



CARLA M. BUTLER

April 24, 2014

Via UPS Next Day Delivery

Filing Center
Oregon Public Utility Commission
P.O. Box 1088
Salem, OR 97308-1088

Re: UM 1481

Dear:

Enclosed for filing please find an original and five (5) copies of CenturyLink 's Opening Testimony of Ann M. Welsh and Alan L. Lubeck, along with a certificate of service.

Confidential pages 10, 13, 14, 15 and 16 of Ms. Welsh's Testimony, as well as her Confidential Exhibit CTL/401 are printed on yellow paper, marked Confidential, and are being provided via UPS Next Day Delivery.

If you have any questions, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink that reads "Carla".

Carla M. Butler
Paralegal

Enclosures
cc: Service List

310 SW Park Ave., 11th Flr.
Portland, OR 97205
Ph. 503.242.5420
Fx. 503.242.8589
carla.butler@centurylink.com

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 1481

In the Matter of

**PUBLIC UTILITY COMMISSION
OF OREGON**

Staff Investigation of the Oregon Universal
Service Fund.

OPENING TESTIMONY OF

ALAN LUBECK

ON BEHALF OF

CENTURYLINK

April 24, 2014

TABLE OF CONTENTS
OPENING TESTIMONY OF ALAN LUBECK

	<u>Page</u>
I. INTRODUCTION.....	1
II. OVERVIEW OF THE FEDERAL UNIVERSAL SERVICE FUND	3
III. FEDERAL SUPPORT CHANGES – UNIVERSAL SERVICE TO CAF II	9
IV. MODIFYING OREGON USF TO COMPLEMENT FEDERAL FUNDING CHANGES	23
V. SUMMARY OF TESTIMONY	31

I. INTRODUCTION

1 **Q. PLEASE STATE YOUR NAME, TITLE, AND BUSINESS ADDRESS.**

2 A. My name is Alan Lubeck. I am employed by CenturyLink as Public Policy Director. My
3 business address is 5454 W. 110th Street, Overland Park, Kansas.

4 **Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
5 **WORK EXPERIENCE.**

6 A. I received a B.S. in Accounting from the University of Nebraska – Lincoln in 1980. After
7 graduating, I spent six years at what is now Price Waterhouse Coopers working with audit
8 and tax clients. I joined Sprint in 1986, serving in various tax, accounting and finance
9 positions, including the General Accounting Manager and the Customer Billing Manager
10 positions at the United Telephone Company of the Northwest. I joined Sprint’s Wholesale
11 organization just after the 1996 Federal Telecom Act was passed, and over the next decade
12 I negotiated interconnection, resale and collocation agreements. When Sprint spun-off
13 Embarq Corporation in 2006, I was named a Wholesale Product Manager, where I
14 developed and managed Special Access and Interconnection products and services. In
15 2008 I joined the Public Policy organization. As a Public Policy Director, I investigate,
16 draft and defend CenturyLink policy positions in specific areas. Initially I was responsible
17 for interconnection, collocation and other product policies, and more recently I became
18 involved in Universal Service issues.

19 **Q. PLEASE DESCRIBE CENTURYLINK’S OREGON OPERATING COMPANIES.**

20 A. CenturyLink operates four separate Incumbent Local Exchange Carrier (ILEC) companies
21 in Oregon – Qwest Corporation d/b/a CenturyLink QC (“CenturyLink QC”), CenturyTel of
22 Oregon, Inc. (“CTL-Oregon”), CenturyTel of Eastern Oregon (“CTL-EOregon”), and

1 United Telephone of the Northwest (“United”). I will use CenturyLink to refer to the four
2 companies collectively.

3 **Q. DOES YOUR TESTIMONY APPLY TO ALL FOUR CENTURYLINK**
4 **COMPANIES NOTED ABOVE?**

5 A. Yes. All CenturyLink ILECs are considered “Price Cap” carriers for federal Universal
6 Service Fund purposes, but there are differences between the CenturyLink companies with
7 respect to administration of the Oregon Universal Service Fund. As a result, my testimony
8 generally addresses universal service funding concepts and impacts for all four
9 CenturyLink companies, but in cases where unique implications apply to a particular
10 CenturyLink company, I will specifically refer to the entities impacted. Please note
11 however that my testimony is specific to CenturyLink and is not applicable to any of the
12 non-CenturyLink telephone companies in Oregon.

13 **Q. PLEASE EXPLAIN THE PURPOSE OF YOUR TESTIMONY.**

14 A. The purpose of my testimony is to provide an overview of the federal Universal Service
15 Fund, describe the changes occurring as the FCC transitions to the new Connect America
16 Fund phase II (CAF II) and explain how these changes will impact Oregon and the Oregon
17 Universal Service Fund (OUSF). I then recommend that the OUSF complement the FCC’s
18 CAF II by using a forward looking cost model to calculate the cost of voice service in high-
19 cost rural areas of Oregon. The model should be similar to the framework presented by
20 CenturyLink witness Ms. Ann Welsh. Regardless of how the Commission proceeds in this
21 docket, service obligations must be accompanied by specific, predictable and sufficient
22 Oregon Universal Service Fund support that will enable the provision of basic telephone

1 service at a reasonable and affordable rate to all Oregonians, including those in high cost
2 areas.¹

3 **II. OVERVIEW OF THE FEDERAL UNIVERSAL SERVICE FUND**

4 **Q. WHEN WAS THE NATIONAL POLICY OF UNIVERSAL SERVICE**
5 **ESTABLISHED?**

6 A. The Communications Act of 1934 included the following that established a national policy
7 of universal telephone service, declaring as its purpose “to make available, so far as
8 possible, to all the people of the United States, a rapid, efficient, Nation-wide, and world-
9 wide wire and radio communication service with adequate facilities at reasonable charges.”

10 **Q. WHAT SERVICES WERE SUPPORTED BY THE UNIVERSAL SERVICE**
11 **POLICY?**

12 A. Voice telephone service availability throughout the United States was the primary goal of
13 the Universal Service policy. In the 1930s telephone service was available to about 40% of
14 the households in the United States. During the ensuing decades telephone networks were
15 expanded and now nearly every household enjoys access to quality, reliable wireline
16 telephone service.

17 **Q. DOES THIS MEAN UNIVERSAL SERVICE POLICY HAS REACHED ITS GOAL**
18 **AND IS NO LONGER NECESSARY?**

19 A. No. Maintaining traditional wireline telephone networks in rural areas remains
20 uneconomic. Consumer access to telephone service is not viable in these high-cost rural
21 areas without support from federal and state Universal Service plans. The FCC recognized

¹ Oregon Revised Statutes (ORS) 759.425

1 this in its 2011 Transformation Order by adopting as its first Universal Service goal that the
2 reforms in the Order “preserve and advance universal availability of voice service.”²

3 **Q. HOW WAS FUNDING ORIGINALLY PROVIDED FOR THE UNIVERSAL**
4 **SERVICE POLICY?**

5 A. Wireline telephone companies were granted monopoly service territories. These monopoly
6 service areas allowed state and federal regulators to advance public policies that furthered
7 the Universal Service goals of adequate facilities at reasonable charges. Specifically,
8 regulators used their authority over the monopolies’ ratemaking to establish rate structures
9 that created “implicit subsidies” from low-cost business and urban residential customers
10 and used them to offset the high costs of serving rural residential customers. As noted in
11 the FCC’s 1997 First Report and Order on Universal Service, the FCC and state
12 commissions relied on monopoly wireline providers to achieve the policy goals, which
13 were funded through implicit subsidies.

14 10. Today [in 1997], universal service is achieved largely through implicit
15 subsidies. The [Federal Communications] Commission currently has in place
16 some explicit support mechanisms directed at increasing network
17 subscribership by reducing rates in high cost areas (the high cost fund and
18 Long Term Support) and at making service affordable for low-income
19 consumers (the Lifeline and Link Up programs). The current "system,"
20 however, consists principally of a number of implicit mechanisms at the state
21 and, to a substantially lesser extent, federal levels designed to shift costs from

² Connect America Fund et al., WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (*USF/ICC Transformation Order or Order*), pets. for review pending sub nom. In re: FCC 11-161, No. 11-9900 (10th Cir. filed Dec. 8, 2011) (*Transformation Order*), paragraph 17.

1 rural to urban areas, from residential to business customers, and from local to
2 long distance service.

3 11. The urban-to-rural subsidy has been accomplished through the explicit high
4 cost fund mentioned above, and through geographic rate averaging. The result
5 of state requirements that local telephone rates be averaged across the state is
6 that high-density (urban) areas, where costs are typically lower, subsidize low-
7 density (rural) areas. State pricing rules have also in many cases created a
8 business-to-residential subsidy. Most states have established local rate levels
9 such that businesses pay more on a per-line basis for basic local service than do
10 residential customers, although the costs of providing business and residential
11 lines are generally the same. In addition, rates charged for vertical services
12 such as touch tone, conference calling and speed dialing, subsidize basic local
13 service rates. Finally, interstate and intrastate access charges are set relatively
14 high in order to cover certain loop costs not recovered through local rates.
15 These usage-based charges are then recovered through higher usage charges for
16 interstate long distance service. Thus, interstate long distance customers -- and
17 particularly those with higher calling volumes -- indirectly subsidize local
18 telephone rates.³

19 **Q. HOW DID THE 1996 FEDERAL TELECOMMUNICATIONS ACT (FTA) UPDATE**
20 **THE NATIONAL POLICY FOR UNIVERSAL SERVICE?**

³ Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776 (1997), as corrected by Federal-State Joint Board on Universal Service, CC Docket No. 96-45, Erratum, FCC 97-157 (rel. June 4, 1997), aff'd in part, rev'd in part, remanded in part sub nom. Texas Office of Public Utility Counsel v. FCC, 183 F.3d 393 (5th Cir. 1999), petition for stay granted in part (Sept. 28, 1999), petitions for rehearing and rehearing en banc denied (Sept. 28, 1999) (First Report and Order).

1 A. While the FTA maintained the original vision, in section 254 it further codified the policy
2 of universal service through the adoption of the following principles:

- 3 • Promote the availability of quality services at just, reasonable, and affordable rates;
- 4 • Increase access to advanced telecommunications services throughout the Nation;
- 5 • Advance the availability of such services to all consumers, including those in low
6 income, rural, insular, and high-cost areas at rates that are reasonably comparable to
7 those charged in urban areas;
- 8 • Preserve and advance universal service through equitable and nondiscriminatory
9 contributions by all providers of telecommunications services and
- 10 • Provide specific, predictable and sufficient Federal and State mechanisms to preserve
11 and advance universal service.

12 **Q. WHAT DID THE FTA MEAN FOR MONOPOLY PROVIDERS OF**
13 **TELECOMMUNICATIONS SERVICES?**

14 A. The FTA ended the monopoly status of local providers by opening the local
15 telecommunications market to competition. While early competitors primarily used the
16 telephone company network, over the past decade inter-modal competitors have
17 increasingly taken market share with wireless or VoIP offerings that are bundled with
18 Internet and entertainment services.

19 **Q. DOES THIS COMPETITIVE MARKETPLACE IMPACT UNIVERSAL SERVICE?**

20 A. Absolutely. As noted above, the original Universal Service plan was funded in part
21 through monopoly providers charging business services and urban residential consumers
22 rates above the cost of providing the service. As long as the monopoly continued, these

1 implicit subsidies could continue. However, when Congress eliminated the monopoly
2 service areas, the implicit subsidies would eventually be eliminated by competition.

3 Rational business practice holds that as competitors enter any new market, they nearly
4 always focus on areas with the highest margins. And as expected, telephone service
5 competition emerged in the areas where regulators had included the implicit subsidies into
6 the local business and residential rates. As market share shifted to these competitors, the
7 implicit subsidies began eroding. As noted by the Center for Disease Control (CDC) in its
8 wireless substitution survey for 2012 that was released on December 18, 2013, wireless-
9 only households accounted for over 38% of total households nationally, while wireline
10 only households accounted for only 8.2%.⁴ This same trend exists in Oregon as
11 documented in the same CDC study where nearly 37% of Oregon households were
12 wireless-only.

13 **Q. DOES COMPETITION END THE NEED FOR UNIVERSAL SERVICE FUND**
14 **SUPPORT?**

15 A. No. The competition and Universal Service issues relate to different geographic areas,
16 even though they may be within the same exchange boundary. Competition has grown
17 from the urban core, where it is least expensive to serve, out toward the relatively more
18 expensive areas. Universal Service Fund support is still necessary to ensure that consumers
19 living in areas uneconomic to serve will continue to have access to basic telephone service
20 at a reasonable rate.

21 **Q. DID THE FTA ANTICIPATE THESE IMPACTS TO UNIVERSAL SERVICE?**

⁴ National Health Statistics Report #70, December 18, 2013, p. 9. <http://www.cdc.gov/nchs/data/nhsr/nhsr070.pdf>

1 A. Yes. While the FTA introduced competition into the local telephone market, the authors
2 also recognized that competition would end monopoly services, and with it the monopoly
3 provider's ability to implicitly subsidize high-cost rural service areas. Congress charged
4 the FCC and the federal-state Joint Board to establish a federal fund to transition universal
5 service funding from implicit to explicit.

6 **Q. HAVE THE FCC'S CHANGES AFTER 1996 ELIMINATED ALL IMPLICIT**
7 **SUBSIDIES?**

8 A. No. Over the past 17 years, the FCC and some states, including Oregon, have made
9 incremental progress, transitioning a portion of the implicit subsidies to explicit through a
10 combination of local service rate increases and Universal Service Fund plans.

11 **Q. WHAT FUNDING IS AVAILABLE FOR INCUMBENT LOCAL TELEPHONE**
12 **CARRIERS (ILECS) UNDER THE FEDERAL HIGH COST SUPPORT**
13 **MECHANISMS?**

14 A. The federal high cost support mechanisms help offset the high cost of service in rural areas.
15 These mechanisms include high-cost loop support, safety net support, safety valve support,
16 local switching support, interstate common line support, high-cost model support, and
17 interstate access support. During 2011, CenturyLink's Oregon ILECs received support
18 from three federal high-cost support mechanisms:

High Cost Loop Support	\$3,345,000
Interstate Access Support	\$3,832,000
Interstate Common Line Support	<u>\$5,387,000</u>
2011 Total	\$12,564,000

1 As I discuss in the next section of my testimony, the FCC adopted its Transformation Order
2 in November, 2011. Under the Transformation Order, support from the previous federal
3 high-cost mechanisms ended for CenturyLink and other price-cap carriers beginning in
4 2012. For each year since 2011, CenturyLink has received roughly \$12.4 million of annual
5 federal high-cost support in the form of Connect America Fund Phase I Frozen High Cost
6 Support.

7 **Q. WERE THE SAME FEDERAL HIGH-COST MECHANISMS AVAILABLE TO**
8 **ALL ILECS?**

9 A. No. The FCC differentiates between rural and “non-rural” carriers for federal high cost
10 support calculations, tailoring the support mechanisms differently for the rural and non-
11 rural carriers. Additionally, since the mechanisms were developed over time and in
12 response to different issues, the total support calculation by carrier represents a unique
13 summation of the different support mechanisms for each study area.

14 **III. FEDERAL SUPPORT CHANGES – UNIVERSAL SERVICE TO CAF II**

15 **Q. WHAT ARE THE MOST RECENT STEPS IN THIS EVOLUTION FROM**
16 **IMPLICIT TO EXPLICIT FUNDING OF UNIVERSAL SERVICE?**

17 A. The FCC adopted its Transformation Order in November, 2011, continuing its efforts
18 toward the goal of explicit funding. Beginning July 1, 2012 the Transformation Order
19 eliminates interstate and intrastate terminating access revenues and local reciprocal
20 compensation revenues, over a period of six years for the price cap carriers. The
21 Transformation Order also created a temporary Access Recovery Charge that offsets a
22 portion of the terminating revenue being eliminated. For price-cap carriers

1 (predominantly non-rural carriers), the Transformation Order also replaced the existing
2 federal high cost mechanisms within the federal Universal Service Fund with Connect
3 America Fund phase I (CAF I) Frozen High Support beginning January 1, 2012. However,
4 non-price cap carriers continue to receive federal support under the old high-cost
5 mechanisms.

6 **Q. ARE THERE ANY LEGAL CHALLENGES TO THE TRANSFORMATION**
7 **ORDER?**

8 A. Yes. While I will be describing the Transformation Order as released by the FCC, with its
9 multiple additional Orders and further notices for proposed rulemakings, portions of the
10 Order have been appealed to the 10th Circuit Court of Appeals, and the parties to the case
11 expect a decision in the near future.

12 **Q. ARE THERE ANY OTHER CHANGES TO THE TRANSFORMATION ORDER**
13 **BEING CONSIDERED?**

14 A. Yes, the agenda for the FCC's April 23, 2014 open meeting includes an item to "consider a
15 Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, and
16 Seventh Order on Reconsideration taking significant steps to continue the implementation
17 of the landmark reforms adopted in the 2011 USF/ICC Transformation Order to modernize
18 universal service for the 21st century. An accompanying Further Notice of Proposed
19 Rulemaking proposes measures to update and further implement the framework adopted by
20 the Commission in 2011." One component of this item is discussion of an increase to the
21 speed characteristic of the broadband network, from 4Mbps to 10Mbps.

22 **Q. DOES THE TRANSFORMATION ORDER IMPACT ALL ILECS IN THE SAME**
23 **MANNER?**

1 A. No. The changes incorporated under the Connect America Fund impact the Price Cap
2 carriers (primarily the largest ILECs) in a significantly different manner than the remaining
3 ILECs. The Price Cap carriers will be supported through a forward looking economic
4 costing model while support for the remaining ILECs is being shaped through a different
5 mechanism on a delayed timeline. All CenturyLink ILECs are Price Cap carriers;
6 therefore, my comments relate solely to the changes for Price Cap carriers.

7 **Q. DID THE FCC ESTABLISH THE CONNECT AMERICA FUND JUST FOR**
8 **ILECS?**

9 A. No. The FCC is transitioning both the landline and mobile Universal Service Fund
10 mechanisms into different Connect America Fund mechanisms. In this testimony I am
11 only referring to the Price Cap carrier wireline portion of the Connect America Fund unless
12 specifically stated otherwise.

13 **Q. DID THE FCC EXPAND THE TRADITIONAL FOCUS OF UNIVERSAL**
14 **SERVICE IN THE TRANSFORMATION ORDER?**

15 A. Yes. Recognizing that “fixed and mobile broadband have become crucial to our nation’s
16 economic growth, global competitiveness and civic life”⁵, the FCC expanded the focus of
17 Universal Service from supporting voice service only to supporting “the universal
18 availability of modern networks capable of delivering broadband and voice service to
19 homes, businesses, and community anchor institutions.”⁶ The FCC then delegated to the
20 Wireline Competition Bureau the responsibility to develop a forward looking economic
21 costing model for the calculation and allocation of explicit support distributions that will

⁵ Transformation Order, paragraph 3.

⁶ Ibid, paragraph 51.

1 extend broadband networks further into high cost rural areas. This new model will be
2 deployed within the Connect America Fund phase II (CAF II), and represents a significant
3 change in the method of calculating and distributing explicit Universal Service Fund
4 support.

5 **Q. WHY DID THE FCC THINK IT WAS IMPORTANT TO SUPPORT BROADBAND**
6 **NETWORKS?**

7 A. The FCC laid out its positions in the Transformation Order. In paragraph 3 the FCC noted
8 that consumers and businesses need robust access to the Internet to be competitive in a
9 connected world, and in paragraph 6 that the existing Universal Service mechanisms are
10 based on “decades-old assumptions that fail to reflect today’s networks, the evolving nature
11 of communications services, or the current competitive landscape.” Deploying broadband
12 networks in rural areas will allow “access to affordable modern communications networks
13 capable of supporting the necessary applications that empower rural consumers to learn,
14 work, create, and innovate.”⁷

15 **Q. WERE THERE OTHER CONSIDERATIONS THAT ENCOURAGED ACTION BY**
16 **THE FCC IN THE TRANSFORMATION ORDER?**

17 A. In the FTA “Congress explicitly defined universal service as “an evolving level of
18 telecommunications services . . . taking into account advances in telecommunications and
19 information technologies and services.”⁸ More recently, Congress required the
20 Commission to report annually on the state of broadband availability, and to develop the
21 National Broadband Plan, “to ensure that all people of the United States have access to

⁷ Ibid, paragraph 51.

⁸ 47 U.S.C. § 254(c)(1).

1 broadband capability.”⁹ The Transformation Order is the FCC’s response to FTA
2 requirements and the National Broadband Plan recommendations.

3 **Q. WHAT SERVICES WILL BE SUPPORTED THROUGH CAF II?**

4 A. CAF II will support the deployment and maintenance of a fixed terrestrial broadband
5 network that meets the performance characteristics identified in the Transformation Order.
6 To qualify for CAF II support, the carrier must also provide voice service. The FCC is still
7 considering rules that specifically identify the broadband and voice service obligations that
8 will apply when CAF II support is accepted.

9 **Q. DID THE FCC REVIEW OTHER PROVIDER NETWORKS BEFORE**
10 **DETERMINING WHICH WOULD QUALIFY FOR CAF II SUPPORT?**

11 A. Yes. The FCC considered multiple options and determined that support would only be
12 available where no unsubsidized competitor was offering qualifying service. The FCC
13 further identified that ILECs already provide voice service throughout these areas, and
14 while some providers could potentially offer service in some specific geographies, they
15 couldn’t do so throughout ILEC study areas. The FCC concluded that ILECs generally
16 have the same or lower cost structures in rural areas, and that there are few bidders other
17 than ILECs who could offer quality, scalable services at affordable prices.¹⁰ The FCC also
18 reviewed whether or not mobile wireless networks could meet the requirements adopted in
19 the Transformation Order, and determined that mobile wireless and satellite networks are
20 unable to meet the speed and/or capacity requirements adopted in the Transformation
21 Order:

⁹ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115, 516, § 6001(k)(2)(D), 123 Stat. at 516.

¹⁰ Transformation Order, paragraphs 174-176.

1 We limit this definition to fixed, terrestrial providers because we think these
2 limitations will disqualify few, if any, broadband providers that meet CAF
3 speed, capacity, or latency minimums for all locations within relevant areas of
4 comparison, while significantly easing administration of the definition. For
5 example, the record suggests that satellite providers are generally unable to
6 provide affordable voice and broadband service that meets our minimum
7 capacity requirements without the aid of a subsidy: Consumer satellite
8 services have limited capacity allowances today, and future satellite services
9 appear unlikely to offer capacity reasonably comparable to urban offerings in
10 the absence of universal service support. Likewise, while 4G mobile
11 broadband services may meet our speed requirements in many locations,
12 meeting minimum speed and capacity guarantees is likely to prove
13 challenging over larger areas, particularly indoors. And because the
14 performance offered by mobile services varies by location, it would be very
15 difficult and costly for a CAF recipient or the Commission to evaluate
16 whether such a service met our performance requirements at all homes and
17 businesses within a study area, census block, or other required area. A
18 wireless provider that currently offers mobile service can become an
19 “unsubsidized competitor,” however, by offering a fixed wireless service that
20 guarantees speed, capacity, and latency minimums will be met at all locations
21 within the relevant area. Taken together, these considerations persuade us that
22 the advantages of limiting our definition of unsubsidized providers outweigh
23 any potential concerns that we may unduly disqualify service providers that

1 otherwise meet our performance requirements. As mobile and satellite
2 services develop over time, we will revisit the definition of “unsubsidized
3 competitor” as warranted. Recognizing the benefits of certainty, however, we
4 do not anticipate changing the definition for the next few years.¹¹

5 **Q. DID THE FCC ADOPT ANY SPECIFIC PARAMETERS FOR BROADBAND**
6 **SERVICE?**

7 A. Yes. In its Transformation Order, paragraphs 90-99, the FCC determined that it would
8 focus on three broadband service characteristics: speed, latency and capacity. Speed
9 represents the bandwidth of the Internet connection; latency is the measure of time for a
10 packet to be sent from one point to another on the network; and capacity means the total
11 volume of data sent and/or received by the end user over a period of time.

12 **Q. WHAT WAS THE FCC’S RATIONALE FOR SELECTING THESE**
13 **PARAMETERS?**

14 A. The FCC stated in paragraph 90 that these “three core characteristics that affect what
15 consumers can do with their broadband service, and we therefore include requirements
16 related to these three characteristics in defining ETCs’ broadband service obligations.” In
17 the subsequent paragraphs the FCC noted that service in urban areas already met or
18 exceeded the parameters chosen for each characteristic.

19 **Q. HAS THE FCC FINALIZED THESE BROADBAND SERVICE PARAMETERS?**

¹¹ Transformation Order, paragraph 104, without footnotes

1 A. The FCC delegated the parameters for the core characteristics to the Wireline Competition
 2 Bureau (WCB), which released an Order on October 31, 2013¹², but which has since been
 3 petitioned for review by the FCC. The FCC has not yet acted, and is considering the
 4 adoption of a 10Mbps speed characteristic at its April 23, 2014 open meeting as an update
 5 to the 4Mbps speed parameter below. In its Order, the WCB identified the following
 6 parameters for the characteristics noted in the Transformation Order.

7 Table 1

Characteristic	Parameter (at least)	Price	Notes:
Speed	ILEC: 4Mbps down / 1Mbps up Competitor: 3Mbps down / 768kbps up	\$60 / month	Total rate for the broadband service, including all characteristics
Latency	100 milliseconds roundtrip reading		Or 50 milliseconds one way Edge-to-core measurement
Capacity	100Gigabytes / month		
Separately: Voice Service		\$37 / month	Rate safe harbor will be the urban rate floor once established

8

9 **Q. ARE THE PARAMETERS PERMANENT?**

10 A. No. The FCC plans to periodically review the parameters above to determine whether or
 11 not the parameters should be updated, or others added. As noted above the FCC will
 12 consider an increase to 10Mbps during its April 23, 2014 open meeting.

13 **Q. YOU MENTIONED THAT THE FCC BUDGETED \$1.8 BILLION FOR THE**
 14 **PRICE CAP CARRIERS. HAS THAT AMOUNT BEEN FINALIZED?**

¹² *In the Matter of Connect America Fund*, WC Docket No. 10-90, Report and Order, DA 13-2115 (Wireline Comp. Bur. rel. Oct. 31, 2013).

1 A. Yes. The FCC set an overall high-cost fund annual budget of \$4.5B in its Transformation
2 Order, which equals the estimated distributions for all high-cost mechanisms in fiscal year
3 2011.¹³ Of this amount, \$1.8 billion annually will go to the Price Cap carriers.

4 **Q. WILL THIS ANNUAL BUDGET ALLOW THE FCC TO FUND BROADBAND TO**
5 **ALL HIGH COST AREAS IN THE UNITED STATES?**

6 A. Unfortunately, the budget adopted by the FCC will not be enough to fund broadband build-
7 outs everywhere in the country. As noted, the FCC determined that its budget could not
8 fund all locations, so the forward looking economic cost model will be used to allocate the
9 funds available. “Specifically, we will use the model to identify those census blocks where
10 the cost of service is likely to be higher than can be supported through reasonable end-user
11 rates alone, and, therefore, should be eligible for CAF support. We will also use the model
12 to identify, from among these, a small number of extremely high-cost census blocks that
13 should receive funding specifically set aside for remote and extremely high-cost areas, as
14 described below, rather than receiving CAF Phase II support, in order to keep the total size
15 of the CAF and legacy high-cost mechanisms within our \$4.5 billion budget.”¹⁴

16 **Q. WHAT DID THE FCC PROPOSE FOR THE “SMALL NUMBER OF**
17 **EXTREMELY HIGH-COST CENSUS BLOCKS” NOTED ABOVE?**

18 A. The FCC established \$100 million for a separate Remote Areas Fund within the overall
19 Connect America Fund budget. The Wireline Competition Bureau released a Public Notice
20 on January 17, 2013 to seek further comment on issues regarding the design of the Remote

¹³ Transformation Order, paragraph 122.

¹⁴ Transformation Order, paragraph 167, without footnotes.

1 Areas Fund.¹⁵ The design of the Remote Areas Fund has not been completed, including
2 issues of how the Fund will operate or what support will be provided to consumers in those
3 extremely high cost areas.

4 **Q. WHAT IMPACT WILL THE DETERMINATION OF CAF II ELIGIBLE CENSUS**
5 **BLOCKS AND REMOTE AREAS FUND LOCATIONS HAVE ON OREGON**
6 **CONSUMERS?**

7 A. Because of the changes from the existing Universal Service Fund, where extremely high
8 cost locations were not necessarily excluded from support, to the new CAF II, where only
9 targeted high cost locations are supported, Oregon consumers within the high cost areas
10 will see varying levels of federal support being provided. The CAF II model will identify
11 census blocks that will be eligible based on competitive and budget inputs, which will leave
12 relatively lower cost census blocks unfunded, and very high cost census blocks eligible
13 only for the Remote Area Fund. Consumers in these areas will be left without CAF II
14 voice or broadband funding. In the introduction to FCC Order 97-157, the FCC stated “In
15 the Telecommunications Act of 1996, Congress directed the Commission and states to take
16 the steps necessary to establish support mechanisms to ensure the delivery of affordable
17 telecommunications service to all Americans, including low-income consumers, eligible
18 schools and libraries, and rural health care providers.”¹⁶ With CAF II, the FCC is signaling
19 the boundaries for its support, and now entrusts each state to determine whether and how it
20 will fund Universal Service in the remaining high cost areas.

¹⁵ See Public Notice, Wireline Competition Bureau Seeks Further Comment on Issues Regarding the Design of the Remote Areas Fund, WC Docket No. 10-90, DA 13-69, (rel. Jan. 17, 2013).

¹⁶ FCC 97-157, released May 8, 1997, paragraph 1

1 **Q. HOW DOES THE CAF II MODEL DIFFER FROM THE EXISTING UNIVERSAL**
2 **SERVICE PLAN MECHANISMS?**

3 A. As noted in the previous section, the existing support mechanisms include several different
4 efforts to move portions of implicit support to explicit. CAF II replaces these separate
5 mechanisms with a forward looking economic costing model that will be used to calculate
6 average costs by census block for the entire nation. The model also uses the National
7 Broadband Plan maps to target census blocks that lack unsubsidized competitors. The FCC
8 will then use these average cost calculations to allocate the \$1.8 billion budgeted for Price
9 Cap companies to census blocks that don't have unsubsidized competitors offering
10 adequate service.

11 **Q. WILL TARGETING OF SUPPORT IN CAF II IMPACT THE OUSF?**

12 A. In my opinion, implementation of CAF II by the FCC will likely result in significant
13 support issues for rural Oregonians. The Commission should proactively address these
14 issues before CAF II implementation results in support gaps for voice service. I will
15 discuss this further in the next section.

16 **Q. DID THE FCC ORDER REQUIRE ILECS TO IMPLEMENT CAF II?**

17 A. During its deliberations on the transition to CAF II, the FCC focused on several alternatives
18 to implement the new mechanism, and decided that rather than require ILECs to accept
19 CAF II support, the FCC would offer ILECs a right of first refusal on the support made
20 available through the model.¹⁷

21 **Q. WHAT OBLIGATIONS DID THE FCC IMPOSE ON ILECS THAT ACCEPT CAF**
22 **II?**

¹⁷ Ibid, paragraphs 164-166.

1 A. In its Transformation Order, the FCC identified a number of reporting obligations that were
2 codified in 47 CFR §54.313, and it delegated other obligations to the Wireline Competition
3 Bureau (WCB). As noted above, the WCB ordered the speed, latency and capacity
4 characteristics for broadband service during 2013. There are other obligations that have
5 not been finalized, including but not limited to, the timing for and the percentage of
6 broadband service that must meet a higher speed requirement, the percentage of broadband
7 service build out within five years in each census block, and the extent of federal voice
8 service obligations once funding transitions to CAF II.

9 **Q. ARE THERE ANY ADDITIONAL ISSUES STILL OPEN AT THE FCC RELATED**
10 **TO CAF II?**

11 A. Yes. The FCC and/or WCB must still finalize additional issues, including but not limited
12 to, the CAF II model, the mapping version to be used, the challenge process, the auction
13 process to be used in the cases where an ILEC refuses to accept CAF II support, the
14 transition process that applies when frozen support exceeds CAF II support, and the
15 specifics related to the Remote Areas Fund. In addition, either the FCC or the WCB may
16 have other issues to resolve after the FCC's April 23, 2014 open meeting.

17 **Q. WILL CENTURYLINK ACCEPT CAF II SUPPORT?**

18 A. CenturyLink continues to review its options as the FCC resolves open issues. The open
19 items are significant factors in CenturyLink's review; therefore, CenturyLink will not be
20 able to finalize its review until the FCC record is complete.

21 **Q. WHAT HAPPENS IF A PRICE CAP ILEC REJECTS THE CAF II SUPPORT**
22 **OFFER?**

1 A. The FCC hasn't completed its efforts on this process or identified the process timing. In
2 paragraph 179, the Transformation Order described a reverse auction process that could
3 happen, and asked for additional comments on the specific issues discussed. Paragraph 180
4 states that carriers declining the CAF II support will continue to receive frozen Universal
5 Service Fund support (also referred to as CAF I frozen support) until a new provider is
6 designated through an auction or other process and begins receiving CAF II support, at
7 which time the ILEC's USF frozen support will end, and its ETC obligations, including
8 carrier of last resort, will end as well.

9 **Q. HAS THE FCC RELEASED PRELIMINARY CAF II SUPPORT DATA FOR**
10 **OREGON?**

11 A. Yes, the WCB has published its 4.1 Illustrative results.¹⁸ Included at this site are: a
12 spreadsheet estimating CAF II amounts by Price Cap company, a listing of census blocks
13 that are eligible for CAF II and nationwide maps that identify areas available for CAF II
14 support under two scenarios (as of April 21, 2014, the most current maps are from version
15 4.0). The 4.1 spreadsheet identifies current estimates for CenturyLink support under CAF
16 II would be nearly \$14.8 million in Oregon.

17 **Q. HOW DOES THIS RANGE OF CAF II SUPPORT COMPARE TO EXISTING**
18 **FROZEN SUPPORT RECEIVED BY CENTURYLINK?**

19 A. As noted earlier in my testimony CenturyLink received approximately \$12.4 million in
20 CAF I frozen support in Oregon during 2013.

¹⁸ The results are available on the FCC.gov website at <http://www.fcc.gov/encyclopedia/connect-america-cost-model-illustrative-results>

1 **Q. HOW CAN THE CAF I FROZEN SUPPORT AND CAF II SUPPORT AMOUNTS**
2 **BE COMPARED?**

3 A. The CAF I frozen support is not directly comparable to CAF II support. Prior to the
4 Transformation Order, each CenturyLink company had to spend the federal high-cost
5 support it received to operate and maintain its voice service throughout the high cost
6 portions of its study area. For 2012, CenturyLink continued to follow the pre-
7 Transformation Order spending rules for each study area, providing “voice telephony”
8 service¹⁹, the definition of which incorporates all the required attributes of voice service,
9 but does not limit CenturyLink to the historic circuit switched voice service. For 2013,
10 CenturyLink had to continue providing voice telephony service throughout its study area,
11 but was required to spend one-third of its CAF I frozen support to build and operate
12 broadband-capable networks used to offer the provider’s own retail broadband service in
13 areas substantially unserved by an unsubsidized competitor. For 2014, two-thirds of the
14 CAF I frozen support must be spent in this manner, and for each year thereafter until CAF
15 II is implemented, 100% of the CAF I frozen support must be spent in a similar manner.
16 There are no other limits to the locations chosen by the ILEC within its study area for
17 building and operating the broadband capable networks. For CAF II support, each
18 CenturyLink ILEC must build, operate and maintain a broadband network in specific,
19 targeted census blocks within its study area while continuing to provide voice telephony
20 service. Census blocks that do not receive CAF II support will be left with no federal
21 support for voice telephony service, regardless of the cost of providing that service.

¹⁹ Transformation Order, paragraphs 77-78.

1 **IV. MODIFYING OREGON USE TO COMPLEMENT FEDERAL FUNDING**
2 **CHANGES**

3 **Q. HOW DO THE FEDERAL CHANGES IN THE TRANSFORMATION ORDER**
4 **IMPACT OREGON?**

5 A. As I noted in the previous section, the FCC's Transformation Order required a new forward
6 looking economic costing model that will be used to transition the existing Universal
7 Service Plan support (also called CAF I frozen support) into the new Connect America
8 Fund phase II (CAF II). The FCC determined that it could not fund a transition to
9 broadband networks in all rural high-cost areas, so it delegated to the Wireline Competition
10 Bureau (WCB) the task of defining how to allocate the annual \$1.8 billion budget for price
11 cap carriers. While the FCC has not yet completed the model, the WCB has released some
12 "illustrative results" for version 4.1.

13 **Q. HOW MUCH WOULD CENTURYLINK IN OREGON RECEIVE UNDER**
14 **VERSION 4.1?**

15 A. Using this version, the WCB allocation for CenturyLink would be nearly \$14.8 million.

16 **Q. DOES THIS SUPPORT COVER ALL THE HIGH-COST LOCATIONS IN**
17 **OREGON?**

18 A. Unfortunately, the selection criteria for eligible census blocks will leave many Oregonians
19 without landline network support. CenturyLink areas include 14,000-15,000 Oregon
20 locations that are in extremely high-cost areas that will not be eligible to receive landline-
21 based support, and thousands more locations in other unsupported relatively high-cost
22 areas.

1 **Q. WHAT DOES THIS MEAN FOR THESE RURAL OREGON RESIDENTS?**

2 A. As noted in the section Overview of the federal Universal Service Fund above, the 1996
3 Federal Telecommunications Act required specific, predictable and sufficient Federal and
4 State mechanisms to preserve and advance universal service. As the FCC transitions to the
5 new CAF II model, which uses targeted-location support, the funding allocation formula
6 will remove federal high-cost support from large tracts of high-cost CenturyLink service
7 areas, leaving thousands of Oregon locations without support. These areas will receive no
8 federal support to offset the high costs of voice service.

9 **Q. WHAT ARE THE IMPLICATIONS FROM THESE PENDING CHANGES IN**
10 **FEDERAL SUPPORT?**

11 A. Without OUSF support, CenturyLink's ability to continue providing its rural customers
12 with high quality, affordable services in the future could be jeopardized.

13 **Q. HOW DO THESE FEDERAL CHANGES IMPACT OREGON'S UNIVERSAL**
14 **SERVICE POLICIES?**

15 A. Oregon policy makers need to determine whether or not to fill this gap in support, and if so,
16 whether the support should include voice networks, broadband networks, or both. While
17 Oregon now has a Universal Service Fund, the fund is not targeted specifically to the high-
18 cost census blocks ineligible for federal CAF II support.

19 **Q. IS THE COMMISSION REQUIRED TO SUPPORT UNIVERSAL SERVICE**
20 **PRINCIPLES?**

21 A. Yes. The Commission has the responsibility for establishing and maintaining a universal
22 service fund as codified under the Oregon Revised Statutes (ORS) 759.425 which states:

1 “The Public Utility Commission shall establish and implement a competitively neutral
2 and nondiscriminatory universal service fund. Subject to subsection (6) of this
3 section, the commission shall use the universal service fund to ensure basic telephone
4 service is available at a reasonable and affordable rate.”

5 **Q. SHOULD OREGON POLICYMAKERS CONTINUE TO FINANCIALLY**
6 **SUPPORT ITS RURAL HIGH-COST AREAS?**

7 A. Yes, if it wants to ensure that service is available to customers who live in rural areas.
8 Communication services are integral to all Oregonians that have or want jobs, need access
9 to distance learning or off-site health care opportunities, or just want to participate in a
10 global economy. CenturyLink encourages Oregon policymakers to provide support that
11 offsets the high cost of service to residents in rural locations in the state. The FCC’s
12 change to a focus on broadband will mean that the OUSF will need to fill the gap for voice
13 service support for these Oregon residents in high cost areas. If Oregon policymakers want
14 to also support broadband, additional changes and funding will be required.

15 **Q. WOULD CHANGES TO THE OUSF BE REQUIRED IF OREGON CONTINUES**
16 **TO SUPPORT ITS RURAL HIGH-COST AREAS?**

17 A. In my opinion, yes, changes will be necessary to the determination of OUSF support for
18 non-rural carriers. As noted in the Overview section above, the FTA requires specific,
19 predictable and sufficient support mechanisms for Universal Service. CenturyLink witness
20 Ann Welsh provides testimony regarding a framework for a forward looking cost model
21 that identifies the analysis necessary to calculate the costs for a voice network or a voice
22 and broadband network. The results of the cost model can be utilized to identify the high
23 cost areas and determine the level of support that is needed to ensure the provision of

1 universal service at reasonable and affordable rates. This model can also identify the areas
2 requiring support where there is no unsubsidized competitor and areas where CenturyLink
3 is not eligible for CAF II support.

4 **Q. IF OREGON POLICYMAKERS DECIDE TO CONTINUE THEIR LONG**
5 **STANDING SUPPORT OF UNIVERSAL SERVICE, WHAT AREAS AND**
6 **SERVICES SHOULD RECEIVE SUPPORT?**

7 A. While it is up to the Oregon policymakers to decide, the current OUSF supports basic
8 telephone service only. CAF II is designed to fund a broadband network that provides at
9 least 4Mbps download and 1Mbps upload speed, with 100 millisecond latency and at least
10 100Gb of capacity per month. Oregon policy makers could decide to a) continue to support
11 the voice network in areas ineligible for CAF II, b) fund a broadband network similar to the
12 network characteristics for CAF II, but only for areas ineligible for CAF II support, or c)
13 support a faster rural network, meaning additional support in all rural areas. Regardless of
14 which option Oregon chooses, specific, predictable and sufficient funding must follow the
15 obligations.

16 **Q. HAS THE COMMISSION ADDRESSED THE ISSUE OF WHETHER**
17 **BROADBAND SHOULD BE ELIGIBLE FOR OUSF SUPPORT?**

18 A. Yes. In response to a petition filed by the Oregon Telephone Association (OTA) that
19 sought to include “access to broadband” within the basic telephone service definition.
20 Although the Commission declined OTA’s petition, they made it clear that this proceeding
21 was the appropriate venue for the Commission to gather information to address the issue of
22 broadband availability and related issues. Specifically, the following excerpts from the

1 Commission's Order²⁰ demonstrate that the Commission is carefully looking at the issue of
2 broadband and its impact on the OUSF.

3 "Under these circumstances, we find that the Commission can best serve the public
4 interest by gathering information from providers of both basic and non-basic services in
5 rural areas. Proceeding expeditiously will also give the Commission the opportunity to
6 evaluate the data and provide input, if needed, to discussions during the 2015 Legislative
7 Session."

8 "Issues relating to the OUSF and the associated carrier compensation, sources and
9 amounts of revenue, eligible services, and the fund's long term purposes and goals are
10 currently being investigated in docket UM 1481. The current status of broadband service
11 in rural areas is integrally related to these issues, and parties that could provide relevant
12 information are already actively participating in that docket. They are in a position to
13 gather information that the Commission will be able to use in its analysis of the issues in
14 UM 1481 and in advising the legislature on broadband access policy."

15 **Q. SHOULD THE COMMISSION RE-EVALUATE THE COST OF PROVIDING**
16 **COMMUNICATIONS SERVICE IN HIGH-COST AREAS?**

17 A. Yes. As noted above the FCC's CAF II is based on a forward looking economic costing
18 model. CenturyLink believes that a forward looking model, targeted to the high-cost rural
19 areas of Oregon, will provide the most consistent and financially reasonable results for
20 Oregon consumers.

²⁰ Commission Order 14 113 in Docket AR 577, UM 1481, issued April 7, 2014.

1 **Q. IS THE OUSF ADEQUATELY SIZED AND SCOPED TO REACH THE**
2 **UNIVERSAL SERVICE POLICY GOALS?**

3 A. We won't know the answer to this question until the FCC completes its CAF II
4 deliberations and awards financial support to providers in rural Oregon census blocks, and
5 until Oregon policymakers determine the goals for Oregon's communication networks.
6 Once those policy goals are determined, the Commission can move forward with sizing the
7 OUSF. What is clear is that a rational and efficient Oregon support mechanism must take
8 into account and complement the federal support regime.

9 **Q. WHAT OPTIONS SHOULD THE COMMISSION USE TO DETERMINE THE**
10 **SIZE OF THE OUSF?**

11 A. Once the policy positions have been determined, the Commission should use a forward
12 looking cost model to estimate the funding necessary to accomplish the policy goals. The
13 FCC used a less desirable approach in establishing CAF II. The FCC continued the
14 existing USF budget, identified new goals for the fund, then used the costing model to
15 allocate funding. In saying this, I am in no way blaming the FCC; they had significant
16 issues to address, and after years of study, selected what they considered to be the best
17 option for meeting their policy objectives. I am suggesting that Oregon can learn from
18 their example.

19 **Q. SHOULD THE COMMISSION TARGET SPECIFIC AREAS FOR SUPPORT?**

20 A. To best complement what CAF II is intended to accomplish, yes, the Commission should
21 identify specific, targeted areas for support. Without targeting areas for support in a way
22 that is complementary to the federal CAF II, the OUSF will overfund some locations and
23 underfund, or not fund at all, other locations needing support.

1 **Q. SHOULD AREAS INCLUDED IN CAF II SUPPORT BE CONSIDERED FOR THE**
2 **OUSF?**

3 A. This depends on the policy goals established by the state's policymakers. If the decision is
4 to support broadband that exceeds the FCC's targets, the state would have to identify the
5 additional support necessary to accomplish this goal, and it would include areas eligible for
6 CAF II funding as well as areas not eligible for CAF II. If the policymakers decide that the
7 same broadband network selected by the FCC is acceptable in Oregon, or that a voice
8 network is all that OUSF will support, it could be possible to achieve these goals
9 without OUSF supporting areas that are included in CAF II funding.

10 **Q. IF THE FUND SIZE OF THE OUSF IS ESTABLISHED BEFORE**
11 **IMPLEMENTING A MODEL, HOW SHOULD AREAS BE PRIORITIZED FOR**
12 **FUNDING?**

13 A. While this is not a method of funding high-cost areas that CenturyLink supports, there are
14 several options available for Commission consideration, including highest cost to lowest
15 cost, lowest cost to highest cost, identifying specific areas to support regardless of cost, etc.
16 However, policymakers need to be aware of the consequences of any such decision.
17 Because of the competition in urban areas that I discussed earlier in my testimony,
18 CenturyLink is no longer able to internally fund high-cost customer locations that lack
19 adequate support. Whatever allocation method is selected, ILECs should be relieved of
20 COLR obligations, pricing restrictions and all other ILEC-specific obligations in any areas
21 not funded at a level that will achieve the state's policy goals.

22 **Q. WHAT DO THE OREGON COLR STATUTES REQUIRE OF ILECS?**

1 A. The statutes require the ILEC's to provide Basic Telephone Service, which is defined in
2 section 860-032-0190 of the Oregon Administrative rules.

3 **Q. WHY SHOULD ILECS BE RELIEVED OF COLR OBLIGATIONS WHERE**
4 **FUNDING IS UNAVAILABLE OR INADEQUATE?**

5 A. COLR obligations are required by the federal-state Universal Service policies. For many
6 decades, ILECs have been the government's partner in fulfilling the policies. Prior to the
7 1996 FTA, the FCC and Commission set prices for monopoly local and long distance
8 telephone services to help offset the high cost of service. The ILECs had 100% market
9 share and could implicitly fund the COLR obligation at the established rates. However,
10 once competition was introduced, telephone companies lost market share, which eliminated
11 the ILEC's ability to implicitly fund Universal Service. As noted earlier in my testimony,
12 Congress recognized this in the FTA and required explicit funding for its Universal Service
13 policy. If Oregon determines that the Universal Service policy is not important enough to
14 explicitly and adequately fund, then it cannot require ILECs to continue providing service
15 in these uneconomic areas, or at the very least cannot restrict rates for the service.

16

1 **V. SUMMARY**

2 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

3 A. The FCC's Transformation Order continued the goal of universal availability of voice
4 service, and expanded the supported services to include access to broadband services. The
5 FCC is accomplishing their goals by adopting a new costing model, and allocating support
6 within high cost census blocks throughout the country. Limited high cost support available
7 within the FCC's budget will leave thousands of Oregonians without support for voice or
8 broadband service. These FCC changes should drive modifications to the OUSF to
9 complement the CAF II support mechanism. Specifically, the Commission should use a
10 forward looking cost model, similar to the framework presented by Ms. Welsh, to most
11 efficiently distribute OUSF support. The Commission should continue working toward a
12 model that is complementary to the FCC's targeted approach so that new support
13 distributions can be effective in 2017. Regardless of how the Commission proceeds in this
14 docket, service obligations must be accompanied by specific, predictable and sufficient
15 Oregon Universal Service Fund support.

16 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

17 A. Yes.

BEFORE THE PUBLIC UTILITY COMMISSION OF OREGON

UM 1481

In the Matter of

PUBLIC UTILITY COMMISSION
OF OREGON

Staff Investigation of the Oregon Universal
Service Fund.

OPENING TESTIMONY OF

ANN M. WELSH

ON BEHALF OF

CENTURYLINK

April 24, 2014

TABLE OF CONTENTS

OPENING TESTIMONY OF ANN M.WELSH

	<u>Page</u>
I. INTRODUCTION.....	1
II. PURPOSE OF TESTIMONY.....	2
III. ALLOCATION OF NETWORK COSTS	3
IV. COST STUDY SCENARIOS.....	8
V. COST RECAP.....	10
VI. CENTURYLINK TSLRIC COST STUDY	16
VII. SUMMARY OF TESTIMONY	19

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAME AND YOUR BUSINESS ADDRESS.**

3 **A.** My name is Ann Welsh. My business address is 5454 West 110th Street,
4 Overland Park, Kansas 66211.

5 **Q. BY WHOM ARE YOU EMPLOYED AND WHAT IS YOUR POSITION?**

6 **A.** I am employed by CenturyLink as Manager, Regulatory Operations with
7 responsibility in the area of Economic Costing.

8 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND**
9 **WORK EXPERIENCE.**

10 **A.** I received a Bachelor of Science degree in Accounting from The University of
11 Northern Iowa in May, 1983. I have worked for CenturyLink and its predecessor
12 companies for thirteen years with experience in the areas of Regulatory
13 Operations, Accounting and Finance. Prior to joining CenturyLink, I worked as a
14 Controller for two privately held companies.

15 **Q. WHAT ARE YOUR PRESENT DUTIES AND RESPONSIBILITIES?**

16 **A.** My present responsibilities include developing Total Service Long Run
17 Incremental Cost (“TSLRIC”) cost studies. I am responsible for written and oral
18 testimony, serving on industry work groups, preparation of cost studies within the
19 states that comprise CenturyLink’s local telephone operating territory, and
20 providing cost expertise related to CenturyLink's participation in regulatory cost
21 dockets.

22

1 **Q. WAS THIS TESTIMONY PREPARED BY YOU OR UNDER YOUR**
2 **DIRECT SUPERVISION AND CONTROL?**

3 **A.** Yes. Both my opening testimony, and cost study results undertaken in support of
4 my opening testimony, were prepared by me or prepared under my direct
5 supervision and control.

6 **Q. PLEASE DESCRIBE THE CENTURLINK OREGON OPERATING**
7 **COMPANIES ON WHOSE BEHALF YOU ARE TESTIFYING?**

8 **A.** CenturyLink operates four separate Incumbent Local Exchange Carrier (“ILEC”)
9 companies in Oregon – Qwest Corporation d/b/a CenturyLink QC (“CenturyLink
10 QC”), CenturyTel of Oregon, Inc. (“CTL-Oregon”), CenturyTel of Eastern
11 Oregon, Inc. (“CTL-EOregon”), and United Telephone Company of the
12 Northwest (“United”). I am testifying on behalf of all four ILEC’s, and have
13 prepared separate Cost Study Results for each of the four operating companies. I
14 will use CenturyLink to refer to the four companies collectively.

15 **II. PURPOSE OF TESTIMONY**

16 **Q. WHAT IS THE PURPOSE OF YOUR OPENING TESTIMONY?**

17 **A.** The purpose of my testimony is to present to the Commission information
18 supporting CenturyLink’s position regarding the issue of Allocation of Network
19 Costs. Specifically the issue for consideration in this phase of the docket is:

20 *Consideration of a methodology for allocation of ILEC network costs between*
21 *basic local telephone service and other services. This will include a review of the*
22 *cost models used to calculate OUSF support and will apply to the support*
23 *calculation for all companies that receive OUSF support.¹*
24

¹ See Item 4(b) of the Phase II stipulation of the parties, attached to Order No. 13-162 as Appendix A at 2.

1 Other services, although broadly defined above, for purposes of this phase of the
2 proceeding is focused on the provision of Broadband services. CenturyLink will
3 present testimony that supports the position that the proper mechanism to evaluate
4 the provision of broadband over the existing loop network is to evaluate the
5 overall costs of the combined voice and broadband network. CenturyLink will
6 present the results of two separate cost study scenarios; one will provide the cost
7 and cost structure for a voice only network and the other will present the cost and
8 cost structure for a Broadband Enabled network (also providing voice service).
9 The results of these studies will provide the necessary foundation and input for
10 the Commission to understand the costs for CenturyLink to serve customers in
11 each of its serving territories in the State of Oregon for the two network designs
12 referenced above. The cost study results will present CenturyLink's Loop Cable
13 and Wire and Electronics costs for providing local service in its serving territories
14 in Oregon.

15 **III. ALLOCATION OF NETWORK COSTS**

16 **Q. CAN YOU PROVIDE SOME BACKGROUND REGARDING THE ISSUE**
17 **OF ALLOCATION OF NETWORK COSTS?**

18 **A.** The local service loops discussed in Universal Service Fund (USF) and cost
19 proceedings over the past 15 years are provided through the use of distinct,
20 dedicated facilities. As such, the network of physical loops from ILEC central
21 offices to end users lends itself to systematic cost estimation techniques.
22 Facilities required to provide loops can be identified; the forward-looking,
23 recurring cost for these facilities can be estimated; and expenses can be attributed

1 to the loop based on the relationship between loop investment and overall
2 investment.

3 Loops are dedicated physical links to customers. Before the provision of
4 broadband services using the high-frequency spectrum on a loop, all of the costs
5 associated with the loop were exclusive to the provision of voice service. The
6 Total Service Long Run Incremental Cost (“TSLRIC”) for providing basic local
7 voice service is largely a function of the cost of establishing a loop network and
8 the number of physical loops provided to end users with that network.

9 **Q. WHAT ARE THE COST IMPLICATIONS OF THE DEDICATED**
10 **NATURE OF A LOOP?**

11 **A.** The first principle in cost estimation is cost causation. Only costs that are caused
12 by the construction and maintenance of a loop should be attributed to the loop.
13 Costs are not caused by services that may or may not occur on a loop, such as
14 switched access or toll usage; loop costs are associated with the dedicated nature
15 of the loop itself. For example, when I lease an automobile and drive it off the
16 showroom floor, no one else can use that automobile without my permission.
17 After driving off the lot, I have the options to drive cross-country, not use it, park
18 it on the street, or use it in any number of ways. The important point is that this
19 car is dedicated to me, and I have to pay a lease price based on the full cost of the
20 car. My phone line (i.e., loop), like my car, is dedicated to me. I can park the car
21 in the garage, but I will still have to pay Chrysler Corporation for the components,
22 raw materials and labor required to build the car, whether I use it or not. When a
23 customer is connected to the network with a loop, this loop is available for the

1 exclusive use of the customer. If the customer chooses not to use the line, the line
2 is, nevertheless, always available. When a line provides both voice and
3 broadband services, it provides two dedicated service connections for the
4 exclusive use of the customer. Even on a line providing both voice and
5 broadband services, however, all loop costs are caused by the dedicated nature of
6 the loop and not by non-dedicated uses of the loop.

7 **Q. IS A BROADBAND SERVICE ON A LOOP A DEDICATED SERVICE**
8 **CONNECTION TO A CUSTOMER?**

9 **A.** Yes. The ability to have two dedicated service connections on one loop is a
10 function of the marvel of Digital Subscriber Line (DSL) electronics; there is no
11 real-world car analogy that hits the mark. Nonetheless, the voice and broadband
12 paths on a shared line are each dedicated for use whether or not the customer uses
13 the loop. Although the high and low frequencies (used for broadband and voice
14 respectively) are used on one loop, the spectrums do not overlap and are not shared.

15 **Q. WHAT ARE THE COST IMPLICATIONS OF A LOOP THAT IS CAPABLE**
16 **OF PROVIDING MULTIPLE SERVICES?**

17 **A.** Technology has made it possible to offer two dedicated service connections on a
18 single loop. At the present time, the loop can provide a dedicated voice service
19 connection and a dedicated broadband data service connection. The type of
20 traffic on either of these connections can change. For example, the broadband
21 portion of the loop can carry an “over the top” voice service as well. Regardless
22 of how the loop is used, the important point for cost estimation is that the loop
23 cost on a line with both broadband and voice service is caused by two dedicated

1 service connections. Either service, on its own, requires the loop, whether or not
2 it is ever used by the customer. Assume that Mr. Jones moves into a new house
3 and that his new line includes both CenturyLink voice and broadband services.
4 Which of these connections causes the cost of the loop? Perhaps Mr. Jones uses
5 his wireless phone for his voice usage and is primarily interested in the broadband
6 connection, or, conversely, he may need a wireline phone for voice usage and
7 only subscribed to broadband service as an afterthought. The truth is, the two
8 connections jointly cause the cost of the loop. The bottom line is that the
9 underlying cost of loops does not change significantly because they support two
10 dedicated service connections.

11 **Q. HOW HAVE ECONOMIST'S APPROACHED THE DEVELOPMENT OF**
12 **INDIVIDUAL PRODUCT COSTS WHEN THEY HAVE JOINT COSTS**
13 **OF PRODUCTION WITH OTHER PRODUCTS?**

14 **A.** The issue of joint costs of production was first closely examined by John Stuart
15 Mill in his 1848, Principles of Political Economy where he determined that the
16 production costs of joint products do not provide a means of setting cost-based
17 prices. Mel Fuss and Len Waverman stated in the Handbook of
18 Telecommunications Economics, "In Canadian telecommunications cost studies,
19 unlike those undertaken in the United States, not all costs are allocated, since it is
20 recognized that some costs, the 'common costs,' cannot be allocated on a
21 conceptually sound basis."² Additionally, Alfred Kahn in his book, The
22 Economics of Regulation, (1988), at page 70, stated, "If producing a bale of

² Handbook of Telecommunications Economics, Volume 1, Structure, Regulations and Competition, Edited by Martin Cave, Sumit Majumdar and Ingo Vogelsang (2002), at p. 162

1 cotton fiber invariably involves producing also the seeds from which can be
2 extracted ten gallons of cottonseed oil, there is no objective way - if one looks at
3 the joint production alone - of attributing causal responsibility for some part of the
4 joint production costs to one of the products and the remainder to the other."

5 Likewise, there is not an economically sound method of allocating loop costs
6 between voice and broadband.

7 **Q. IS IT APPROPRIATE TO ALLOCATE THE COSTS UPON WHICH**
8 **CURRENT OREGON UNIVERSAL SERVICE FUND ("OUSF")**
9 **SUPPORT IS BASED USING THIS ANALYSIS?**

10 **A.** No. Costs for CenturyLinkQC are based on a 2001 forward-looking cost study
11 which does not include costs of broadband. The cost study results included in my
12 testimony demonstrate that there are incremental costs for a network capable of
13 jointly providing voice and broadband and those costs are not reflected in the
14 forward-looking model costs upon which current OUSF is based. Therefore,
15 before the Commission considers any allocation of network costs between voice
16 and broadband, the cost studies upon which OUSF is based must be redone in a
17 manner that includes the cost associated with both services.

18 **Q. HOW DOES CENTURYLINK RECOMMEND THAT THE COMMISSION**
19 **ADDRESS OUSF WHEN THE LOOP JOINTLY PROVIDES BOTH**
20 **VOICE AND BROADBAND SERVICE?**

21 **A.** As mentioned earlier, CenturyLink provides two alternatives for addressing the
22 issue, predicated on the Commission's earlier finding that forward-looking
23 models are the theoretically correct manner in which to base the cost for OUSF

1 and that voice service is the supported service. The first method is to compare the
2 cost of a voice-only network in a forward-looking cost study to the voice revenues
3 produced by such a network. The second method is to compare the cost of a
4 voice and broadband network in a forward-looking cost study to the voice and
5 broadband revenues produced by such a network. Cost Results for each of these
6 methodologies are presented in the Cost Study Scenarios section of my testimony.

7 **IV. COST STUDY SCENARIOS**

8 **Q. CAN YOU BRIEFLY DESCRIBE THE COST STUDY SCENARIOS YOU**
9 **HAVE PREPARED?**

10 **A.** Yes. The first scenario of our model reflects a Voice-only Network and is
11 modeled based on an 18,000 ft Customer Serving Area (“CSA”) design. The
12 second scenario of our model reflects a voice and broadband network and is
13 modeled based on a 5,000 ft CSA design.

14 **Q. WHY ARE YOU PRESENTING TWO SEPARATE COST STUDY**
15 **SCENARIOS?**

16 **A.** A key issue for this phase of the proceeding is “consideration of a methodology
17 for allocation of ILEC network costs between basic telephone service and other
18 services.” Providing the two selected scenarios allows the ability to highlight the
19 differences in costs between a network that supports the provision of only voice
20 services and a network that supports the provision of both voice and broadband.

21 **Q. CAN YOU EXPLAIN THE NETWORK DESIGN ASSUMPTIONS**
22 **UNDERLYING THE COST STUDY SCENARIO FOR THE VOICE ONLY**
23 **NETWORK?**

1 A. Yes. The initial runs of our model included both a 12,000 ft CSA design and an
2 18,000 ft CSA design. We chose to run both designs simultaneously in order to
3 be able to identify which design would be the most efficient and least cost to
4 present in this proceeding for a voice only network. The 18,000 ft CSA design
5 was the least costly and most efficient across each of the CenturyLink operating
6 companies in Oregon, and as such was the version selected to represent the
7 modeled voice only network results. The 18,000 ft CSA design has also been the
8 selected network design in past USF proceedings.

9 **Q. WHAT ARE THE NETWORK DESIGN DIFFERENCES UNDERLYING**
10 **THE COST STUDY SCENARIOS AS PRESENTED?**

11 A. The network design used for the broadband enabled network model differs from
12 the standard voice network design in the several ways. The distribution distance,
13 the distance from the central office or remote serving device to the end user, is
14 shortened from a maximum distance of 18,000 feet for the voice only network to
15 5,000 feet for the broadband enabled network. The change limits the maximum
16 length of every copper loop in the model to 5,000 feet, which, due to the reduction
17 of signal loss within the copper pair, enables broadband services to be provided to
18 the customers over this shortened loop length. As the distribution distance is
19 reduced, in moving from an 18,000 ft CSA design to a 5,000 ft CSA design, the
20 total number of individual service areas increases. This increase in the number of
21 service areas is effectively carving the same wire center into many smaller serving
22 areas each with its own dedicated electronics. It is this increase in electronics
23 investment that is the primary driver for the higher costs in a Broadband Enabled

1 Network versus those in the Voice only network design. The 5,000 foot CSA
 2 design, and the modeled electronics included therein, could provide broadband
 3 services up to 20 mbps download speeds for the majority of the service locations,
 4 and up to 40 mbps download speeds for a portion of the service locations
 5 modeled.

6 **V. COST RECAP**

7 **Q. CAN YOU PROVIDE THE WEIGHTED AVERAGE TSLRIC COSTS**
 8 **DEVELOPED UNDER EACH OF THE NETWORK DESIGN**
 9 **SCENARIOS?**

10 **A.** Yes. The following table provides the weighted average TSLRIC costs³ for each
 11 of the Network Design Scenarios, as well as the density for each of the four (4)
 12 operating company territories.

Weighted Average TSLRIC Costs and Density					
A	B		C		D
	<u>TSLRIC Costs</u>				<u>Density</u>
	18,000 Ft CSA Design		5,000 Ft CSA Design		Customers per Square Mile
CenturyLinkQC	\$	XXX	\$	XXX	XXX
CTL-Oregon	\$	XXX	\$	XXX	XXX
United	\$	XXX	\$	XXX	XXX
CTL-EOregon	\$	XXX	\$	XXX	XXX

13
14
15

³ The TSLRIC costs include investment related capital costs such as depreciation, cost of money and income tax, as well as direct network and maintenance costs, and finally joint and common costs to provide a fully allocated TSLRIC cost.

1 **Q. WHAT CONCLUSIONS MAY BE DRAWN FROM THE DATA**
2 **PROVIDED IN THE ABOVE TABLE?**

3 **A.** The data highlights that the cost of providing a voice and broadband network
4 exceed that of voice only network, as one would expect. The primary driver is the
5 additional cost of electronics required for each of the smaller customer serving
6 areas. Also of note, the density for each of the four (4) operating company
7 territories has a distinct and direct correlation to its' weighted average TSLRIC
8 cost. The impacts from an overall *support* perspective will not be known until the
9 revenues associated with each of the cost scenarios are also included, but at this
10 point there are many unanswered assumption and methodology questions that
11 would need to be agreed upon before that determination would be meaningful.
12 First and foremost is, whether the Commission would adopt an updated forward
13 looking cost methodology for the two ILECs currently using a forward looking
14 model and whether the updated forward looking methodology would also be used
15 for the Rural LEC's. In addition, whether the Commission would adopt the
16 CenturyLink model or another forward looking model for use for all Oregon
17 ILEC's. Another very impactful decision which has been held until a later phase
18 of this proceeding, is consideration of a methodology for identifying areas in
19 which there is unsubsidized competition, and actually identifying the types of
20 providers to be considered unsubsidized competitors.

21

1 The primary drivers impacting per unit costs within each operating territory:
2 density, distance and terrain will not change under any forward looking cost
3 methodology.

4 **Q. CAN YOU EXPAND ON THESE DRIVERS THAT WILL IMPACT THE**
5 **COST TO SERVE CUSTOMERS IN THE TERRITORIES SERVED BY**
6 **CENTURYLINK IN OREGON?**

7 **A.** Yes. Wire Center costs vary widely across the territories served by CenturyLink
8 in Oregon. Density plays a key role in determining per unit costs. Other key
9 factors in determining wire center specific costs include distance and terrain. The
10 distance of a customer location from the Central Office directly impacts the loop
11 cost. Terrain, which can vary widely in the territories served in Oregon, can also
12 impact the cost to serve customers significantly. For example, placement of
13 buried cable in rocky terrain increases costs over buried cable in less rocky
14 farmland areas.

15 **Q. CAN YOU EXPAND ON THE IMPACT OF DENSITY IN**
16 **DETERMINING THE COST TO SERVE CUSTOMERS?**

17 **A.** Yes. Customer density is the single largest factor impacting the cost of local
18 loops. Customer density is commonly expressed in terms of customers or access
19 lines per square mile. The density of customers impacts loop cost in an inverse
20 manner: the higher the customer density, the lower the incremental unit cost of the
21 local loop. This relationship is linked to a few fundamental facilities, such as the
22 requirement for a trench, conduit or aerial pole route regardless of whether a 25
23 pair or 2400 pair cable is placed. It is readily apparent that the greater the

1 customer density, the more customers that can be served along a feeder or
2 distribution cable route. Therefore, customer density ultimately determines how
3 many customers or loops there are among which to spread the cost of digging a
4 trench, placing conduit and/or placing an aerial pole line.

5 **Q. CAN YOU PROVIDE ADDITIONAL DATA POINTS REGARDING**
6 **DENSITY FOR THE WIRE CENTERS SERVED BY CENTURYLINK IN**
7 **OREGON?**

8 **A.** General industry practices for modeling landline networks include some common
9 standards for identifying and evaluating wire center density. The density
10 groupings are generally broken into multiple density zones ranging from Density
11 Zone 1 for those Wire Centers serving less than five (5) customers per square
12 mile, to Density Zone 2 for those Wire Centers serving up to 100 customers per
13 square mile, ending finally at Density Zone 9, for Wire Centers serving 10,000 or
14 more customers per square mile. In the CTL-EOregon territory, XXX% of the
15 wire centers are in Density Zone 1 or 2, meaning on average these wire centers
16 serve less than 100 customers per square mile. Likewise, XXX% of the Wire
17 Centers for United are in Density Zone 1 or 2 and XXX% of the Wire Centers for
18 CTL-Oregon are in Density Zone 1 or 2. Additionally, XXX% of the Wire
19 Centers for CenturyLink QC are in these same two density zones.

20 **Q. CAN YOU PROVIDE SPECIFIC WIRE CENTER DATA THAT WILL**
21 **HIGHLIGHT THE IMPACT DENSITY HAS ON THE COST TO SERVE**
22 **CUSTOMERS IN AREAS CENTURYLINK SERVES IN OREGON?**

1 A. Yes. The wire center costs in the territories CenturyLink serves in Oregon, range
2 from a low of \$XXX per line for a business customer in the Portland area, to
3 \$XXX per line for a residential customer in the remote area of the Paulina wire
4 center in CTL-EOregon. The density of the above referenced Portland wire
5 center is XXX, meaning the wire center averages XXX customers per square
6 mile. In stark contrast, the density for the Paulina wire center is XXX, meaning
7 this wire center averages only XXX customers per square mile, less than XXX
8 customer per square mile.

9 **Q. YOU ALSO MENTIONED DISTANCE AS A PRIMARY FACTOR**
10 **IMPACTING PER UNIT COST, CAN YOU PLEASE ELABORATE.**

11 A. The impact of a customers' distance from the Central Office can easily be
12 observed as a driver as additional sheath feet of cable would be required simply to
13 reach the customers. Additionally, as you move further from the Central Office,
14 you generally have a smaller customer base over which to share common
15 infrastructure. A common method of analyzing sub wire center costs is to look at
16 customers served directly from the Central Office, the Central Office Customer
17 Serving Area ("COCSA"), and those served from a remote serving device, the
18 Non-COCSA. For purposes of our voice only network design, the Non-COCSA
19 customers would be those customers located greater than 18,000 ft from the
20 Central Office. The table below depicts the COCSA and Non-COCSA TSLRIC
21 Costs for the two wire centers previously noted, as well as representative wire
22 centers for each of our local operating companies.

23

Weighted Average TSLRIC Costs			
Wire Center Examples			
A	B	C	D
	18,000 Ft CSA Design		
	COCSA TSLRIC Cost	Non-COCSA TSLRIC Cost	Wire Center TSLRIC Cost
CenturyLinkQC			
Portland	\$ XXX	\$ XXX	\$ XXX
Westport	\$ XXX	\$ XXX	\$ XXX
CTL-Oregon			
Charbonneau	\$ XXX	\$ -	\$ XXX
Depoe Bay	\$ XXX	\$ XXX	\$ XXX
United			
Moro	\$ XXX	\$ XXX	\$ XXX
Sheridan	\$ XXX	\$ XXX	\$ XXX
CTL-EOregon			
Paulina	\$ XXX	\$ XXX	\$ XXX
Ukiah	\$ XXX	\$ XXX	\$ XXX

1

2

Attached as Exhibit CTL/401 are Wire Center maps for Westport, Depoe Bay,

3

Sheridan and Ukiah.

4 **Q.**

WHAT OVERALL CONCLUSIONS CAN BE DRAWN FROM THE

5

DATA YOU HAVE PRESENTED ABOVE.

6 **A.**

Just as costs can vary from one company to another, costs can vary from one wire center to another, and just as importantly costs can vary dramatically within each wire center, from the COCSA areas to the Non-COCSA areas. It is for these very reasons, that any analysis of costs must be at as granular of level as possible to allow for the appropriate identification of targeted high cost areas.

7

8

9

10

11

1 **Q. HOW DO THE CENTURYLINKQC COST RESULTS FROM THE**
2 **HYBRID COST PROXY MODEL (“HCPM”) MODEL AS ADOPTED BY**
3 **THE COMMISSION IN 2001 COMPARE TO THE VOICE ONLY**
4 **NETWORK COST RESULTS PRESENTED HERE?**

5 **A.** The HCPM Cost Results for CenturyLinkQC, adopted by the Commission in
6 2001, were \$20.48 per line per month. The weighted average TSLRIC cost result
7 as presented in the table above for CenturyLinkQC for the voice only network
8 design is \$XXX per line per month. Although the cost models themselves varied,
9 the basic premise of the forward looking cost development remains the same.

10 **Q. WHAT WOULD YOU SUGGEST COULD BE THE PRIMARY DRIVER**
11 **OF THE INCREASE IN PER UNIT COSTS FROM 2001 TO THE**
12 **PRESENT MODEL RESULTS?**

13 **A.** Although an exact comparison cannot be made, because of the use of different
14 forward looking cost models and inputs, a reasonable explanation would exist
15 based simply on the dramatic line loss experienced in the CenturyLinkQC
16 operating territories since 2001. CenturyLinkQC has experienced access line loss
17 in excess of XXX% since 2001. This reduction in overall demand (customers)
18 has a direct impact on the per-unit costs.

19 **VI. CENTURYLINK’S TSLRIC COST STUDY**

20 **Q. BRIEFLY DESCRIBE THE METHODOLOGY UTILIZED IN THE COST**
21 **STUDY PREPARATION.**

22 **A.** The CenturyLink Economic Cost Model (“ECM”) is comprised of several
23 interrelated modules that combine to develop the forward looking modeled

1 network investment and then ultimately convert that modeled investment into a
2 monthly recurring cost. The ECM process begins with the Geographic Module
3 (“GM”). The GM is a stand-alone process that generates the overall network
4 design. The first step in the overall GM modeling process is the preparation of a
5 map file that includes geocoded customer locations and includes all services at
6 each customer service address. Within the GM, drop and building terminals are
7 placed to serve the geocoded customer locations, after which optimized cable
8 routes are built from the customer locations to the Feeder Distribution Interface
9 (“FDI”), then to the Next Generation Digital Loop Carrier (“NGDLC”), and
10 finally to the Central Office (“CO”) using a Minimum Spanning Road Tree
11 (MSRT) routing. The end result of the GM processing is a loop design database.
12 The next phase in the processing is the Loop Module (“LM”). The LM is
13 comprised of a Loop Inputs excel workbook, as well as a Loop Module excel
14 workbook. As the LM is processing, it stores and retrieves data from a Loop Cost
15 database. Within the Excel workbooks, demand quantities are calculated for each
16 segment of plant, and material and labor costs are applied to the cable segments
17 and other network components, to calculate forward-looking investments. The
18 investment results are based upon a least-cost, most technically efficient design.
19 The investment results reflect what CenturyLink would expect to incur on a
20 forward-looking basis for rebuilding its outside plant network were it all to be
21 done today. When used in conjunction with CenturyLink’s other investment and
22 cost modules, the costs for an entire local exchange network can be ascertained.
23

1 **Q. PLEASE DESCRIBE THE APPROACH USED BY CENTURYLINK IN**
2 **PERFORMING TSLRIC STUDIES.**

3 **A.** The general approach adopted by CenturyLink in performing TSLRIC Cost
4 studies follow the methodologies recommended in the Oregon Commission's
5 Order No. 00-312. First, as mentioned earlier, the order recommends the use of a
6 forward-looking economic cost model, as this provides the best forecast of the
7 costs a reasonably efficient telephone carrier would incur to provide basic service.
8 The order also provided that determining customer locations by geocoded
9 longitude and latitude coordinates would be the most accurate way to determine
10 loop lengths from wire centers to customers. The CenturyLink model does
11 precisely that; the process begins with a map file that includes geocoded customer
12 locations for all services by service address. A geocode is a geographical code
13 (longitude and latitude) used to identify a point at the surface of the earth.
14 Additionally, the CenturyLink model uses the MSRT routing. The MSRT allows
15 for optimized cable routes from the customer locations to the FDI, then to the
16 NGDLC, and finally to the CO.

17 The CenturyLink model also incorporated the depreciation lives as
18 recommended in Order No. 00-312, as well as the structure sharing assumptions
19 as adopted in Order No. 00-312. The structure sharing assumptions as adopted by
20 the commission were those made by the FCC in its Order No. 99-304.
21 CenturyLink has provided a fully allocated TSLRIC cost in the results presented
22 herein. The CenturyLink model develops this fully allocated TSLRIC cost based

1 on a reasonable allocation of joint and common costs, also, as recommended in
2 Order No. 00-312.

3 **VII. SUMMARY OF TESTIMONY**

4 **Q. PLEASE SUMMARIZE YOUR OPENING TESTIMONY.**

5 **A.** Before the provision of broadband services using the high frequency spectrum of
6 a loop, all of the costs associated with the loop were exclusive to the provision of
7 voice service. Even on a line providing both voice and broadband services, all
8 loop costs are caused by the dedicated nature of the loop, and not by non-
9 dedicated uses of the loop. The underlying cost of the loop does not change
10 significantly because it supports two dedicated service connections. My
11 testimony emphasizes that a conceptually or economically sound basis does not
12 exist for allocation of network costs between voice and broadband.

13 Given that a sound basis does not exist upon which to allocate network
14 costs between voice and broadband, CenturyLink provides two alternative
15 methods for the Commission to utilize as it evaluates OUSF. The first method is
16 to compare the cost of a voice-only network in a forward-looking cost study to the
17 voice revenues produced by such a network. The second method is to compare
18 the cost of a voice and broadband network in a forward-looking cost study to the
19 voice and broadband revenues produced by such a network. In my testimony, I
20 have provided cost study results which reflect the modeled TSLRIC costs for
21 CenturyLink to provide service to its customers in each of its serving territories in
22 Oregon. The Cost Recaps presented herein provide the costs of both a network
23 capable of providing voice services only and a network capable of providing

1 voice and broadband services. The only acceptable methodology to address the
2 issue as posed in this phase of the proceeding is for the Commission to evaluate
3 forward looking cost models results and related revenues, whether this is done for
4 a voice only network or a combined voice and broadband network does not
5 matter, but in any case the costs must be aligned with the appropriate revenues.

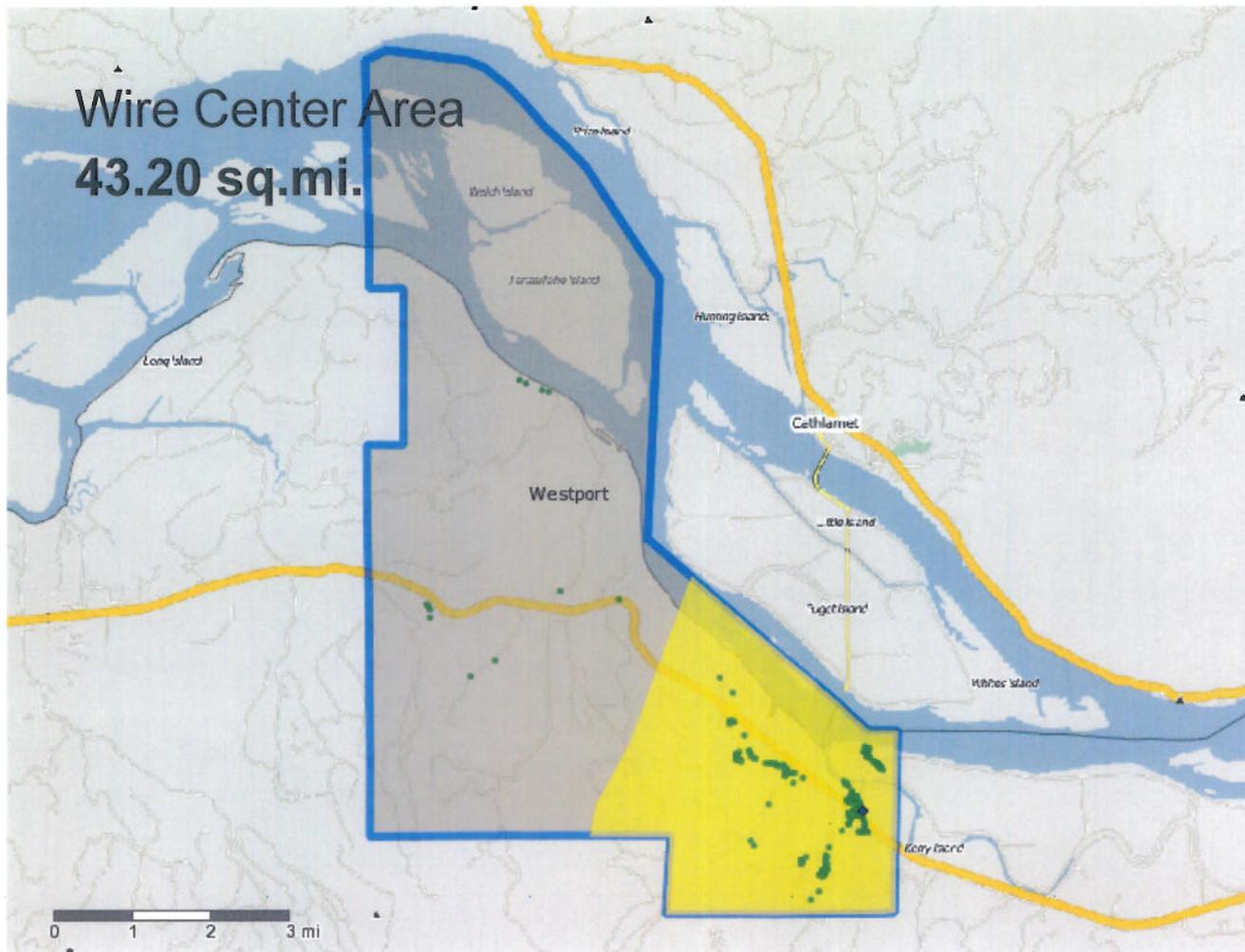
6 Additionally, a forward looking cost study methodology is the appropriate
7 mechanism to evaluate costs of providing service, whether it be voice only
8 service, or whether it be voice and broadband services. Finally, any analysis of
9 costs must be granular enough to recognize the difference in costs to serve
10 customers in the COCSA, versus those outside the COCSA, and must highlight
11 the impact that density, distance and terrain have on per unit costs to serve
12 customers in Oregon.

13 **Q. DOES THAT CONCLUDE YOUR OPENING TESTIMONY?**

14 **A.** Yes.

Westport, Oregon

Cost Overview



Wire Center Area
43.20 sq.mi.

Wire Center

Density:

8.1 lines per sq.mi.

TSLRIC Cost per line:

██████████

Within COCSA Area

██████████ lines

TSLRIC Cost per line:

██████████

Outside COCSA Area

██████████ lines

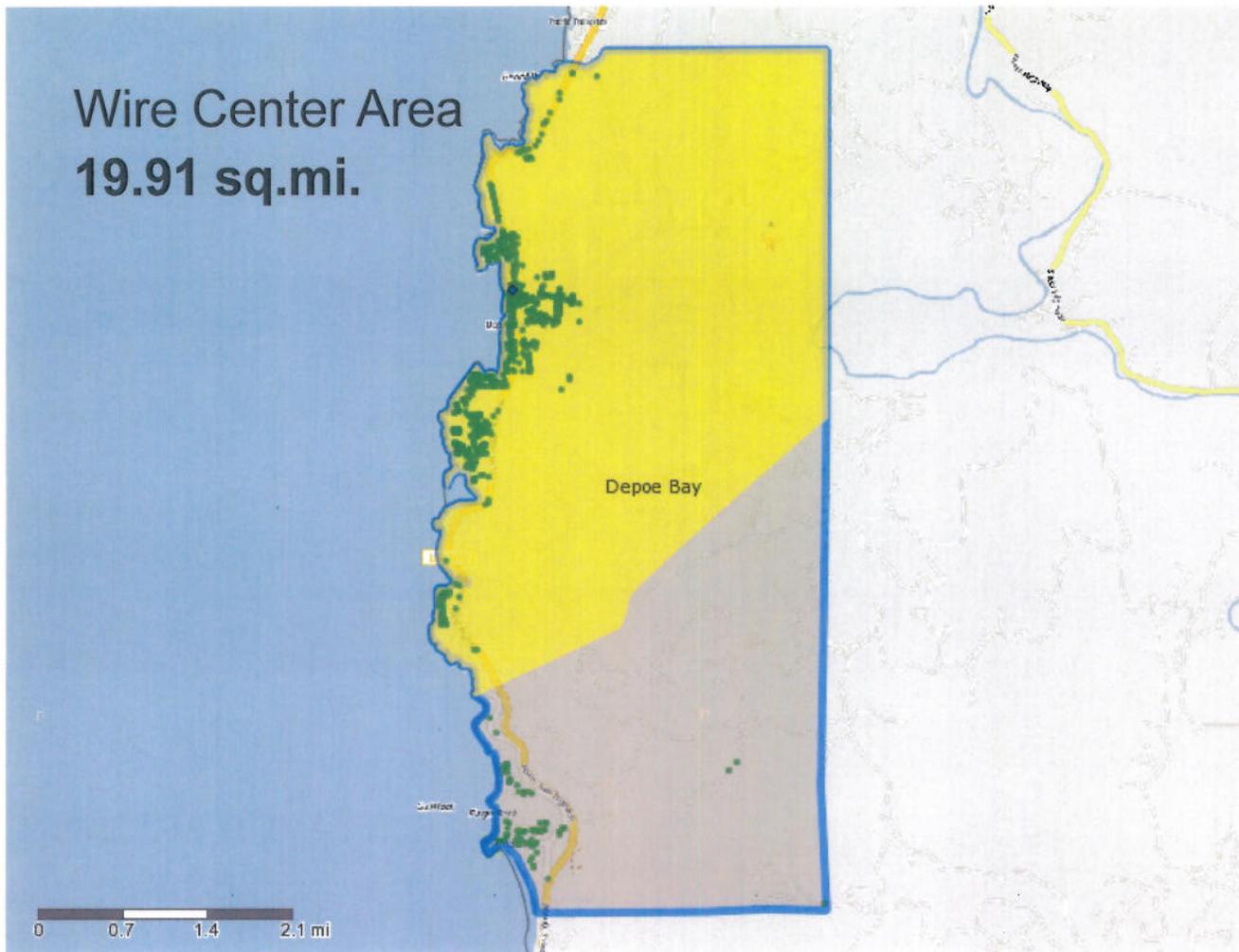
TSLRIC Cost per line:

██████████

- ◆ Central Office
- Customer Locations
- COCSA Area
- Wire Center Boundary

Depoe Bay, Oregon

Cost Overview



Wire Center

Density:

61.0 lines per sq.mi.

TSLRIC Cost per line:

██████████

Within COCSA Area

██████ lines

TSLRIC Cost per line:

██████████

Outside COCSA Area

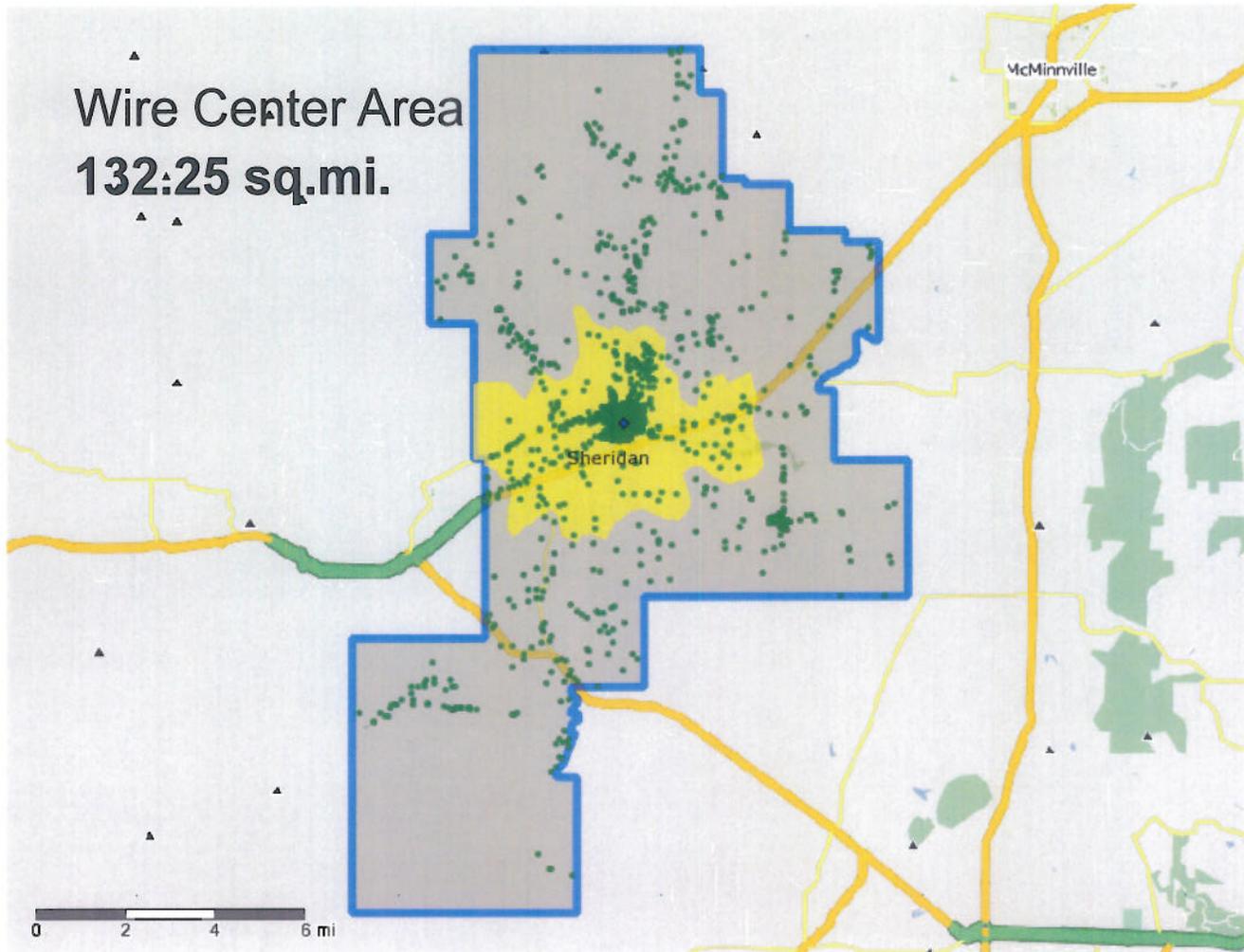
██████ lines

TSLRIC Cost per line:

██████████

Sheridan, Oregon

Cost Overview



Wire Center

Density:

12.4 lines per sq.mi.

TSLRIC Cost per line:

██████████

Within COCSA Area

██████████ lines

TSLRIC Cost per line:

██████████

Outside COCSA Area

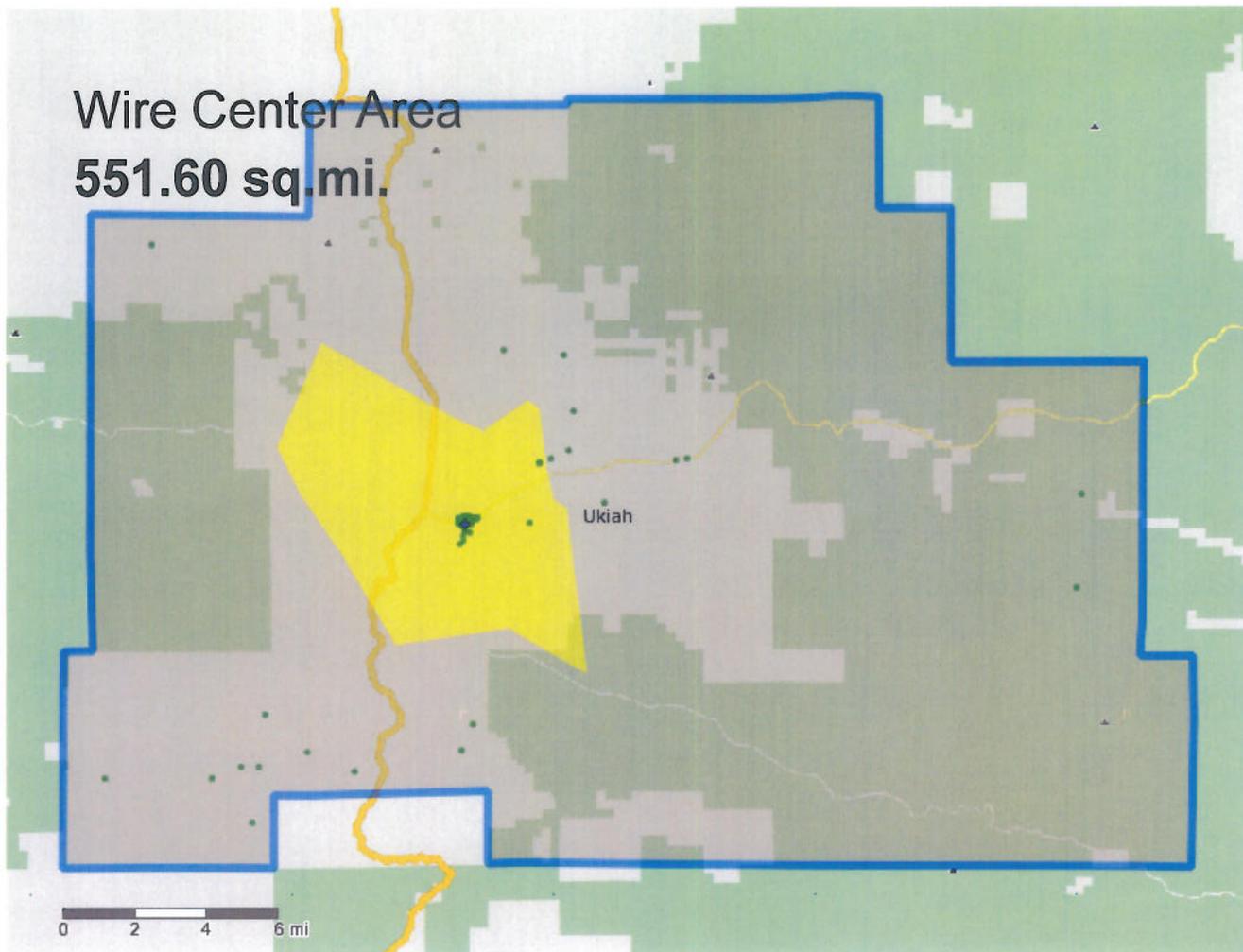
██████████ lines

TSLRIC Cost per line:

██████████

Ukiah, Oregon

Cost Overview



Wire Center

Density:

0.4 lines per sq.mi.

TSLRIC Cost per line:

[REDACTED]

Within COCSA Area

[REDACTED] lines

TSLRIC Cost per line:

[REDACTED]

Outside COCSA Area

[REDACTED] lines

TSLRIC Cost per line:

[REDACTED]

CERTIFICATE OF SERVICE

UM 1481

I hereby certify that on the 24th day of April 2014, I served the foregoing **CENTURYLINK'S OPENING TESTIMONY** for the above entitled docket on the following persons via e-mail transmission only. Paper copies of only the Confidential material will be sent to those who are authorized to receive it.

*Arthur Butler (w)
Ater Wynne LLP
601 Union Street, Suite 1501
Seattle, WA 98101-3981
aab@aterwynne.com

Roger T. Dunaway (w)
Ater Wynne LLP
601 Union Street, Suite 1501
Seattle, WA 98101-3981
rtid@aterwynne.com

CUB Oregon Dockets
Citizens' Utility Board of OR
601 SW Broadway, Suite 400
Portland, OR 97205
dockets@oregoncub.org

Bob Jenks (w)
Citizens' Utility Board of OR
601 SW Broadway, Suite 400
Portland, OR 97205
Bob@oregoncub.org

*G. Catriona McCracken (w)
Citizens' Utility Board of OR
601 SW Broadway, Suite 400
Portland, OR 97205
catriona@oregoncub.org

*Kay Marinos (w)
OR Public Utility Commission
P.O. Box 2148
Salem, OR 97308-2148
Kay.marinos@state.or.us

*Richard B. Severy (w)
Verizon Business
2775 Mitchell Dr., Bldg. 802
Walnut Creek, CA 94598
Richard.b.severy@verizonbusiness.com

*Jason Jones (w)
Department of Justice
1162 Court St., NE
Salem, OR 97301-4096
jason.w.jones@state.or.us

*Richard Finnigan (w)
Law Office of Richard Finnigan
2112 Black Lake Blvd. SW
Olympia, WA 98512
rickfinn@localaccess.com

Craig Phillips (w)
Oregon Exchange Carrier Assn.
800 C. Street
Vancouver, WA 98660
cphillips@oeca.com

*Roger White (w)
Oregon Public Utility
Commission
P.O. Box 2148
Salem, OR 97308
Roger.white@state.or.us

*Jeffrey H. Smith (w)
*Jim Rennard
GVNW Consulting, Inc.
P.O. Box 2330
Tualatin, OR 97062
jsmith@gvnw.com
jrennard@gvnw.com

*Mark P. Trincherro (w)
Davis Wright Tremaine
1300 SW Fifth Ave., Suite 2300
Portland, OR 97201
marktrincherro@dwt.com

Doug Cooley (w)
Comcast Phone of Oregon
1710 Salem Industrial Dr., NE
Salem, OR 97303
Doug_cooley@cable.comcast.com

Cindy Manheim (w)
AT&T Services, Inc.
16331 NE 72nd Way, Rm 1164B
Redmond, WA 98052
cm9268@att.com

Sharon L. Mullin (w)
AT&T Services, Inc.
400 w. 15th St., Ste. 930
Austin, TX 78701
slmullin@att.com

David Collier (w)
AT&T Services, Inc.
645 E. Plumb Ln., Rm. C-142
P.O. Box 11010
Reno, NV 89502
David.collier@att.com

*Doug Denney (w)
Integra Telecom
6160 Golden Hills Drive
Golden Valley, MN 55416
dkdenney@integratelecom.com

*Brant Wolf (w)
OR Telecommunications Assoc.
777 13th Street SE, Suite 120
Salem, OR 97301
bwolf@lta-telecom.org

J. Jeffery Oxley (w)
Integra Telecom
6160 Golden Hills Dr.
Golden Valley, MN 55416
jjoxley@integratelecom.com

*Marsha Spellman (w)
*Adam Haas
Warm Springs Telecom.
10425 SW Hawthorne Lane
Portland, OR 97225
Marsha.spellman@warmspringstelecom.com
Adam.haas@warmspringstelecom.com

*John Felz (w)
CenturyLink
5454 W. 10th Street
Overland Park, KS 66211
john.felz@centurylink.com

*William Hendricks (w)
CenturyLink
902 Wasco Street
Hood River, OR 97031
Tre.hendricks@centurylink.com

*Charles L. Best (w)
Attorney at Law
1631 NE Broadway, #538
Portland, OR 97232
chuck@charleslbest.com

*Renee Willer (w)
Frontier Communications
20575 NW. Von Neuman Dr.
Beaverton, OR 97006-6982
Renee.willer@ftr.com

Alan Galloway (w)
Davis Wright Tremaine LLP
1300 SW Fifth Ave., Suite
2400
Portland, OR 97201
alangalloway@dwt.com

*Ron Trullinger (w)
CenturyLink
310 SW Park Ave., 11th Flr.
Portland, OR 97205
Ron.trullinger@centurylink.com

*Lisa Rackner (w)
*Adam Lowney
McDowell Rackner & Gibson
419 SW 11th Ave., Suite 400
Portland, OR 97205
lisa@mcd-law.com
adam@mcd-law.com

Michael Dewey (w)
Oregon Cable & Telecomm.
1249 Commercial St., SE
Salem, OR 97302
mdewey@oregoncable.com

Tim Spanning (w)
Comspan Communications, Inc.
278 NW Garden Valley Rd.
Roseburg, OR 97470
tims@comspancomm.com

George Thomson (w)
Frontier Communications
1800 41st Street
Everett, WA 98201
George.thomson@ftr.com

Greg Diamond (w)
tw telecom
223 Taylor Ave., Suite 250
Seattle, WA 98109
greg.diamond@twtelecom.com

DATED this 24th day of April, 2014.

CENTURYLINK



By: Carla M. Butler, Paralegal
310 SW Park Ave., 11th Fl.
Portland, OR 97205
Telephone: 503-242-5420
Facsimile: 503-242-8589
e-mail: carla.butler@centurylink.com

* Denotes Signed Protective Order No. 11-074
(w) Waive Paper Service