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**Craig J. Brown**  
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**REDACTED – FOR PUBLIC INSPECTION**

*Via ECFS*

September 27, 2016

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street SW  
Washington, DC 20554

Re: *Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans, WC Docket No. 15-247; Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services, WC Docket No. 05-25, RM-10593; Business Data Services in an Internet Protocol Environment, WC Docket No. 16-143*

Dear Ms. Dortch:

CenturyLink, Inc.<sup>1</sup> hereby submits the enclosed ex parte notice and appended Declaration of Peter B. Copeland and attachments thereto (Copeland Declaration), which CenturyLink requests be placed in the record of the above-captioned proceedings. The ex parte notice discusses potential one-time and ongoing reductions in rates for DSn and Ethernet services being considered by the Commission. The Copeland Declaration evaluates the degree to which CenturyLink's current interstate DS1 revenues fall below applicable price floors in CenturyLink's mostly rural legacy CenturyTel territory and the ongoing decline of CenturyLink's DS1 loop counts.

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<sup>1</sup> CenturyLink, Inc., and its operating affiliates on whose behalf today's filing is made, are collectively referred to herein as "CenturyLink".

Portions of the Copeland Declaration and the associated attachments include the highly confidential and proprietary commercial information of CenturyLink that is entitled to protection from public disclosure by the *Protective Orders*<sup>2</sup> in the above-referenced dockets. Although this highly confidential and proprietary commercial information is specifically protected from disclosure pursuant to the terms of the *Protective Orders*, the Confidentiality Appendix attached to this correspondence provides separate justification for confidential treatment under FOIA and the Commission's implementing rules, 47 C.F.R. §§ 0.457, 0.459.

Consistent with the nature of the highly confidential information enclosed with this submission, the non-redacted version is marked as follows, "**HIGHLY CONFIDENTIAL INFORMATION – SUBJECT TO SECOND PROTECTIVE ORDER IN WC DOCKET NOS. 05-25 & 16-143, RM-10593, AND SUBJECT TO PROTECTIVE ORDER IN WC DOCKET NO. 15-247, BEFORE THE FEDERAL COMMUNICATIONS COMMISSION – ADDITIONAL COPYING PROHIBITED AND RESTRICTED**". This highly confidential information is very competitively sensitive proprietary commercial information and thus should not be available for public inspection. Release of the highly confidential information would have a substantial negative competitive impact on CenturyLink. Accordingly, the submitted highly confidential information is appropriate for non-disclosure pursuant to the *Protective Orders*, and under FOIA and sections 0.457(d) and 0.459 of the Commission's rules.

Consistent with the *Protective Orders*, CenturyLink is filing with the Office of the Secretary three hard copies of its non-redacted submission, including three compact discs (CDs) (one each for WC Docket No. 05-25/RM-10593, WC Docket No. 16-143 and WC Docket No.

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<sup>2</sup> *Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25, RM-10593, Second Protective Order, 25 FCC Rcd 17725 (2010) (*Special Access Rulemaking Second Protective Order*); *Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans; Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*; WC Docket Nos. 15-247 and 05-25, RM-10593, Order and Protective Orders, Appendix B, 30 FCC Rcd 13680, 13695-13707 (2015) (*Tariff Investigation Protective Order*); *Business Data Services in an Internet Protocol Environment; Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans; Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket Nos. 16-143, 15-247 and 05-25, RM-10593, Order, 31 FCC Rcd 7104 (2016) (collectively, *Protective Orders*).

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15-247). CenturyLink is also providing two hard copies, including two CDs, of its non-redacted submission to Marvin Sacks of the Wireline Competition Bureau.

CenturyLink is also filing today via the Commission's Electronic Comment Filing System (ECFS) a redacted version of its submission. Consistent with the *Protective Orders*, the redacted version of CenturyLink's filing, in which the highly confidential information is omitted, is marked, "**REDACTED – FOR PUBLIC INSPECTION**".

The text of this letter and the attached Confidentiality Appendix are the same for both the non-redacted and redacted versions except for the omission of the highly confidential information, the confidentiality markings and the manner of submission noted in the heading on the initial page.

Sincerely,

/s/ Craig J. Brown

Enclosures

**REDACTED – FOR PUBLIC INSPECTION**

## CONFIDENTIALITY APPENDIX

### 47 C.F.R. § 0.457

Certain information included with CenturyLink's September 26, 2016 ex parte notice and appended Declaration of Peter B. Copeland, including certain attachments thereto, are entitled to highly confidential treatment under 47 C.F.R. § 0.457, and the *Protective Orders* in WC Docket Nos. 05-25/RM-10593, 16-143 and 15-247.<sup>3</sup> The types of highly confidential information being submitted include: detailed and granular data and other information about network facilities and associated costs; data on the types and nature of CenturyLink affiliate last-mile facilities; data for DS1 demand, price floors and average revenue by unit for CenturyLink legacy affiliates in various states; and, in support of CenturyLink's Economic Cost Model, data used to calculate Total Service Long Run Incremental Cost factors for CenturyLink outside plant, central office equipment, station equipment and other assets.

All of this information is highly sensitive commercial information regarding CenturyLink's business operations and product/service offerings (which is the type of highly confidential information described in ¶ 6 as appropriate for non-disclosure to the public pursuant to the *Special Access Rulemaking Second Protective Order*, and in Attachment 1 of Appendix B of the *Tariff Investigation Protective Order*). And, CenturyLink's customers and competitors may also consider some of the information to be proprietary and competitively sensitive. All of this highly confidential proprietary commercial information also is not routinely available from CenturyLink nor is it available for public inspection from the Commission and thus is protected from public availability under 47 C.F.R. § 0.457(d).

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<sup>3</sup> *Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25, RM-10593, Second Protective Order, 25 FCC Rcd 17725 (2010) (*Special Access Rulemaking Second Protective Order*); *Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans; Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*; WC Docket Nos. 15-247 and 05-25, RM-10593, Order and Protective Orders, Appendix B, 30 FCC Rcd 13680, 13695-13707 (2015) (*Tariff Investigation Protective Order*); *Business Data Services in an Internet Protocol Environment; Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans; Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket Nos. 16-143, 15-247 and 05-25, RM-10593, Order, 31 FCC Rcd 7104 (2016) (collectively, *Protective Orders*).

47 C.F.R. § 0.459

CenturyLink also considers the highly confidential information submitted with its filing as protected from public disclosure pursuant to 47 C.F.R. § 0.459(b) as described as follows.

Information for which confidential treatment is sought

CenturyLink seeks highly confidential treatment for certain information included with this September 26, 2016 submission in WC Docket Nos. 05-25/RM-10593, 16-143 and 15-247, which is highly sensitive commercial information regarding CenturyLink's business operations and product/service offerings that is protected from public disclosure and availability.

Commission proceeding in which the information was submitted

The ex parte notice submission of CenturyLink, including the Declaration of Peter B. Copeland and attachments appended thereto, is being filed in WC Docket Nos. 05-25/RM-10593, 16-143 and 15-247, *Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services; Business Data Services in an Internet Protocol Environment; Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans.*

Degree to which the information in question is commercial or financial, or contains a trade secret or is privileged

The types of highly confidential information being submitted include: detailed and granular data and other information about network facilities and associated costs; data on the types and nature of CenturyLink affiliate last-mile facilities; data for DS1 demand, price floors and average revenue by unit for CenturyLink legacy affiliates in various states; and, in support of CenturyLink's Economic Cost Model, data used to calculate Total Service Long Run Incremental Cost factors for CenturyLink outside plant, central office equipment, station equipment and other assets. All of this information is highly sensitive commercial information regarding CenturyLink's business operations and product/service offerings (which is the type of highly confidential information described in ¶ 6 as appropriate for non-disclosure to the public pursuant to the *Special Access Rulemaking Second Protective Order*, and in Attachment 1 of Appendix B of the *Tariff Investigation Protective Order*). And, CenturyLink's customers and competitors may also consider some of the information to be proprietary and competitively sensitive. All of this highly confidential proprietary commercial information also is not routinely available from CenturyLink nor is it available for public inspection from the Commission and thus is protected from public availability under 47 C.F.R. § 0.457(d).

Degree to which the information concerns a service that is subject to competition; and manner in which disclosure of the information could result in substantial competitive harm

The types of highly confidential information included with CenturyLink's submission would generally not be subject to routine public inspection under the Commission's rules (47 C.F.R. § 0.457(d)), demonstrating that the Commission already anticipates that its release likely would produce competitive harm. The telecommunications services CenturyLink provides -- including the services that are at issue in the special access rulemaking, tariff pricing plan and business data services proceedings -- are all competitive. The release of this highly confidential proprietary information would cause competitive harm by allowing competitors to become aware of sensitive commercial information regarding CenturyLink's business and internal operations, and the competitive markets in which CenturyLink operates. And, CenturyLink's customers and competitors may also consider some of the information to be proprietary and competitively sensitive.

Measures taken to prevent unauthorized disclosure; and availability of the information to the public and extent of any previous disclosure of the information to third parties

CenturyLink has treated and treats certain highly sensitive commercial information disclosed in the Declaration of Peter B. Copeland and in certain of the attachments (or portions thereof) as highly confidential, and has protected it from public disclosure.

Justification of the period during which CenturyLink asserts that the material should not be available for public disclosure

At this time, CenturyLink cannot determine any date on which the sensitive commercial information included with its submission should not be considered highly confidential.

Other information that CenturyLink believes may be useful in assessing whether its request for confidentiality should be granted

Under applicable FCC and court rulings, the information in question should be withheld from public disclosure. Exemption 4 of the Freedom of Information Act shields information that is (1) commercial or financial in nature; (2) obtained from a person outside government; and (3) privileged or confidential. The information in question satisfies this test.



**Melissa E. Newman**  
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1099 New York Avenue NW, Suite 250  
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202.429.3120

**REDACTED – FOR PUBLIC INSPECTION**

Ex Parte Notice

September 27, 2016

Ms. Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, DC 20554

Re: *Business Data Services in an Internet Protocol Environment*, WC Docket No. 16-143; *Investigation of Certain Price Cap Local Exchange Carrier Business Data Services Tariff Pricing Plans*, WC Docket No. 15-247; *Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25, RM-10593

Dear Ms. Dortch:

Among the key issues in this proceeding, the Commission is considering potential one-time and ongoing reductions in rates for DS1 and DS3 services in areas deemed to be non-competitive. Verizon and INCOMPAS have further advocated that the Commission apply such reductions to services with speeds below 50 Mbps regardless of any competitive assessment and, even more problematically, that it extend such reductions to Ethernet services through a complicated benchmarking scheme. That scheme would slash Ethernet rates in “non-competitive” areas served by most price cap LECs, but apparently would have little, if any, impact in Verizon’s own ILEC territory.<sup>1</sup>

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<sup>1</sup> See Letter from Christopher T. Shenk, Counsel for AT&T, to Marlene H. Dortch, FCC Secretary, WC Docket Nos. 16-143, 05-25, 15-247, RM-10593 (filed Sept. 16, 2016).

CenturyLink and AT&T have shown that there is no credible record evidence to support significant one-time or ongoing reductions in DS<sub>n</sub> rates.<sup>2</sup> In fact, the current CALLS-mandated X-Factor (which is set equal to inflation) has roughly mirrored the computed X-Factor over the past decade, using the Commission's traditional Total Factor Productivity analysis.<sup>3</sup> Thus, the Commission could justify no more than minimal one-time and ongoing reductions to DS1 and DS3 rates, based on an appropriate X-Factor analysis.

That is not the end of the inquiry, however. The Commission also must ensure that its rules are in other respects lawful and consistent with the public interest. When considering mandated reductions to DS<sub>n</sub> (and potentially Ethernet) rates, the Commission must assure that those reductions will not drive prices below applicable cost floors and thereby sap (if not eviscerate) incentives for investment, especially in rural areas where the cost of providing service tends greatly to exceed the corresponding cost in more densely populated areas. The latter is particularly important here, given Chairman Wheeler's goal of adopting BDS rules that will facilitate and accelerate the transition to 5G. Of course, any rate reductions that would significantly undermine incumbent and non-incumbent providers' incentives to invest in the wireline services needed for 5G deployment and next-generation enterprise offerings would be directly counterproductive to the Commission's 5G policies and other priorities.

The attached declaration of CenturyLink's Director of Economic Costing, Peter Copeland, analyzes CenturyLink's current interstate DS1 rates in legacy CenturyTel areas.<sup>4</sup> In particular, Mr. Copeland examined CenturyLink's average DS1 rates for a 36-month term via its interstate tariffs in CenturyTel census tracts that would likely be deemed "non-competitive"

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<sup>2</sup> See, e.g., Mark Schankerman and Pierre Régibeau, *Response to the FCC Further Notice: Regulation of DS1 and DS3 Services*, attached to Letter from Russell P. Hanser, Counsel to CenturyLink, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 16-143, 05-25, 15-247, RM-10593 (filed Aug. 9, 2016) (Schankerman/Régibeau Declaration); Mark E. Meitzen and Philip E. Schoech, Christensen Associates, *Assessment of the FCC's Proposed Options for the Special Access Price Cap X-Factor*, attached to Letter from Kyle J. Fiet, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 16-143, 05-25, RM-10593 (filed June 28, 2016); Letter from Russell P. Hanser, Counsel to CenturyLink, Frontier Communications, FairPoint Communications, and Consolidated Communications, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 16-143 *et al.* (filed Aug. 29, 2016).

<sup>3</sup> See generally Schankerman/Régibeau Declaration. Appropriate DS<sub>n</sub>-specific adjustments would support an increase in price cap rates for DS1s and DS3s. See *id.* at 31-41.

<sup>4</sup> Declaration of Peter B. Copeland, attached hereto. CenturyLink's ILEC service territories are comprised of areas previously served by CenturyLink's predecessor companies, CenturyTel, Embarq, and Qwest.

under the competitive market tests advocated by CLECs in this proceeding.<sup>5</sup> Mr. Copeland found that CenturyLink's average DS1 revenues in these areas for a 36-month term fall below applicable price floors in 16 of the 18 CenturyTel states with DS1 demand.<sup>6</sup> In other words, even before the rate reductions being considered by the Commission, CenturyLink's DS1 rates in these "non-competitive" areas in the mostly rural CenturyTel territory are already below forward-looking cost. The same is true of CenturyLink's DS1 rates in "non-competitive" census tracts in legacy Embarq or Qwest territories in 11 states.<sup>7</sup>

Given these facts, it would be both unlawful and contrary to sound public policy for the Commission to order BDS rate cuts in these areas. As the Supreme Court has emphasized, "the Constitution protects utilities from being limited to a charge for their property serving the public which is so unjust as to be confiscatory."<sup>8</sup> A provider is entitled to recover "the cost of prudently

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<sup>5</sup> In previous filings, CenturyLink has explained that the presence of two providers is sufficient to deem a census tract "competitive." *See, e.g.*, Joint Reply Comments of CenturyLink, Inc., Consolidated Communications, FairPoint Communications, Inc., and Frontier Communications Corp., WC Docket Nos. 16-143, 15-247, 05-25, RM-10593, at 51-55 (filed Aug. 9, 2016). However, other parties have argued for competitive market tests that would require the presence of three (or even four) providers for an area to be deemed "competitive." Consistent with these more stringent market tests, and solely for the narrow purpose of this analysis, Mr. Copeland's declaration defines "non-competitive" areas as census tracts with fewer than three providers that are not within 2,000 feet of fiber facilities.

<sup>6</sup> *See* Copeland Declaration at ¶ 20. These states account for approximately 84 percent of CenturyLink's demand in legacy CenturyTel areas. *See id.*

<sup>7</sup> *See id.* ¶ 3. A number of parties have advocated the use of the Connect America Cost Model (CACM) or other forward-looking cost models in this proceeding, which tend to produce unrealistically low costs of service. As CenturyLink has stated previously, consideration of forward-looking costs is not appropriate in the context of BDS rate-setting. CenturyLink continues to oppose the Commission's use of a forward-looking cost model for any purpose in this proceeding and has documented a number of serious shortcomings with the use of the CACM to establish a one-time rate reset or ongoing X-Factor. *See, e.g.*, Schankerman/ Régibeau Declaration at 18-21; *see also* Comments of AT&T, Inc., WC Docket Nos. 16-143, 15-247, 05-25, at 58-61 (filed June 28, 2016). Nevertheless, Mr. Copeland's declaration shows that, even based on such an aggressively low measure of cost, CenturyLink's current average DS1 rates in "non-competitive" areas in CenturyTel states generally are less than the applicable TSLRIC price floor.

<sup>8</sup> *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 307 (1989) (internal quotation marks and reference to subsequent statutory history omitted) (citing *Covington & Lexington Turnpike Road*

invested capital used to provide the service.”<sup>9</sup> In contrast, an approach that “require[s] investors to bear the risk of bad investments at some times while denying them the benefit of good investments at others would raise serious constitutional questions.”<sup>10</sup> Thus, the imposition of rates that failed to compensate regulated providers for their reasonable costs would be flatly unlawful.

These rate reductions also would be disastrous for investment in rural broadband. With average DS1 rates below cost, there already is little incentive for CenturyLink or any other provider to deploy BDS in these areas, absent some type of outside assistance similar to that provided through the Commission’s Mobility Fund. Reductions in DSn and potentially Ethernet rates in these areas would result in less investment and less competition for the backhaul services critical to deployment of next-generation wireline and wireless services in rural America. The Commission should therefore carefully consider these factors in establishing new rules to benefit today’s and tomorrow’s consumers.

Finally, Mr. Copeland found that there has been a decline in DS1 loop counts, indicating that BDS customers are finding acceptable alternatives to DS1 services – even in areas deemed to be “non-competitive.” That trend raises the question of whether the Commission even needs to impose additional pricing regulations on DS1 services in such areas. This evidence shows that customers are migrating to alternative services that meet their needs, such that there will be relatively few DS1 customers by the time any new regulations are implemented. The application of complex regulatory pricing rules to a rapidly declining product would undermine rather than expand consumer choice.

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*Co. v. Sandford*, 164 U.S. 578, 597 (1896); *FPC v. Natural Gas Pipeline Co.*, 315 U.S. 575, 585 (1942); *FPC v. Texaco Inc.*, 417 U.S. 380, 391-92 (1974)). See also *FCC v. Florida Power Corp.*, 480 U.S. 245, 253 (1987) (“Such regulation of maximum rates or prices may, consistently with the Constitution, limit stringently the return recovered on investment, for investors’ interests provide only one of the variables in the constitutional calculus of reasonableness. . . . So long as the rates set are not confiscatory, the Fifth Amendment does not bar their imposition.”) (citations and internal quotation marks omitted).

<sup>9</sup> *Verizon Communications v. FCC*, 535 U.S. 467, 485-86 (2002) (internal references omitted); see generally *Illinois Bell Tel. Co. v. FCC*, 988 F.2d 1254 (D.C. Cir. 1993) (discussing traditional cost-of-service ratemaking in detail).

<sup>10</sup> *Duquesne*, 488 U.S. at 315.

Ms. Marlene H. Dortch  
September 27, 2016  
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Pursuant to section 1.1206(b) of the Commission's rules, this notice is being filed in the above-referenced dockets. Please contact the undersigned with any questions.

Sincerely,

/s/ Melissa Newman

Enclosures

**REDACTED – FOR PUBLIC INSPECTION**

## **REDACTED – FOR PUBLIC INSPECTION**

### **DECLARATION OF PETER B. COPELAND**

1. My name is Peter B. Copeland. My business address is 1801 California St. 10<sup>th</sup> floor, Denver, Colorado 80202. My current position is Director, Economic Costing, in the Public Policy organization of CenturyLink Communications. In this position, I supervise the development of all forward-looking regulatory cost studies for CenturyLink, as well as regulatory economic analysis studies. In addition to my experience in developing wholesale and retail cost studies, I have also had responsibility for the development of models of the local exchange network, universal service advocacy, and materials relating to jurisdictional separations and rate development. I make the statements in this declaration based upon my personal knowledge and my review of CenturyLink records maintained in the ordinary course of business and prepared in response to the Further Notice of Proposed Rulemaking.

#### **Purpose and Summary**

2. The purpose of this declaration is to evaluate the degree to which CenturyLink's current interstate DS1 revenues fall below applicable price floors in CenturyLink's mostly rural legacy CenturyTel territory. To accomplish this goal, I have compared CenturyLink's current average revenues for DS1s subject to a 36-month term via CenturyLink's interstate tariffs to Total Service Long Run Increment Cost (TSLRIC) DS1 loop service price floors in CenturyTel areas that would be classified as "non-competitive" in a three-provider competitive market test.<sup>1</sup> I have examined cost by the legacy CenturyTel operations in each state, so as to geographically align the tariff rates with their appropriate service price floor. The price floors were developed from TSLRIC methodology using CenturyLink's Economic Cost Model (ECM). The ECM creates a forward-looking economic cost by developing a highly efficient replacement network to serve current customer locations.

3. Based on the ECM cost modeling described below, I have found that CenturyLink's current average DS1 revenue for the 36-month tariff in the defined "non-competitive" CenturyTel areas fell below the TSLRIC price floor in 16 of the 18 states where there is demand for DS1s. I have also found the same to be true in legacy Embarq and Qwest

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<sup>1</sup> In previous filings, CenturyLink has explained that the presence of two providers is sufficient to deem a census tract "competitive." *See, e.g.*, Joint Reply Comments of CenturyLink, Inc., Consolidated Communications, FairPoint Communications, Inc., and Frontier Communications Corp., WC Docket Nos. 16-143, 15-247, 05-25, RM-10593, at 51-55 (filed Aug. 9, 2016). However, other parties have argued for competitive market tests that would require the presence of three (or even four) providers for an area to be deemed "competitive." In order to show that its findings apply to these more stringent tests, and solely for the narrow purpose of this analysis, this declaration defines "non-competitive" areas as census tracts with fewer than three providers that are not within 2,000 feet of fiber facilities.

areas in 11 states.<sup>2</sup> These results indicate that it would be inappropriate for the FCC to universally apply X-factor reductions to price cap services in “non-competitive” areas without taking steps to ensure that price cap tariff rates exceed their corresponding TSLRIC price floor.

4. Additionally, I have examined the DS1 loop demand trends for 2013 to 2015 in “non-competitive” areas, broken out by legacy CenturyLink holding company by state. The FCC’s special access data collection focused on a single year -- 2013. My analysis shows that there have been substantial declines in DS1 demand since 2013. When examining DS1 loop demand in “non-competitive” areas by legacy holding company, I found a decline in DS1 demand over a two-year period almost universally, with the exception of legacy Embarq Wyoming<sup>3</sup> and two legacy CenturyTel states that had no DS1 demand during the period. In fact, an additional five legacy CenturyTel states lost 100 percent of their DS1 demand in “non-competitive” areas from 2013 to 2015. In addition, the total DS1 line loss in “non-competitive” areas was over 13,000 lines, a reduction of 30 percent. This near-universal loss in demand indicates that CenturyLink customers are finding acceptable alternatives to DS1 services, even in areas deemed to be “non-competitive.” The fact that the decline in DS1 loop counts is high raises the very basic question of whether the FCC needs to impose additional pricing regulations on DS1 services in “non-competitive” areas for two reasons: (1) the customers are migrating to alternative services, even in these areas, and (2) the decline in customers is so rapid that there will be relatively few DS1 customers by the time any new regulations are implemented.

### **Overview of the Economic Cost Model**

5. The ECM is a PC-based computer model originally developed by CenturyLink in 2002.<sup>4</sup> ECM and its predecessor models have been used for unbundled network element (UNE) cost dockets in Florida and Nevada. The ECM was also used in a Virginia access cost docket, an Illinois UNE cost arbitration, and an Oregon universal service proceeding. The ECM uses current wire center locations, demand, and customer geographic data, overlaid with standard engineering and economic principles, to generate an efficient greenfield forward-looking network design. By modeling this replacement network, the ECM estimates the least-cost investment needed to maintain a wireline TDM network to provide voice and DS1 services.

6. The ECM contains two main modules: the Geographic Module (or GM) and the Loop Module. To estimate the investment needed to build and maintain this network, these

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<sup>2</sup> CenturyLink’s predecessor ILEC companies are Century Tel, Embarq, and Qwest.

<sup>3</sup> The legacy Embarq area in Wyoming consists of four wire centers: Guernsey, Lagrange, Lingle, and Torrington. From 2013 to 2015 the DS1 loop demand increased from 73 DS1s to 82 DS1s.

<sup>4</sup> For a full description of the ECM, see Attachment 1.

modules replicate the necessary components of a forward-looking telecommunications network. Each module applies standard engineering assumptions to build these network components, uses forward-looking capital and labor inputs to determine necessary quantities of materials, and then computes the resulting investment requirements and cost of service.

7. The Geographic Module uses a combination of geocoded customer locations, Carrier Serving Area design assumptions, geographic data,<sup>5</sup> and roads to optimally place customer serving terminals, size and configure serving areas, and design cable routes along roads to serve each customer location. Like the Commission's Connect America Cost Model (CACM), this module uses minimum road spanning tree logic to create carrier serving areas and connect customers to the serving central office. This methodology optimizes cable routes in a realistic manner by following roads to connect actual/potential customer locations with the minimum amount of cable distance.

8. The Loop Module uses the outputs of the Geographic Module to size the cabling and equipment to provide service to each customer location, determine units of materials needed, and apply the unit inputs to calculate investment between the serving central offices and customer serving terminal. Investments are calculated for each serving terminal and are typically summarized to the wire center or state levels. The unit inputs represent equipped, furnished, and installed (EFI) investment for electronics, cards, cabinets, structures (*i.e.*, conduit systems, trenching, poles, etc.), fiber and copper cables, feeder and distribution fill factors, equipment fill factors, sharing of structure, and plant mix.

9. The ECM pulls all of the investment module results together to estimate total investment for the forward-looking network. The ECM then calculates monthly recurring costs for various network elements, based on the investments for the network elements and Annual Charge Factors (ACF). The ACF are broken into three expense groups: "Direct," which includes maintenance, depreciation, return on investment, and taxes; "Other Direct," which includes network support, network operations, land and building, and retail/wholesale product management and customer operations; and "Common," which includes executive, planning, and general and administrative. The element level costs may then be summarized for determining costs of providing service.

## **Study Design and Inputs**

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<sup>5</sup> The geographic data includes Census Bureau demographics and defined boundaries, wire center boundaries, switch locations, and U.S. Geographic Survey "State Soil Geographic Data Base" information.

10. In order to examine the TSLRIC unit cost, I configured the ECM to build a fiber-to-the node network with 12-kilofeet (kft) copper carrier serving areas, using geographical customer locations for the GM. I used 2015 voice and DS1 demand data and customer locations, which are the most current data available. These data are collected from CenturyLink's billing records for our customers in CenturyLink's 37-state service territories. The customer addresses were geocoded and input into the Geographic Module, along with the demand quantities and service types.

11. *DS1 Loop Cost Methodology.* A DS1 is a 1.544 Mbps dedicated circuit that connects two locations. Using the Geographic Module, DS1 locations are identified by product and geocoded along with all other service locations. The Loop Module calculates investment by location, based on demand and distance from the central office, to account for cable and electronics required to provide DS1 service. DS1s may be provided over copper, fiber (either via a DLC-fed or SONET arrangement), or a combination of the two, depending on the demand by location and/or distance from the serving central office. See Attachments 2 and 3 for more information on the ECM's DS1 network architecture.

12. *Copper DS1 Loops.* HDSL is the ECM's assumed means of providing DS1 services over copper loops. The copper loop is limited by the carrier serving area design constraints. For example, a 12 kft carrier serving area limits the copper to no more than 12 kft, so customers within 12 kft of the serving central office would be served by copper (unless demand determines otherwise).

13. The model assumes the use of a multiplexor in the serving central office, copper cabling from the central office to the end-user location, and DS1 terminating equipment at the customer premises.<sup>6</sup> The multiplexor in the serving central office is sized according to the total DS1 demand on copper loops in the wire center, so the resulting investment is shared across all units in the wire center. The cable routing is based on the roads between the central office and customer location where cables and structure are shared across all units utilizing those cables. The customer terminating equipment is dedicated to the specific customer.

14. *DLC-Served DS1 Loops.* For locations beyond the copper limit of the carrier serving area design, the ECM routes DS1s through a remote fiber-fed digital loop carrier. HDSL is the technology used for providing the DS1 service. Based on demand within the carrier serving area, the DS1 is provided through cards in the DLC system or through a multiplexor collocated in the remote cabinet. The model places DS1 terminating equipment at each customer location. The DLC investment in the central office terminal and remote terminal is shared

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<sup>6</sup> It should be noted that the ECM models only the DS1 loop and therefore does not include the second channel termination needed to provide a complete DS1 service.

among the services utilizing DLC. Customer terminating equipment is dedicated to individual customers.

15. *SONET-Served DS1 Loops.* Some DS1 customer locations merit the use of SONET equipment for one of three reasons: (1) the overall demand at the location requires the use of SONET; (2) there are higher bandwidth services (*i.e.*, DS3 or OCn) at the same location; or (3) the quantity of DS1s demanded is more efficiently provided via SONET and fiber than over copper and other multiplexing devices. For SONET-served locations, fiber is routed from the serving central office to the customer location, and the model assumes placement of SONET equipment in the serving central office and customer location along with appropriate cards. The fiber is shared among all customer locations along the fiber routes while the SONET equipment is dedicated to each location. DS1s share a portion of the SONET investment by location.

16. *Loop Module Inputs.*<sup>7</sup> The Loop Module inputs are developed from data in CenturyLink's network cost administration system, which CenturyLink uses to prepare capital budgets and create construction projects as well as bid all network contracts and projects for various types of construction/installation related work activities. These system data include the most recent three years of closed invoice-level detail for capital material dollars and units, labor dollars and units, and other minor material dollars and units, as well as applicable taxes. While the data are coded to provide study area specificity, I aggregated the data at regional levels that sometimes include multiple states. This eliminates problems in small study areas where some activity inputs or cable size inputs might not have been used in CenturyLink's actual network.

17. Attachment 5 contains a state specific listing of the ECM inputs utilized in my study.

### **Annual Cost Factors Development**

18. The ECM uses annual charge factors to convert investment amounts to cost figures. These annual charge factors are developed in the CenturyLink Expense and Capital Cost Factors Model. This model contains two modules – the Expense Factors Module and the Capital Cost Module. The documentation for these modules can be found in Attachment 6.

### **Overview of Cost Model Results**

19. I examined cost separately for legacy CenturyTel operations in each state in order to geographically align the tariff rates with their appropriate TSLRIC price floor. The price floors are developed from TSLRIC methodology that includes an allocation of network

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<sup>7</sup> For a full description of the loop inputs, see Attachment 4: Loop Input Methodology.

operations joint costs, but excludes common costs. This aligns with economic theory where a price floor provides no contribution to the recovery of common costs in a multi-product firm. The study demonstrates that the TSLRIC price floors for DS1 loops are above the average 36-month tariff revenue per unit in “non-competitive” areas in 16 of the 18 legacy CenturyTel states that have DS1 customer demand in 2015. The two legacy CenturyTel states where CenturyLink’s average DS1 revenues of this type exceed the price floor only account for 16 percent of the legacy CenturyTel DS1 lines. In aggregate, the average TSLRIC price floor exceeds CenturyLink’s average revenues for DS1s provided on a tariffed 36-month term in these CenturyTel areas. There are also five legacy Embarq states and six legacy Qwest states where the price floor in “non-competitive” areas exceeds the average 36-month tariff revenue for DS1s per unit. The study results are displayed in Table 1 below.

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**[END HIGHLY CONFIDENTIAL]**

20. CenturyLink’s current price cap tariffs contain a great deal of geographic price averaging. If the Commission breaks the current tariff areas into “competitive” and “non-competitive” areas, where the “non-competitive” areas are generally higher cost, then the prices in those areas must reflect this higher underlying cost and the fact that rates are already being kept below actual cost as a result of averaging. The results in Table 1 demonstrate that “non-competitive” area price floors, based on TSLRIC, generally exceed the price charged for DS1s for a 36-month term. Therefore, it would be inappropriate for the Commission to universally apply X-factor reductions to price cap services in these areas without examining the relationship of the price cap tariff rates to their corresponding TSLRIC price floors and ensuring that the rate for the DS1 loop is above that price floor, particularly given the potential adverse impact on the business case for investment.

21. Additionally, I have examined the DS1 loop demand trends for 2013 to 2015 in “non-competitive” areas broken out by legacy CenturyLink holding company by state. The FCC’s data collection focused on a single year (2013). My analysis shows that there have been substantial declines in DS1 demand since 2013.

22. Overall, CenturyLink’s DS1 demand in “non-competitive” areas dropped 30 percent between 2013 and 2015, as shown in Table 2. The trend of DS1 demand loss is nearly universal. I found that DS1 loop demand in the “non-competitive” areas for all states by their legacy CenturyLink holding company declined except in the legacy Embarq Wyoming area and for two legacy CenturyTel states that had no DS1s in the three-year period. In fact, an additional five legacy CenturyTel states lost 100 percent of their DS1 demand in the “non-competitive” areas from 2013 to 2015. The total DS1 line loss in “non-competitive” areas was over 13,000 lines.

Table 2 – DS1 Loop Counts 2013-2015 in “Non-Competitive” Census Tracts

Legacy Area	State	2013 DS1 Demand in Non-Competitive Areas	2015 DS1 Demand in Non-Competitive Areas	Demand Quantity Change	Percentage Change
CTel	AL	1,853	979	(874)	-47%
CTel	AR	1,434	950	(484)	-34%
CTel	CO	1,716	1,401	(315)	-18%
CTel	GA	80	1	(79)	-99%
CTel	IA	2	1	(1)	-50%
CTel	ID	213	39	(174)	-82%
CTel	IL	10	-	(10)	-100%
CTel	IN	-	-	-	0%
CTel	LA	610	13	(597)	-98%
CTel	MI	83	4	(79)	-95%
CTel	MN	142	14	(128)	-90%
CTel	MO	389	195	(194)	-50%
CTel	MS	29	-	(29)	-100%
CTel	MT	942	709	(233)	-25%
CTel	NC	6	-	(6)	-100%
CTel	NM	93	41	(52)	-56%
CTel	NV	18	-	(18)	-100%
CTel	OH	-	1	1	0%
CTel	OK	-	-	-	0%
CTel	OR	841	561	(280)	-33%
CTel	TN	133	4	(129)	-97%
CTel	TX	3	-	(3)	-100%
CTel	WA	1,443	881	(562)	-39%
CTel	WI	406	243	(163)	-40%
CTel	WY	288	69	(219)	-76%
<b>CTel</b>	<b>Total</b>	<b>10,734</b>	<b>6,106</b>	<b>(4,628)</b>	<b>-43%</b>
EQ	FL	4,344	2,714	(1,630)	-38%
EQ	IN	168	69	(99)	-59%
EQ	KS	152	139	(13)	-9%
EQ	MN	19	14	(5)	-26%
EQ	MO	220	131	(89)	-40%
EQ	NC	1,845	1,010	(835)	-45%
EQ	NE	15	3	(12)	-80%
EQ	NJ	299	146	(153)	-51%
EQ	NV	480	246	(234)	-49%
EQ	OH	419	202	(217)	-52%
EQ	OR	308	179	(129)	-42%
EQ	PA	450	314	(136)	-30%
EQ	SC	633	389	(244)	-39%
EQ	TN	274	221	(53)	-19%
EQ	TX	850	601	(249)	-29%
EQ	VA	182	121	(61)	-34%
EQ	WA	555	411	(144)	-26%
EQ	WY	73	82	9	12%
<b>EQ</b>	<b>Total</b>	<b>11,286</b>	<b>6,992</b>	<b>(4,294)</b>	<b>-38%</b>
Q	AZ	6,208	5,288	(920)	-15%
Q	CO	4,206	3,139	(1,067)	-25%
Q	IA	213	174	(39)	-18%
Q	ID	2,789	2,388	(401)	-14%
Q	MN	815	588	(227)	-28%
Q	MT	585	453	(132)	-23%
Q	ND	55	45	(10)	-18%
Q	NE	458	401	(57)	-12%
Q	NM	3,259	2,698	(561)	-17%
Q	OR	1,448	1,045	(403)	-28%
Q	SD	112	85	(27)	-24%
Q	UT	1,094	766	(328)	-30%
Q	WA	1,887	1,365	(522)	-28%
Q	WY	747	625	(122)	-16%
<b>Q</b>	<b>Total</b>	<b>23,876</b>	<b>19,060</b>	<b>(4,816)</b>	<b>-20%</b>
<b>Grand Total</b>		<b>45,896</b>	<b>32,158</b>	<b>(13,738)</b>	<b>-30%</b>

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## Conclusion

23. The forward-looking economic costing methodology I use in this study allows closer inspection of the price floors in the geographic areas that would be classified as “non-competitive” in some of the proposals submitted in this proceeding. My study shows that in many of these areas within CenturyLink’s operating territory CenturyLink’s average per-unit tariffed revenue for a 36-month term falls below the corresponding price floor. In these areas it would be particularly improper to apply an X-factor that would reduce rates that are already below forward-looking cost. Lowering prices in these “non-competitive” areas will further discourage carriers from ever making investments and providing service in those areas.

24. Additionally, the demand trends that I document from 2013 to 2015 for DS1 loops in “non-competitive” areas bring into question the need for additional price regulation as proposed by the Commission. The near-universal loss in demand indicates that BDS customers are finding acceptable alternatives to CenturyLink’s DS1 services, even in areas deemed to be “non-competitive.” Adding complex regulatory pricing rules to a rapidly declining product thus does not appear to be necessary or helpful to expand consumer choice.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Executed on: September 27, 2016



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Peter B. Copeland