) transmitted 100% of the SS7 signaling messages to Comtech. It
14 was Comtech that did not send return messages. CenturyLink transmitted its portion of the
15 SS7 messaging to Comtech, but Comtech’s SS7 links failed, and thus Comtech failed to
16 transmit back the necessary information/messaging to allow the 911 call to traverse the ITT
17 (voice path). With this in mind, I do not see any basis for liability under RCW 80.36.220.

1 **C. THIRD CAUSE OF ACTION (WAC 480-120-412)**

2 **Q. WHAT IS THE THIRD CAUSE OF ACTION AGAINST CLC?**

3 **A.** Staff next alleges that CLC committed 15 violations of WAC 480-120-412 “for failing to
4 promptly notify PSAPs of a major outage.”⁷³ Staff believes that CLC violated the rule by
5 not notifying its 15 remaining PSAPs of the outage.

6 **Q. WHAT DOES WAC 480-120-412 REQUIRE?**

7 **A.** The rule (entitled Major Outages) requires the following:

8 “(2) Notice to commission and public safety answering point (PSAP). When a
9 company receives notice of or detects *a major outage*, it must notify the
10 commission and *any PSAP serving the affected area* as soon as possible.” (italics
11 added)

12 “Major outage” is defined in WAC 480-120-412 as “*a service failure lasting for*
13 *thirty or more minutes that causes the disruption of local exchange or toll*
14 *services to more than one thousand customers; total loss of service to a public*
15 *safety answering point or emergency response agency; intercompany trunks or*
16 *toll trunks not meeting service requirements for four hours or more and affecting*
17 *service; or an intermodal link blockage (no dial tone) in excess of five percent for*
18 *more than one hour in any switch or remote switch.*” (italics added)

⁷³ Hawkins-Jones Direct, at 13.

1 **Q. DID ANY OF THE 15 CENTURYLINK-SERVED PSAPS EXPERIENCE A**
2 **“MAJOR OUTAGE” DURING THE DECEMBER 2018 NETWORK EVENT?**

3 **A.** They did not, and thus the rule doesn’t require that those PSAPs be given notice.
4 CenturyLink received no alarms indicating service interruptions, and the data CLC has
5 repeatedly provided during the investigation and this docket demonstrate that 911 calls
6 destined for CenturyLink’s remaining 15 PSAPs were unaffected by the network event.
7 There was, simply put, no “major outage” affecting 911 calls to the 15 CenturyLink
8 PSAPs. Notifying the fully functioning PSAPs would have been highly confusing, and
9 certainly was not required by the rule.

10 **Q. HOW HAS STAFF EXPLAINED THE BASIS OF THIS CAUSE OF ACTION?**

11 **A.** Not very specifically. Mr. Webber does not mention this cause of action at all. After
12 reciting the text of the WAC 480-120-412 and stating that a major outage had occurred,
13 Ms. Hawkins-Jones merely concludes that “CenturyLink managed, and therefore needed to
14 contact, 15 PSAPs in the state of Washington concerning the December 2018 outage.”⁷⁴
15 She does not address that 911 service to those 15 PSAPs was not interrupted, or how her
16 conclusion aligns with the rule’s requirement of notice to PSAPs “serving the affected
17 area.” In response to CLC discovery, Staff reiterated their belief that “CenturyLink” (not
18 specifically CLC, the only Respondent in this case) was required to notify its 15 PSAPs
19 “even if 911 calls destined to that particular PSAP were completing.”

20 “Yes. Given that the outage was intermittent, occurred over several days, and was
21 state-wide, Staff maintains that CenturyLink should have notified all PSAPs that
22 remained on its network during the outage. Furthermore, even if an area was not

⁷⁴ Hawkins-Jones Direct, at 5-7.

1 experiencing service impairment, the residents of that area may travel to other
2 areas that were experiencing service impairment.”⁷⁵

3 **Q. DO YOU FIND STAFF’S INTERPRETATION OF WAC 480-120-412**
4 **PERSUASIVE?**

5 **A.** Not at all. Besides the fact that Staff has not drawn any connection between a notification
6 requirement and CLC, which is not the ILEC in Washington, Staff seems to be expanding
7 the reach of the rule by suggesting that notice should be provided even if an area isn’t
8 experiencing an outage.

9 **Q. DOES PUBLIC COUNSEL OFFER TESTIMONY REGARDING THIS CAUSE OF**
10 **ACTION?**

11 **A.** Yes, Mr. Rosen suggests that, despite Comtech being the Covered 911 Service Provider for
12 its 47 PSAPs and despite that Comtech issued WAC 480-120-412 notices to each of its
13 PSAPs, “CenturyLink”⁷⁶ should have still notified all PSAPs in Washington.⁷⁷ He does not
14 explain in a way I understand or that aligns with our regulatory requirements, why
15 duplicative notices from “CenturyLink” were required or would have been beneficial to the
16 PSAPs. He merely concludes, “[t]herefore, in my expert opinion, CenturyLink should have
17 notified all PSAPs, not just the ones for which it would explicitly have been the ‘Covered
18 9-1-1 Service Provider.’”⁷⁸ Mr. Rosen’s argument is unsupported by the facts (specifically,

⁷⁵ See Exhibit SJH-15, Staff response to DR CLC-15 (citations omitted).

⁷⁶ Again, Public Counsel conveniently blurs together various CenturyLink entities as “CenturyLink” rather than tying some regulatory notice obligation to CLC, the Respondent in this case, which was not functioning as a local exchange carrier in connection with the failed calls.

⁷⁷ Rosen Direct, at 16-18.

⁷⁸ Rosen Direct, at 18.

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1 there was no major outage in the CenturyLink PSAP areas) and doesn't align with the text
2 of the rule.

3 **D. FOURTH CAUSE OF ACTION (WAC 480-120-450)**

4 **Q. WHAT IS THE FOURTH CAUSE OF ACTION AGAINST CLC?**

5 **A.** Staff next alleges that CLC committed [REDACTED] violations of WAC 480-120-450, which
6 requires local exchange carriers to provide E911 service. In the complaint, Staff
7 generically explains that “[d]uring the December 2018 outage, CenturyLink committed up
8 to 24,000 violations of WAC 480-120-450(1) by failing to provide E911 service, resulting
9 in up to 24,000 dropped or incomplete 911 calls.”⁷⁹ Public Counsel believes that there were
10 fewer dropped calls (and thus fewer violations), concluding that there were [REDACTED] dropped
11 or incomplete 911 calls.⁸⁰

12 **Q. WHAT IS YOUR UNDERSTANDING OF WAC 480-120-450(1)?**

13 **A.** WAC 480-120-450(1) is a rule obligating *local exchange carriers* (i.e., Qwest Corporation,
14 not CLC) to have processes in place that create the ability for their customers to dial 911.

15 “(1) Local exchange companies (LECs) must provide enhanced 9-1-1 (E911)
16 services including:

17 (a) For single line service, the ability for customers to dial 911 with the call and
18 caller's ELIN transmitted to the E911 selective router serving the location
19 associated with the ERL for that line;

⁷⁹ Complaint ¶35.

⁸⁰ Chase Direct, at 18.

1 (b) For multiline customers, the ability for customers to dial 911 with common
2 signal protocols available which permit the call and caller's ELIN to be
3 transmitted to the E911 selective router serving the location associated with the
4 ERL for that line;

5 (c) For pay phones served by pay phone access lines (PALs) the ability for
6 customers to dial 911 with the call and the ELIN transmitted to the E911 selective
7 router serving the location of the ERL for that line. The ELIN must be that of the
8 pay phone.”

9 In other words, the rule directs LECs to provide local exchange customers the capability to
10 dial 911 to reach emergency services. According to the ALJ in Docket UT-190209, “[t]hat
11 requirement, like the statute [RCW 80.36.080], is a general obligation that does not
12 expressly require the LEC to complete each and every call.”⁸¹

13 **Q. DO STAFF OR PUBLIC COUNSEL ADDRESS THIS CAUSE OF ACTION IN**
14 **THEIR DIRECT TESTIMONY?**

15 **A.** Not at all, except to Staff to demand [REDACTED] in penalties⁸² and for Public Counsel to
16 demand [REDACTED] in penalties.⁸³

⁸¹ Docket UT-190209, Order No. 3 ¶29 (Interim Order).

⁸² Hawkins-Jones Direct, at 13.

⁸³ Chase Direct, at 18. As noted above, Ms. Chase seems to have transposed her penalty recommendations for second and fourth causes of action.

1 **Q. DO YOU BELIEVE THAT WAC 480-120-450(1) FORMS THE BASIS OF A VALID**
2 **CLAIM AGAINST CLC IN THIS CASE?**

3 **A.** No. Even if you assumed (for purposes of this claim) that CLC should be held legally
4 responsible for the failed 911 calls to Comtech PSAPs, this rule does not appear to apply to
5 CLC. The rule regulates the behavior of LECs in their capacity serving end user customers
6 as originating service providers (“OSPs”), and the complaint does not address or name
7 Qwest Corporation. At the time of the outage, CenturyLink provided services to 15
8 PSAPs. The complaint, along with all four pieces of testimony submitted by Staff and
9 Public Counsel, focus on CLC as a transport provider, not as an OSP. Thus, the rule does
10 not seem to have any connection to the facts of this case.

11 **Q. DID CLC SEEK CLARIFICATION OF STAFF’S POSITION IN DISCOVERY?**

12 **A.** Yes, CLC did seek clarification, although Staff’s responses did not provide any clarity as to
13 why Staff asserts this cause of action against CLC. Staff admits that the rule covers OSPs,
14 but then tries to draw a connection to CLC, which was not an OSP in this circumstance.⁸⁴
15 In response to a data request asking whether Staff contends that CLC was an OSP, Staff
16 responded: “b. As used in Staff’s testimony, the reference to originating service provider
17 ****[Begin Confidential]** [REDACTED]
18 [REDACTED] [End
19 Confidential]** As such, Staff maintains that CenturyLink is responsible for all of the
20 failed calls identified in Mr. Webber’s testimony.”

21 Staff dodges the question about whether *CLC* was an OSP in this context, and defaults to
22 the generic “CenturyLink.” CLC is the only Respondent in this case. Staff has not made

⁸⁴ See Exhibit SJH-15, Staff’s response to DR CLC-17.

1 any allegation that CLC was the OSP for any caller who unsuccessfully attempted to reach
2 a Comtech PSAP during the December 2018 network outage. CLC's role as a transport
3 provider, especially where Comtech was (unbeknownst to CLC) using CLC's transport
4 circuits as SS7 links, does not appear relevant to WAC 480-120-450. Fifteen months after
5 Staff filed its complaint, CLC still has no insight as to why Staff and Public Counsel
6 believe CLC violated this rule, or on what basis they seek [REDACTED] of dollars in penalties.

8 VI. COMMISSION ENFORCEMENT GUIDELINES

9 **Q. BOTH MS. HAWKINS-JONES AND MS. CHASE WALK THROUGH THE**
10 **COMMISSION'S ENFORCEMENT GUIDELINES. DO YOU BELIEVE THAT**
11 **CLC SHOULD BE PENALIZED BY THE COMMISSION IN THIS CASE?**

12 **A.** Absolutely not, for all the reasons discussed above and in the testimonies of the other CLC
13 witnesses. However, I will respond to Staff's and Public Counsel's discussion of the
14 guidelines to ensure that the Commission has all necessary information.

15 **Q. THE FIRST FACTOR THE COMMISSION CONSIDERS IS HOW SERIOUS OR**
16 **HARMFUL THE ALLEGED VIOLATION WAS TO THE PUBLIC. PLEASE**
17 **COMMENT.**

18 **A.** Ms. Hawkins-Jones⁸⁵ and Ms. Chase⁸⁶ both testify that failed 911 calls are very serious and
19 potentially very harmful to the public. CenturyLink takes its 911-related obligations very
20 seriously and agrees that any failed 911 calls are concerning. As the ALJ noted in Docket

⁸⁵ Hawkins-Jones Direct, at 15.

⁸⁶ Chase Direct, at 9-10.

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1 UT-190209, even one failed 911 call is too many.⁸⁷ It bears repeating that no 911 calls
2 destined to CenturyLink-served PSAPs failed as a result of the December 2018 network
3 outage. All of the failed 911 calls were destined to Comtech-served PSAPs, and the failure
4 occurred on Comtech’s SS7 network that Comtech designed, constructed and maintained.
5 Given the seriousness and potential harm of failed 911 calls, it is curious that neither Staff
6 nor Public Counsel address the need for investigation or enforcement against Comtech, but
7 instead focus all their attention on Comtech’s SS7’s vendor’s vendor (CLC).

8 **Q. THE SECOND FACTOR THE COMMISSION CONSIDERS IS WHETHER THE**
9 **ALLEGED VIOLATION WAS INTENTIONAL. PLEASE COMMENT.**

10 **A.** Ms. Hawkins-Jones⁸⁸ and Ms. Chase⁸⁹ both admit that CLC did not intentionally violate
11 any statute or rules, but then address their own self-created criterion by suggesting that the
12 outcome was foreseeable and/or or the natural consequence of design decisions by
13 “CenturyLink.” As fully discussed above, CLC did not do anything intentional that should
14 lead to Commission penalties in this case, and certainly did not intentionally violate any
15 statute or rule. Likewise, as described by Mr. Valence (at pages 19-20, Exhibit MDV-3C,
16 ¶¶ 22-24) and Mr. Turner (at pages 58-59), the outage on the Infinera Green network was
17 not foreseeable. It was so unusual that Infinera could not replicate it in a laboratory.

⁸⁷ Docket UT-190209, Order No. 3 ¶29 (Interim Order).

⁸⁸ Hawkins-Jones Direct, at 15.

⁸⁹ Chase Direct, at 10-11.

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1 **Q. THE THIRD FACTOR THE COMMISSION CONSIDERS IS WHETHER THE**
2 **COMPANY SELF-REPORTED THE ALLEGED VIOLATION. PLEASE**
3 **COMMENT.**

4 **A.** Ms. Hawkins-Jones⁹⁰ and Ms. Chase⁹¹ testify that CLC did not self-report the alleged
5 violations. As explained above, there were no violations and thus nothing to report. Once
6 aware of the issues Comtech was having completing 911 calls in Washington, CenturyLink
7 kept stakeholders up to date by communicating on a conference bridge established by
8 WMD and communicated multiple times with Chairman Danner’s office (to provide status
9 reports) and with local officials.

10 **Q. THE FOURTH FACTOR THE COMMISSION CONSIDERS IS WHETHER THE**
11 **COMPANY WAS COOPERATIVE AND RESPONSIVE. PLEASE COMMENT.**

12 **A.** Ms. Hawkins-Jones⁹² and Ms. Chase⁹³ testify the company was “generally responsive”
13 (Ms. Chase’s words) and cooperated in “some ways” (Ms. Hawkins-Jones’s words). Both
14 witnesses are underselling the company’s cooperativeness during the investigation and
15 during this proceeding. Both suggest that the company refused to turn over CDRs/failed
16 call records. As described above, that is false. Prior to the complaint being filed in
17 December 2020, the company responded to four sets of informal discovery from
18 Commission Staff, including an August 2020 request for completed/failed call data. In
19 September and October 2020, the company provided granular 911 call data separately for

⁹⁰ Hawkins-Jones Direct, at 16.

⁹¹ Chase Direct, at 11-12. In this discussion (at page 11), Ms. Chase conflates this criterion (self-reporting known violations of Commission statutes or rules) with the obligation to notify the Commission of major outages. As discussed earlier, there were no major outages affecting CenturyLink PSAPs.

⁹² Hawkins-Jones Direct, at 16.

⁹³ Chase Direct, at 12.

1 Comtech PSAP calls and CenturyLink PSAP calls. The data was broken out by hour and
2 by PSAP, and identified the specific cause of each uncompleted call. Staff ignored that
3 data in its complaint, instead alleging up to 24,000 failed calls when it had data of far fewer
4 failed calls, and continued to ignore it even through the time Direct Testimony was filed in
5 December 2021. CLC did not withhold any call-related data, and went above and beyond
6 what is required to provide Staff (and later Public Counsel) with granular data so that they
7 could perform their own analyses. CLC has also been extremely cooperative and
8 accommodating during this case. To date, CLC has been served with 15 sets of discovery
9 from Commission Staff, Public Counsel and WMD, and has answered 88 individual data
10 requests, many including multiple subparts. None of CLC’s responses has been challenged
11 through a motion to compel.

12 **Q. PUBLIC COUNSEL SUGGESTS THAT CENTURYLINK WAS NOT**
13 **RESPONSIVE DURING THE OUTAGE. PLEASE COMMENT.**

14 **A.** Mr. Rosen, at pages 17-18 of his Direct Testimony, claims that the company failed to
15 follow an “all hands on deck” approach during the outage. He provides little detail
16 explaining what he means. Mr. Rosen testifies, “[I]n the initial phase of any outage, it is
17 industry practice that emergency officials and providers take an “all hands on deck”
18 approach, bringing their best people to hunt the problem wherever it may be without regard
19 to blame. However, CenturyLink’s data responses identify a single person – a Senior
20 Operations Service Manager—mobilized to attend the WMD conference call line.”⁹⁴

⁹⁴ See also Chase Direct, at 13 (“Moreover, CenturyLink deployed only a single person to attend WMD’s conference call line addressing the outage and did not mobilize its 9-1-1 Network and Center Operations team. Because CenturyLink did not use the “all hands on deck” approach that is industry practice, resolution was likely delayed. This factor supports imposing the full penalty.”).

1 Mr. Rosen is conflating attendance on a conference bridge with the company's
2 comprehensive efforts to investigate and resolve the underlying network event. In response
3 to CLC discovery, Public Counsel backed down from its testimony. Asked if Public
4 Counsel contended that CenturyLink had only one person investigating and resolving the
5 network event, Public Counsel responded, "No. Public Counsel does not contend that there
6 was only one CenturyLink employee working to address the network event. Public Counsel
7 contends that CenturyLink did not "indicate it mobilized its 9-1-1 Network and Center
8 Operations team." Rosen Direct, at 18."⁹⁵

9 **Q. IS PUBLIC COUNSEL CORRECT THAT CENTURYLINK HAD NOT**
10 **MOBILIZED ITS 9-1-1 NETWORK AND CENTER OPERATIONS TEAM?**

11 **A.** Absolutely not. NOC technicians, engineers and leadership were all working around the
12 clock, many without sleep, to resolve the issue. Since this was a transport issue, all
13 transport teams were engaged to correct the issue, but other teams were engaged because
14 other services ride on top of transport. Other teams took on other work so the transport
15 team could focus on restoring services.

16 In addition to the NOC, Repair Center technicians and engineers were working trouble
17 tickets, while Repair Center leadership remained fully engaged. All field operations were
18 likewise engaged to troubleshoot nodes as an isolation methodology and then to physically
19 reset cards and isolate suspected offending nodes. CenturyLink also had the equipment
20 vendor's (Infinera) technical, senior technical, and development engineers (i.e., the
21 engineers who designed the equipment) engaged. Senior leadership (including
22 CenturyLink's CEO and Infinera's CEO) were actively engaged. Overall, I'd estimate that

⁹⁵ See Exhibit SJH-2, Public Counsel supplemental response to DR CLC-3.c.

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1 hundreds of CenturyLink and Infinera employees worked to investigate and resolve the
2 network event. All hands were definitely on deck.

3 **Q. PUBLIC COUNSEL DERIDES THE COMPANY’S PARTICIPATION ON THE**
4 **WMD CONFERENCE BRIDGE. PLEASE COMMENT.**

5 **A.** Again, I’m uncertain why Public Counsel is taking this position. Company employee
6 Jacob Clow provided regular updates to the community on the conference bridge. Nobody
7 on the calls complained that he was anything but forthcoming and informative. Mr. Clow
8 was also monitoring the conference bridge being hosted by the company’s team focused on
9 isolating and resolving the network event, and related recovery efforts on the WMD
10 conference bridge. As Public Counsel should desire, the company primarily dedicated its
11 efforts to investigating the unusual network event and to working to resolve the issue. It
12 was extremely complicated and difficult to diagnose, and the company, in coordination
13 with the equipment manufacturer, did everything in their power to get the network back in
14 service.

15 **Q. THE FIFTH FACTOR THE COMMISSION CONSIDERS IS WHETHER THE**
16 **COMPANY PROMPTLY CORRECTED THE ALLEGED VIOLATIONS AND**
17 **REMEDIED THE IMPACTS. PLEASE COMMENT.**

18 **A.** Ms. Hawkins-Jones⁹⁶ testifies simply that “CenturyLink worked with its vendors to secure
19 its network, which should prevent any similar network failures.” She does not appear to
20 view this a factor weighing in favor of higher penalties against the company. Ms. Chase⁹⁷
21 testifies similarly, but also notes that it took 49 hours “to get the 9-1-1 system back online.”

⁹⁶ Hawkins-Jones Direct, at 16.

⁹⁷ Chase Direct, at 12-13.

1 She also once again derides the company for only assigning one individual to the WMD
2 conference bridge, suggesting (without explanation) that this likely delayed resolution of
3 the outage. CLC did not violate any statute or rule, but will address this testimony
4 regardless.

5 According to the FCC,⁹⁸ this was an extremely unusual and complicated network event to
6 diagnose and resolve. Because the company's remote access to the affected nodes was
7 compromised by the event itself, individuals had to be dispatched to test individual cards in
8 the field. In addition to engaging Infinera, CenturyLink engaged, among others, network
9 administrators in New Orleans and San Antonio, and network engineers to Omaha and
10 Kansas City. It took many hours to locate the source of the malformed packets, and, after
11 the source was identified, it took another 14 hours to replace all affected cards/nodes. The
12 company worked closely with the equipment manufacturer, Infinera, to investigate and
13 resolve the event, and neither Staff nor Public Counsel make any specific allegations that
14 the company did so too slowly or inefficiently.

15 Also, Ms. Chase overstates when she suggests that 911 service was inoperable for 49
16 hours. Calls to CenturyLink-served PSAPs were not impaired at all. As for calls to
17 Comtech PSAPs, Staff's investigation report and the FCC report both make clear that there
18 were three shorter time periods over the 49 hours when Comtech's 911 services were
19 impacted. It was not out of service for the entire 49 hours. I am not suggesting that any
20 outage is acceptable, but Public Counsel should avoid presenting misleading facts to the
21 Commission.

⁹⁸ See Exhibit SJH-13, at 6-8.

1 **Q. THE SIXTH FACTOR THE COMMISSION CONSIDERS IS THE NUMBER OF**
2 **VIOLATIONS AND CUSTOMERS AFFECTED. PLEASE COMMENT.**

3 **A.** Ms. Hawkins-Jones⁹⁹ and Ms. Chase¹⁰⁰ differ as to the number of failed calls (and thus, in
4 their minds, the number of violations). CLC does not believe there were any violations of
5 Washington statute or rule by CLC. While there may have been violations by Comtech,
6 Staff did not perform a thorough investigation of Comtech's role in the outage prior to
7 filing this formal complaint, and neither Staff nor Public Counsel appears interested in
8 determining Comtech's role. Both remain singularly focused on CLC.

9 **Q. THE SEVENTH FACTOR THE COMMISSION CONSIDERS IS THE**
10 **LIKELIHOOD OF RECURRENCE. PLEASE COMMENT.**

11 **A.** CenturyLink is no longer the 911 service provider in Washington, a critical fact Ms.
12 Hawkins-Jones¹⁰¹ ignores and Ms. Chase¹⁰² shrugs off. The ALJ in Docket UT-190209
13 made this exact point, yet both Staff and Public Counsel pay it no heed here. In that order,
14 the ALJ states:

15 “Even if we were to conclude that the outage violated RCW 80.36.080 and WAC
16 480-120-450(1), we would not assess a penalty for the violations. ‘The
17 Commission’s ultimate objective in any enforcement action is to obtain
18 compliance with applicable law.’ [footnotes omitted] Penalties primarily provide
19 an incentive to comply with legal requirements. * * * CenturyLink no longer
20 even provides 911 service under contract with WMD. Assessing penalties under

⁹⁹ Hawkins-Jones Direct, at 16.

¹⁰⁰ Chase Direct, at 13.

¹⁰¹ Hawkins-Jones Direct, at 16.

¹⁰² Chase Direct, at 14.

1 these circumstances would provide no incentive whatsoever for CenturyLink to
2 comply with applicable law.”¹⁰³

3 Ms. Chase’s testimony on this point is particularly telling. She states that “because the
4 Company’s underlying network supports emergency services in Washington, another
5 outage remains possible.” She is fuzzy about what “Company” or what “underlying
6 network” she is referring to. To the extent she is arguing that the Commission should
7 closely scrutinize and micromanage CLC’s national transport network(s) because Comtech
8 may be using interstate circuits in support of its flawed network design, I believe that
9 position raises jurisdictional concerns. Nevertheless, she does not offer enough detail for
10 CLC to understand Public Counsel’s position and respond to it appropriately or effectively.

11 **Q. THE EIGHTH FACTOR THE COMMISSION CONSIDERS IS COMPANY’S**
12 **PAST PERFORMANCE REGARDING COMPLIANCE, VIOLATIONS AND**
13 **PENALTIES. PLEASE COMMENT.**

14 **A.** Ms. Hawkins-Jones¹⁰⁴ and Ms. Chase¹⁰⁵ both discuss the earlier outage cases this
15 Commission has considered over the past decade. CLC does not deny that its affiliate,
16 Qwest Corporation, has been the subject of those investigations and has reached settlement
17 in the two cases (with the third complaint being rejected by the ALJ). I would note that
18 this complaint case is different in nearly every respect. The earlier 911 cases involved
19 Qwest Corporation’s provision of 911 service and errors/outages that occurred on its 911
20 vendor’s network. This case does not involve Qwest Corporation at all, and here the
21 complaint focuses solely on the 911 network provider’s (Comtech) SS7 vendor’s (TNS)

¹⁰³ Docket UT-190209, Order No. 3 ¶30 (Interim Order).

¹⁰⁴ Hawkins-Jones Direct, at 17.

¹⁰⁵ Chase Direct, at 14-15.

1 transport provider (CLC). The affected CLC long haul network is not generally central to
2 support 911 network or architecture; however, Comtech (unknown to CLC) designed and
3 implemented these transport circuits to support SS7 links in as part of its 911 services.

4 **Q. THE NINTH FACTOR THE COMMISSION CONSIDERS IS WHETHER THE**
5 **COMPANY HAS A COMPLIANCE PROGRAM. PLEASE COMMENT.**

6 **A.** Ms. Hawkins-Jones¹⁰⁶ and Ms. Chase¹⁰⁷ both note that CLC lacks a “compliance program,”
7 and without any explanation Ms. Chase indicates that “[t]his factor supports imposing the
8 full penalty on CenturyLink.” Given that CLC did nothing that was out of compliance and
9 worked with the equipment manufacturer (Infinera), immediately making adjustments to
10 the affected network, there is no “compliance program” to be created in connection with
11 this network event.

12 **Q. THE FINAL FACTOR THE COMMISSION CONSIDERS IS THE SIZE OF THE**
13 **COMPANY. PLEASE COMMENT.**

14 **A.** Ms. Hawkins-Jones¹⁰⁸ and Ms. Chase,¹⁰⁹ respectively, indicate the company’s 2020
15 intrastate revenue and 2019 total Washington operating revenue. I’ll note that Public
16 Counsel is recommending a penalty that [REDACTED] CLC’s intrastate revenue for the
17 entirety of 2019.

18

¹⁰⁶ Hawkins-Jones Direct, at 17.

¹⁰⁷ Chase Direct, at 16.

¹⁰⁸ Hawkins-Jones Direct, at 17.

¹⁰⁹ Chase Direct, at 16.

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1

VII. CONCLUSION

2 **Q. DOES THIS CONCLUDE YOUR RESPONSE TESTIMONY?**

3 **A.** Yes, it does.

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