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March 13, 2015

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
Saint Paul, MN 55101

Re: In the Matter of a Rulemaking to Consider Possible Amendments to
Minnesota Rules parts 7810.4100 through 7810.6100 (MPUC Docket No.: P-999/R-14-
413)

Dear Mr. Wolf:

Enclosed for filing are Reply Comments from the Minnesota Cable Communications Association (MCCA) in the Matter of a Rulemaking to Consider Possible Amendments to *Minnesota Rules* parts 7810.4100 through 7810.6100.

Please contact me if you have any questions about this filing.

Very truly yours,

MENDOZA LAW OFFICE, LLC

A handwritten signature in black ink, appearing to read "Anthony S. Mendoza". The signature is written in a cursive, flowing style.

Anthony S. Mendoza

Enc.

cc: Service List

**STATE OF MINNESOTA
BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION**

Beverly Jones Heydinger	Chair
Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
John Tuma	Commissioner
Betsy Wergin	Commissioner

In the Matter of a Rulemaking to Consider MPUC Docket No.: P-999/R-14-413
Possible Amendments to *Minnesota Rules*
parts 7810.4100 through 7810.6100

**REPLY COMMENTS OF MINNESOTA CABLE COMMUNICATIONS
ASSOCIATION**

I. Introduction

The Minnesota Public Utilities Commission (“MPUC” or “Commission”) issued its Request for Comments “regarding possible changes to the existing rules, parts 7810.4100 through 7810.6100” in the above-captioned proceeding on August 4, 2014. These Rules set out a number of requirements relating to service quality applicable to “telephone utilities” which are defined as “any person, firm, partnership, cooperative organization, or corporation engaged in the furnishing of telecommunications service to the public under the jurisdiction of the commission.”¹ The Commission requested that parties seeking changes to these Rules provide evidence to support their proposals.

The Minnesota Telecom Alliance (“MTA”), Citizens Telecommunications Company of Minnesota LLC and Frontier Communications of Minnesota, Inc., (collectively “Frontier”) and CenturyLink, Inc. on behalf of its affiliates (“CenturyLink”) have filed Comments seeking significant changes to the MPUC’s service quality rules. The Minnesota Cable Communications Association (“MCCA”) is not necessarily

¹ Minn. R. 7810.0100, Subp. 37.

opposed to changes in retail service quality standards, but is concerned that any changes adopted by the MPUC not harm wholesale service quality.

The MCCA does not seek any changes to the existing MPUC service quality rules and does not oppose amendments to these rules, *provided* that the changes do not affect, or potentially affect, wholesale service quality. Our members are wholesale customers of certain incumbent carriers, principally CenturyLink and Frontier, from whom our members lease facilities and purchase services. Our members rely on these facilities and services to provide services to their customers. Because we do not seek changes in the rules but may be affected by changes to them, the MCCA requested, and was granted, an opportunity to respond to service quality rule changes proposed by others. It is essential that the customers of MCCA members and of other competitors who rely on an incumbent carrier's wholesale services not be adversely affected by amendments to the service quality rules.

II. Retail Service Quality and Wholesale Service Quality

The MTA, Frontier and CenturyLink all contend that competition in their markets has sufficiently developed that the MPUC can rely upon market forces to deal with most service quality issues. These Parties propose significant amendments to and eliminations of service quality rules.

Much of the competition that Frontier and CenturyLink face comes from their competitors who purchase wholesale facilities, services, and interconnection from them. Both CenturyLink and Frontier serve as essential suppliers of facilities to many of their wholesale customers. It would be sadly ironic if, in recognition of the development of retail competition, the Commission were to take action that inadvertently harmed

competition. It is important that efforts to eliminate or lighten retail regulation not weaken or undermine wholesale service quality. The Affidavit of Dr. Ankum and Exhibit 2 to his affidavit explain how wholesale service quality standards relate to the Minnesota Rules and their importance for retail competition. Dr. Ankum further proposes wholesale service quality benchmark standards that the Commission could adopt to preserve the role of the Century Link PAP in preserving adequate wholesale service quality.

Rule 7810.4900 requires “utilities” to employ “reasonable engineering and administrative procedures to determine the adequacy of service being provided to the customer.” It requires utilities to perform traffic studies, provide emergency services and use adequate procedures for facility assignments. Rules 7810.5400 to .5900 set service quality standards for Interoffice Trunks, Transmission Requirements, Interruptions of Service, and Customer Trouble Reports. Each of these standards relate to measures in the CenturyLink Performance Assurance Plan (“PAP”). The PAP, discussed in more detail below, obligates CenturyLink to measure and report to their customers and to the MPUC a number of measures of critical aspects of CenturyLink’s wholesale performance. Unsatisfactory performance can require CenturyLink to make payments to their wholesale customers as compensation for that poor performance, or, in the language of the PAP, as liquidated damages.² These payments are intended to compensate wholesale customers for the costs of providing poor service to their end-users including loss of customers, excessive repairs, prolonged out-of-service conditions, held orders, and the like. Changes in Minnesota’s service quality rules that have the effect of removing or

² “EXHIBIT K – Redesigned PAP CENTURYLINK QC’s PERFORMANCE ASSURANCE PLAN,” <http://www.centurylink.com/wholesale/clecs/nta.html>, at ¶ 15.4.

lowering any of these standards with respect to wholesale service quality would be harmful to competitors and to their customers, and contrary to the public interest.

III. CenturyLink's Performance Assurance Plan

One of CenturyLink's legacy companies, US WEST, Inc. ("US WEST"), which was acquired by Qwest Communications International, Inc. ("Qwest") before CenturyLink acquired Qwest, is a Regional Bell Operating Company ("RBOC"). Under the Modified Final Judgment, US WEST had a monopoly in its local exchange markets, including extensive service territory in Minnesota, but was prohibited from providing long distance services to customers within its local service areas.³

In 1996, Congress acted to end the local service monopoly that the RBOCs enjoyed. Section 271 of the 1996 Telecommunications Act provided that RBOCs could provide long distance service to their local exchange customers, but only after they had demonstrated that they had irreversibly opened their local market to competition or stood ready to do so.⁴

As a key part of Qwest's effort to comply with section 271 to enter the long distance market, Qwest established a Performance Assurance Plan, now called "CenturyLink QC's Performance Assurance Plan" or PAP. The PAP is a "remedy payment and performance-monitoring plan."⁵ In approving Qwest's application to provide long distance service, the Federal Communications Commission (FCC) found

³ The "Modified Final Judgment" refers to the Court-approved settlement reached between AT&T and the Department of Justice ("DOJ") in 1982. To resolve the DOJ's antitrust claims that it was unlawfully monopolizing the long distance business, AT&T agreed to divest its local telephone business to seven RBOCs, one of which became US WEST which served Minnesota and 13 other states. The settlement defined 196 "local access and transport areas" ("LATAs"). RBOCs were prohibited from completing calls across LATAs. *United States v. Western Electric*, 552 F.Supp. 131 (D.D.C. 1983, affirmed sub nom. *Maryland v. United States*, 460 U.S. 1001 (1983).

⁴ 47 U.S.C. § 271; see also Ankum Affidavit at ¶ 8.

⁵ CenturyLink QC ICA, Amended Exhibit K Performance Assurance Plan Ver. 10.1 – January 1, 2014 at 1.

that “the PAP that will be in place in Minnesota provides assurance that the local market will remain open after Qwest receives section 271 authorization in this state.”⁶ The FCC stated that its conclusions regarding the PAP were “based on a review of several key elements in the performance remedy plan: total liability at risk in the plan’s performance measurement and standards definitions; structure of the plan; self-executing nature of remedies in the plan; data validation and audit procedures in the plan; and accounting requirements.”⁷

The PAP assesses CenturyLink’s wholesale performance against, in some cases, its retail performance where the wholesale service is identical or very similar to a retail service, and, where no retail analog exists, against a benchmark.⁸ Parity standards allow the wholesale provider considerable latitude as any level of retail service, sterling or abysmal, sets the standard for its wholesale service. In contrast, wholesale customers vastly prefer objective standards they can count upon in delivering their own services. In its 2003 review of the PAP, the MPUC reached a number of conclusions regarding the consequences of using parity with CenturyLink’s retail performance as the standard for measuring its wholesale performance versus the use of benchmarks.⁹ The MPUC concluded that:

⁶ In the Matter of Application by Qwest Communications International, Inc. for Authorization to Provide In-Region, InterLATA Services in Minnesota, Federal Communications Commission, WC Docket No. 03-90 (Jun. 26, 2003) at ¶ 69

⁷ Id. at ¶ 70.

⁸ See Ankum Affidavit at 6-7.

⁹ “Order Adopting Wholesale Service Quality Standards,” *In the Matter of Qwest’s Wholesale Service Quality Standards*, Minn. Pub. Utils. Comm’n, Doc. No. P-421/AM-00-849 (Jul. 2003) (2003 Qwest Service Quality Order); Affirmed in part and reversed in part by “In Re: Qwest Wholesale Service Quality Standards” 702 N.W.2d 246 (Minn. 2005)(MPUC could set wholesale service quality standards but lacked statutory authority to compel self-executing payments for poor performance).

- Certain PIDs, identified by the Coalition,¹⁰ have a peculiarly strong influence on service quality, and on the promotion of competition. Consequently, those PIDs warrant special consideration in the development of service quality standards.
- Parity standards are not designed to ensure high quality service. Benchmark standards are.
- Parity standards can potentially impede the development of competitive markets because they are not always competitively neutral. They place one actor in a competitive market in a position to influence the service quality provided to all other competitors. And, because competitors may have different sensitivities to service quality fluctuations, a standard that permits fluctuations may affect carriers in an unequal way. Benchmark standards improve predictability and reduce the influence that any competitor can wield over any other.
- Parity standards can impede the development of a competitive market because they deprive competitors of the fundamental information that they need to sell their products. A benchmark standard provides that information.¹¹

The MPUC noted certain PIDs were more important than others, specifically referencing PO-9 Timely Jeopardy Notices, MR-5 All Troubles Cleared w/in 4 Hours, OP-5 New Service Installation Quality, OP-3 Installation Commitments Met, and OP-4 Installation Interval. If adopted and not limited in their effects to retail services, proposals to eliminate or amend Rules 7810.4900 and 7810.5400 to .5900 could affect these measurements. As discussed in more detail below, many of the proposed rule changes provide carriers with more flexibility in determining how to operate their businesses by removing a performance standard required by the rule. The result that competitors rightfully fear is that their wholesale service quality will be subject to their supplier's efforts to best serve the supplier's retail customers, efforts that may be ill-suited to meeting the needs of competitors' customers.

¹⁰ These critical PIDs include MR-5 All Troubles Cleared w/in 4 Hours, OP-5 New Service Installation Quality, OP-3 Installation Commitments Met, OP-4 Installation Interval. 2003 Qwest Service Quality Order at 8-11.

¹¹ Id. at 22.

CenturyLink regards the PAP as voluntary.¹² In the PAP itself, CenturyLink commits not to “initiate or support any action or proceeding before April 1, 2016 that seeks to eliminate any PAP in any CenturyLink QC former RBOC state.”¹³

No other incumbent carrier in Minnesota is an RBOC. Consequently without a need to comply with section 271, Frontier and other incumbent companies in Minnesota have not had to offer a PAP.

CenturyLink’s insistence that the PAP is voluntary and its commitment not to seek its elimination prior to April 2016, suggests that the MPUC should consider how amendments to its service quality rules would affect wholesale service in an environment in which, as at present in Frontier’s service territory, there is no PAP to influence wholesale performance. When wholesale services and facilities are not provided in a competitive wholesale marketplace, the MPUC cannot rely on market forces to induce companies to provide adequate wholesale service. Until such time as the wholesale market is fully competitive, adequate wholesale service cannot be guaranteed without requiring providers to meet critical service standards.

IV. Proposals to Amend or Eliminate Rules

Frontier asserts that “customers today are more reliant on their broadband service than their wireline voice telephone service” and that “[w]ireless voice service has become the primary vehicle which customers use for voice communication.”¹⁴ Frontier claims

¹² Both the first sentence of the first paragraph of the PAP and its last sentence make this point. PAP at 1 and 27.

¹³ Id. at 27.

¹⁴ Frontier Comments at 2.

that virtually all of its customers have competitive alternatives to its voice service offerings.¹⁵ CenturyLink and the MTA on behalf of its members, make similar claims.¹⁶

Frontier explains that most of the changes it proposes “are to rules that have little, if any, practical bearing on the service quality received by customers.”¹⁷ CenturyLink contends that “all of the service quality rules at issue in this proceeding could be stricken.”¹⁸ The MTA claims that “many, if not most, of the Quality of Service Rules are no longer relevant in the modern telephone market”¹⁹

The MCCA’s concern in this proceeding is with how changes to these rules that others have proposed will affect wholesale service quality. As Frontier observes, “the wholesale telecommunications market is entirely different from the retail telecommunications market,”²⁰ and the MCCA agrees. The MTA goes on to state, “The service quality rules at issue in this docket relate to retail services, and need to be considered in the context of the retail telecommunications market.”²¹ However, the MPUC must be mindful of how the wholesale market could be affected. As the MPUC stated:

The Commission’s oversight of service quality extends to wholesale service quality standards as well. Those standards are separately set forth in interconnection agreements or performance plans subject to Commission approval. [Footnote omitted] Those standards govern the provision of wholesale service by an incumbent carrier to a competitive carrier, which in turn provides a retail service to end-user consumers. The

¹⁵ Frontier Comments at 4-5.

¹⁶ MTA Comments at 7-9; CenturyLink Comments at 15-17.

¹⁷ Frontier Comments at 10.

¹⁸ CenturyLink Comments at 18.

¹⁹ MTA Comments at 11.

²⁰ Frontier Comments at 9.

²¹ Frontier Comments at 9.

retail service quality standards contained in Chapter 7810 provide a standard by which to consider wholesale service quality standards.²²

Frontier, the MTA, and CenturyLink propose changes to many of the rules under review in this docket. The rules most directly relevant to the MCCA's goal of guarding against inadequate wholesale service quality are Rules 7810.4900 Adequacy of Service, 7810.5400 Interoffice Trunks, 7810.5500 Transmission Requirements, 7810.5800 Interruptions of Service, and 7810.5900 Customer Trouble Reports. Consequently, our Comments seek to explain how the proposed change could adversely affect wholesale service.

A. 7810.4900 Adequacy of Service

Each utility shall employ reasonable engineering and administrative procedures to determine the adequacy of service being provided to the customer. Traffic studies shall be made and records maintained to the extent and frequency necessary to determine that sufficient equipment and an adequate operating force are provided during the busy hour, busy season. Each telephone utility shall provide emergency service in all exchanges operated in which regular service is not available at certain periods during the 24 hours of the day. When service is not continuous for the full 24-hour day proper arrangements shall be made for handling emergency calls during the off-periods by the use of alarms maintained in proper conditions with someone conveniently available so that emergency calls will be given prompt attention.

Each utility shall employ adequate procedures for assignment of facilities. The assignment record shall be kept up to date and checked periodically to determine if adjustments are necessary to maintain proper balance in all groups.

CenturyLink proposes deleting this rule in its entirety.²³ Frontier and the MTA propose simplifying it. Frontier's proposal would eliminate much of the rule, except the

²² "Order Detailing Disposition of Petition and Initiating Rulemaking Proceeding (Order Initiating Rulemaking), *In the Matter of CenturyLink, Inc. Petition for Rulemaking to Revise Service Quality Rules, etc.* Doc. No.s P-421/AM-14-255,56 and P-999/R-14-413 (May 2014) at 2.

²³ CenturyLink Comments at 20.

language in boldface type above.²⁴ The MTA would eliminate all of the rule, except the first sentence.

The MCCA urges the MPUC to maintain the bolded language. It is important that a utility continues to “employ reasonable engineering and administrative procedures” to determine if it is providing adequate service to customers, both wholesale and retail. Accurate facility assignment records are very important in a wholesale environment, where competitors are leasing unbundled network elements.

B. 7810.5400 INTEROFFICE TRUNKS.

Local interoffice trunks shall be provided so that at least 95 percent of telephone calls offered to the group will not encounter an all-trunks-busy condition. For toll connecting trunks, this figure shall be at least 97 percent. When the completion rate falls below 95 percent on a continuing basis investigative or corrective action should be initiated.

Frontier and CenturyLink both propose deleting this rule. Frontier claims, and CenturyLink agrees, that the “deletion of the rule will not adversely impact service quality, as carriers are keen to provide satisfactory service to their customers in order to retain their business.”²⁵ With respect to a carrier’s own retail customers, the MCCA agrees that a carrier has an incentive to provide satisfactory service. Insufficient numbers of trunk lines or out of service trunk lines cause calls to fail. Customers who frequently experience “all-trunks-busy” conditions may decide to switch carriers.

However, a carrier’s incentive to provide adequate trunk lines is much less clear when those trunk lines service another carrier’s end-users. When a company provides both retail services to end-users and wholesale services to its competitors for those end-users, the prospect of gaining retail customers and disadvantaging a competitor give that

²⁴ Frontier Comments at 12; MTA Comments at 13-14.

²⁵ Frontier Comments at 15; CenturyLink Comments at 23.

company incentives to provide inadequate wholesale service. When the competitor has no alternative wholesale providers to turn to for better service, the competitor's retail offerings suffer in quality and competition is hampered.²⁶ In their respective service territories, CenturyLink and Frontier are the primary providers for MCCA members of essential wholesale network elements and services. Many of the competitors cited by proponents of rule amendments in support of rule eliminations and amendments rely upon wholesale services purchased from such carriers.

The MTA recognizes the important of “insuring adequate connectivity between facilities” and recommends retaining the current rule.²⁷ Like many MCCA members, many MTA members must interconnect with and purchase services from CenturyLink and Frontier. This Commission has stated that “the retail service quality standards contained in Chapter 7810 provide a standard by which to consider wholesale service quality standards.”²⁸

The benchmark of 95 percent (97 percent for toll trunks) provides for a minimum level of wholesale performance that competitors can point to if they receive inadequate wholesale service for interconnection trunks. The importance of trunk blocking performance for wholesale service is recognized by the PID NI-1 Trunk Blocking.²⁹ NI-1 is a parity measure comparing the “completion of calls from CenturyLink QC end offices to CLEC end offices, compared with the completion of calls from CenturyLink QC end offices to other CenturyLink QC end offices . . .”³⁰ NI-1 is a diagnostic PID that

²⁶ See Ankum Affidavit at ¶¶ 18-19.

²⁷ MTA Comments at 17.

²⁸ Order Initiating Rulemaking at 2.

²⁹ See Exhibit 2 at 5-6.

³⁰ “Service Performance Indicator Definitions (PID), ICA Exhibit B – PID Version 10.0.

does not trigger payments to CLECs when parity is not achieved.³¹ The PAP does not provide a remedy for excessive trunk blocking.

If Rule 7810.5400 is eliminated, competitors who must necessarily rely upon incumbent carriers for interconnection lose a standard for assessing wholesale service. The MCCA opposes eliminating this Rule for this reason. However, if the MPUC decides that retail competition is sufficiently advanced throughout the state such that this Rule can be eliminated with respect to retail services, the MPUC should make clear its intent to preserve the standard with respect to a parity measurement for wholesale services.³²

No Party indicated any difficulty in meeting this standard and CenturyLink, the MTA, and Frontier all agreed that excessive call blocking is inadequate service. Competition, competitive carriers, and their customers could all be harmed if such essential wholesale services are of poor quality.

C. 7810.5500 TRANSMISSION REQUIREMENTS.

Telephone utilities shall furnish and maintain adequate plant, equipment, and facilities to provide satisfactory transmission of communications between customers in their service areas. Transmission shall be at adequate volume levels and free of excessive distortion. Levels of noise and cross talk shall be such as not to impair communications.

Neither Frontier nor the MTA propose changing Rule 7810.5500 Transmission Requirements. CenturyLink would change the word “utilities” to “providers” to make the rule “apply uniformly to telecommunication providers.”

³¹ CenturyLink “Amended Exhibit K Performance Assurance Plan Ver. 10.1 – January 1, 2014” Exhibit K at 2.

³² Another approach to preserving wholesale service quality standards while moving towards retail deregulation is to amend the Rules to establish rigorous wholesale standards that reflect common industry standards, in effect, establish a state-wide PAP. This approach is elaborated by Dr. Ankum. See Ankum Affidavit and Exhibit 2 to his testimony.

Rule 7810.0100, subp. 37 defines “telephone utility” to include any entity “engaged in the furnishing of telecommunications service to the public under the jurisdiction of the commission.” This Rule thus currently applies to those telecommunications providers that the commission has jurisdiction over. In addition, Rules 7811.0700, Subp. 1.A. and 7812.0700, Subp. 1.A. specifically require small and large local service providers to meet the service quality standards of Chapter 7810. The Commission cannot extend its jurisdiction by rule and the current rules extend to all entities under the Commission’s jurisdiction.³³ To change “utility” to “provider” will not, by virtue of that change alone, render the Commission’s service quality rules applicable to, for example, wireless carriers or VoIP carriers like Vonage. In other words, CenturyLink’s proposed revision to Rule 7810.5500 is a semantical exercise of no substantive value.

Transmission facilities leased from wholesale carriers must similarly be adequate to provide “satisfactory transmission.” Competition is harmed when adequate facilities are not available and the incumbent carrier denies or delays fulfilling wholesale orders.³⁴

In the PAP, OP-4 Installation Interval and OP-15 Interval for Pending Orders Delayed Past Due Date reflect the adequacy of wholesale facility availability.³⁵ Competitive carriers relying on wholesale facilities need to be able to tell their customers when service installation will be delayed. PO-9, Timely Jeopardy Notices measures the

³³ See, *Minnegasco v. Minnesota PUC*, 549 N.W.2d 904, 907 (Minn. 1996)(“The MPUC, as a creature of statute, only has the authority given it by the legislature.”).

³⁴ See Ankum Affidavit at ¶¶ 23-24.

³⁵ Exhibit B at 15-16 and 21-22.

percent of late orders for which advance notification was provided.³⁶ As only CenturyLink offers a PAP, Rule 7810.5500 provides a uniquely important standard for wholesale service adequacy as supplied by other incumbent carriers. The MCCA urges the Commission to retain this Rule.

D. 7810.5800 INTERRUPTIONS OF SERVICE.

Each telephone utility shall make all reasonable efforts to prevent interruptions of service. When interruptions occur, the utility shall reestablish service with the shortest possible delay. The minimum objective should be to clear 95 percent of all out-of-service troubles within 24 hours of the time such troubles are reported. In the event that service must be interrupted for purposes of working on the lines or equipment, the work shall be done at a time which will cause minimal inconvenience to customers. Each utility shall attempt to notify each affected customer in advance of the interruption. Emergency service shall be available, as required, for the duration of the interruption.

Every telephone utility shall inform the commission, as soon as possible, of any major catastrophe such as that caused by fire, flood, violent wind storms, or other acts of God which apparently will result in prolonged and serious interruption of service to a large number of customers.

Frontier, CenturyLink, and the MTA all propose substantial changes to Rule 7810.5800 Interruptions of Service. The current Rule sets a minimum objective “to clear 95 percent of all out-of-service troubles within 24 hours of the time such troubles are reported.” Frontier objects to the 95 percent standard, stating that it “has an enormous impact on the carrier’s resources and work processes, and necessitates prioritizing restoral of wireline voice service over the much preferred priority of broadband service restoral.”³⁷ Frontier proposes a minimum objective for service restoration of 85 percent within 24 hours “or by the date of a repair appointment established with the customer.”³⁸

³⁶ See Exhibit 2 at 7-8.

³⁷ Frontier Comments at 16.

³⁸ Id. at 17.

CenturyLink and the MTA would eliminate the service restoration standard entirely. The MTA does not specifically explain its reasons for removing the standard. CenturyLink states that removing the standard would create “competitive parity.”³⁹ The MCCA understand “competitive parity” to indicate that a competitor’s customers will suffer or benefit from whatever repair efforts CenturyLink decides to make for its customers. As the MPUC noted, parity standards do not ensure high quality service; they are not always competitively neutral as one actor influences the service quality that all receive regardless of their sensitivity to service quality fluctuations; and they can impede the development of competition as competitors are perpetually uncertain as to what service quality they can provide to their customers.⁴⁰

The MTA contends that the rule should apply to all providers and seeks to accomplish this by changing the word “utility” to “provider.” The MCCA commented on the identical issue in our discussion of Rule 7810.5500 above.

CenturyLink refers to the arguments it made in an earlier proceeding in which it sought a waiver of this Rule. Those arguments involved the direct costs of meeting the standard as well as the intangible loss of customer good will as CenturyLink is prevented from acting according to their customers’ preferences and because of this Rule having to prioritize restoring broadband service over voice service.⁴¹ In addition, CenturyLink states that as their customer numbers have fallen, so have the numbers of out-of-service incidents, rendering the volatility of service outages more challenging to respond to.

³⁹ CenturyLink Comments at 5.

⁴⁰ 2003 Qwest Service Quality Order at 22.

⁴¹ CenturyLink Comments at 23-24 and citing to *In the Matter of the Petition of CenturyLink, Inc. on behalf of its Affiliated Companies for Waiver of Minnesota Rule Part 7810.5800*, Docket No. P-421/AM-14-255 Affidavit of Patrick Haggerty (May 2014).

The MCCA's concern is for its members to obtain adequate wholesale service when facilities they obtain from incumbent carriers experience service interruptions. Two PIDs measure CenturyLink's performance with respect to interruptions of service: MR-5 Troubles Cleared within Specified Intervals, MR-6 Mean Time to Restore.⁴² These are parity measures, comparing CenturyLink's wholesale performance with its retail performance.⁴³ Again, CenturyLink is the only incumbent carrier to offer a PAP, rendering the standard set out in this Rule as uniquely important, especially if CenturyLink succeeds in withdrawing the PAP after 2016.

As the MPUC has observed, “[p]arity standards are not designed to ensure high quality service. Benchmark standards are.”⁴⁴ MCCA members cannot support a reduction in or elimination of wholesale repair standards. The Parties proposing to change or eliminate the Rule provide no documentation of the high costs they claim are imposed by the rule. While Frontier asserts that many of its customers prefer to have their broadband restored rather than their voice service, its Comments provide no documentation of consumer preferences or documentation of repair incidents that involve both a customer's voice and broadband service. There is scant record evidence that improvements to consumer welfare will result from lowering or eliminating the standard for restoring voice service following an outage. Certainly competitors and their customers will not benefit from doing so. The MPUC should not lower or remove this standard on the present record.⁴⁵

⁴² See Exhibit 2 at 1, 3-4.

⁴³ CenturyLink, “Amended Exhibit K Performance Assurance Plan Ver. 10.1 – January 1, 2014” at 23-26.

⁴⁴ 2003 Qwest Service Quality Order at 11.

⁴⁵ Another alternative set out by Dr. Ankum, is for the MPUC to establish statewide benchmark standards for wholesale performance. See Ankum Affidavit and Exhibit 2.

E. 7810.5900 CUSTOMER TROUBLE REPORTS.

Arrangements shall be made to receive customer trouble reports 24 hours daily and to clear trouble of an emergency nature at all hours, consistent with the bona fide needs of the customer and personal safety of utility personnel.

Each telephone utility shall maintain an accurate record of trouble reports made by its customers. This record shall include appropriate identification of the customer or service affected, the time, date, and nature of the report, the action taken to clear trouble or satisfy the complaint, and the date and time of trouble clearance or other disposition. This record shall be available to the commission or its authorized representatives upon request at any time within the period prescribed for retention of such records.

It shall be the objective to so maintain service that the average rate of all customer trouble reports in an exchange is no greater than 6.5 per 100 telephones per month. A customer trouble report rate of more than 8.0 per 100 telephones per month by repair bureau on a continuing basis indicates a need for investigative or corrective action.

CenturyLink urges the MPUC to eliminate Rule 7810.5900 Customer Trouble Reports entirely while Frontier and the MTA propose to change it. CenturyLink simply asserts that the “competitive marketplace has rendered the current rule obsolete.”⁴⁶ The current rule establishes a standard of no greater than 6.5 customer trouble reports per 100 telephones per month. Frontier proposes increasing the standard to no greater than 5 customer trouble reports per 100 telephones per month. Frontier proposes deleting the current rule’s requirement that “[a] customer trouble report rate of more than 8.0 per 100 telephones per month by repair bureau on a continuing basis indicates a need for investigative or corrective action.”

The MTA would keep the current standard of 6.5 but make it a statewide average of all retail customer trouble reports. The MTA agrees with Frontier that the sentence

⁴⁶ CenturyLink Comments at 25.

concerning trouble report rates in excess of 8 per 100 telephones per month requiring investigative or corrective action should be removed.

High levels of customer trouble reports reflect poor quality service. Competitive carriers receive trouble reports from their customers, and if the problem is isolated to wholesale facilities, report the trouble to the wholesaler. Eliminating or reducing the trouble report standard would affect wholesale customers as well as retail customers.

The PIDs that reflect customer trouble reports include OP-5 Installation Quality, MR-8 Trouble Rate, and MR-7 Repeat Troubles. All are parity measures. The current Rule provides a standard and further seeks to designate a floor such that when performance fails below the floor, the carrier must take action. Frontier proposes to raise the standard, but remove the floor. The MCCA supports raising the standard, but not removing the floor

V. Statewide Wholesale Performance Assurance Plan

If the MPUC determines to amend or eliminate these Rules as urged by the proposals discussed above, wholesale service is likely to suffer as a consequence and damage to the competitive marketplace may be substantial and long-term.⁴⁷ As the primary justification for changing these rules is that the local service marketplace is competitive, such a course is likely to be ultimately self-defeating and ironically harmful to competition.

The MPUC can do much to eliminate the harm to competition, by changing CenturyLink's Performance Assurance Plan parity measurements to benchmark standards Dr. Ankum's affidavit and Exhibit 2 offer reasonable wholesale service standards for the

⁴⁷ Ankum Affidavit at 9.

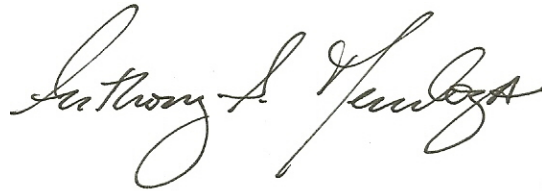
Commission's consideration, either in this docket, or in another proceeding. However, no changes should be made to retail service quality rules unless and until wholesale service quality standards are thus secured.

VI. Conclusion

The MPUC should not change or eliminate Rules 7810.4900 and 7810.5400 to .5900 as wholesale service quality could be adversely affected. If the MPUC decides to take further action, it should do so in such a way that wholesale service quality is not adversely affected, consistent with the recommendations contained in Dr. Ankum's affidavit and Exhibit 2.

MINNESOTA CABLE
COMMUNICATIONS ASSOCIATION

Dated: March 13, 2015

A handwritten signature in black ink, appearing to read "Anthony S. Mendoza". The signature is fluid and cursive, with the first and last names being the most prominent.

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BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of a Rulemaking to Consider MPUC Docket No.: P-999/R-14-413
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**AFFIDAVIT OF
AUGUST H. ANKUM, PH.D.**

March 13, 2015

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Exhibits

- Exhibit 1 CV Dr. August H. Ankum
- Exhibit 2 Recommended Benchmarks for Certain Parity Standards

**AFFIDAVIT OF
DR. AUGUST H. ANKUM**

I, August Ankum, Ph.D., states and deposes as follows:

I. QUALIFICATIONS AND PURPOSE

A. Qualifications

1. My name is August H. Ankum, and my business address is 429 North 13th Street, Suite 2D, Philadelphia, PA, 19123. I currently server as Senior Vice President with QSI Consulting, Inc. (“QSI”). A detailed description of my education and work experience is found attached hereto as Exhibit I.

2. QSI Consulting, Inc. (“QSI”) is a consulting firm specializing in regulatory and litigation support in regulated network industries, with a special emphasis on telecommunications. QSI’s primary areas of expertise include economic and financial analysis, cost of service modeling, regulatory compliance, and public policy development. Since its inception, QSI has assisted industry stakeholders with issues affecting local competitive entry, quantitative analysis, contract negotiation and arbitration, intercarrier compensation, alternative forms of regulation, market dominance, customer migration, service quality, and service reclassification. QSI’s clients include telecommunications carriers providing services (*e.g.*, wireline local exchange carriers, cable companies and wireless carriers), customers who purchase those services and those who represent the public interest (*e.g.*, Department of Defense/Federal Executive Agencies, consumer counsels, attorneys general), and agencies that regulate carriers and services (*e.g.*, New Mexico Public Regulation Commission and Colorado Public Utilities Commission). QSI has more than 175 years of combined experience in the

telecommunications industry and QSI's consultants have testified as experts in hundreds of proceedings before almost all state regulatory commissions and the Federal Communications Commission ("FCC"). QSI was founded by Michael Starkey, Managing Partner, and myself as Partner, in 1999.

B. Purpose

3. On March 26, 2014, CenturyLink, Inc. (CenturyLink) filed a petition requesting that the Commission initiate a rulemaking proceeding to examine the Commission's rules governing service quality. In response to this request, the Commission initiated a rulemaking, identifying a number of issues to be specifically addressed.¹ The purpose of this affidavit is to respond to the Commission's directive in Item C, to provide: "Evidence of the impact any recommended changes would potentially have on competitive carriers and wholesale service quality."²

4. I will discuss the extent to which the relief CenturyLink seeks for retail service quality standards may adversely impact wholesale service quality. I will also make specific recommendations for a certain number of wholesale service quality standards to be converted from *parity* to *benchmark* standards.

5. This Declaration was prepared on behalf of the Minnesota Cable Communications Association ("MCCA").

¹ *In the Matter of the CenturyLink, Inc. Petition for Rulemaking to Revise Service Quality Rules; In the Matter of the Petition of CenturyLink, Inc. for Waiver of Minnesota Rule Part 7810.5800; In the Matter of a Rulemaking to Consider Possible Amendments to Minnesota Rules, parts 7810.4100 through 7810.6100; Dockets Nos. P-421/AM-14-256, P-421/AM-14-255, P-999/R-14-413. May 22, 2014. ("Commission Order")* Page 6.

² *Commission Order, Item C. page 6.*

II. THE COMMISSION SHOULD ENSURE THAT WHOLESALE SERVICES ARE NOT ADVERSELY IMPACTED

6. While CenturyLink maintains that wholesale service quality standards will not be impacted by its Petition,³ the Commission found that it has responsibility for wholesale service quality⁴ and correctly mandated that the relationship between CenturyLink's Petition and wholesale service quality should be examined.⁵ Of course, to the extent that the Commission contemplates enacting changes to service quality rules that apply to Frontier and other incumbent local exchange carriers ("ILECs") in Minnesota, all of the same concerns and observations discussed herein apply.

A. Proper Functioning Wholesale Markets Are Essential for Fostering and Maintaining Competitive Retail Markets

7. In evaluating the merit of CenturyLink's Petition, the Commission is rightly concerned with appropriately assessing the degree and extent of retail competition in the Company's serving areas. In view of this, the Commission mandated that evidence be presented "of competition, including the level and scope of such competition in relation to different types of customers (large business, small business, residential, etc.) and geography, and the extent to which existing competition supports the rule changes being recommended."⁶

³ *Id.*

⁴ "Minn. Stat. § 237.765 requires that a carrier's Alternative Form of Regulation plan include a service quality plan. Agreements between a large or small competitive local exchange carrier and an incumbent local exchange carrier are governed by Minn. R. Chapters 7811 and 7812. Specifically, Minn. R. parts 7812.0700 and 7811.0700 both require the interconnection agreement to include service quality standards; those agreements are subject to Commission *approval* under Minn. R. parts 7811.1800 and 7812.1800." Commission Order at 2.

⁵ *Commission Order* at 6.

⁶ *Id.*

8. As the Commission is well aware, however, the proper functioning of wholesale markets is essential for fostering and maintaining competition in downstream, retail markets. The importance of wholesale markets is reflected in the very structure of the *Telecommunications Act of 1996*, which is predicated on the notion that the availability of ILEC wholesale services are essential to the development and continued growth of competitive retail markets:

Under section 251, incumbent local exchange carriers (LECs), including the Bell Operating Companies (BOCs), are mandated to take several steps to open their networks to competition, including providing interconnection, offering access to unbundled elements of their networks, and making their retail services available at wholesale rates so that they can be resold. Under section 271, once the BOCs have taken the necessary steps, they are allowed to offer long distance service in areas where they provide local telephone service, if we find that entry meets the specific statutory requirements and is consistent with the public interest. Thus, under the 1996 Act, the opening of one of the last monopoly bottleneck strongholds in telecommunications -- the local exchange and exchange access markets -- to competition is intended to pave the way for enhanced competition in all telecommunications markets, by allowing all providers to enter all markets.⁷

9. That is, retail competition in telecommunications depends critically on properly functioning wholesale markets – *for which maintaining adequate wholesale services quality is imperative.*

10. This relationship between wholesale and retail markets was further explored by the FCC in the *Phoenix Forbearance Order*.⁸ Notably, in the *Phoenix Forbearance Order*, the FCC discussed how its own failure to properly assess the continued

⁷ *In the Matter of Implementation of the Local Competition Provisions in the Telecommunications Act of 1996 Interconnection between Local Exchange Carriers and Commercial Mobile Radio Service Providers*, CC Docket Nos. 96-98, 95-185, August 1, 1996. (“*Local Competition Order*”), at 4.

⁸ *In the Matter of Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area*, WC Docket No. 09-135, Memorandum Opinion and Order, June 15, 2010, (“*Phoenix Forbearance Order*”) at paras. 23 – 40.

dependence of wholesale markets on the dominant carrier, i.e., Qwest, had caused serious damages to the proper functioning of retail markets by undermining the vibrancy of retail competition.⁹ The lessons learned, among others, are that robust retail competition requires the preservation of properly functioning wholesale markets. To this purpose, it is important that the Commission protects wholesale service standards, as discussed herein.

B. Certain Critical Wholesale Performance Measures Seek to Ensure Parity with Retail Services

11. Recognizing that incumbent local exchange carriers, such as CenturyLink and Frontier, inherently have incentives to handicap their competitors by degrading wholesale service quality, the FCC and state commissions have put in place wholesale service standards. In the case of CenturyLink here in Minnesota, these wholesale service standards are identified in CenturyLink’s Minnesota Performance Assurance Plan.¹⁰

12. In simple terms, the ILEC’s performance in delivering wholesale services is evaluated against essentially two types of standards: *benchmark* and *parity* standards. For certain measures of wholesale performance, the ILEC’s data, collected for the performance metrics, are evaluated against set, fixed standards, typically based on engineering and/or business considerations. These instances are referred to as *benchmark* standards.¹¹

⁹ *Id.*

¹⁰ The current plan is captured in the following CenturyLink documents available as part of its Negotiations Template Agreement (at <http://www.centurylink.com/wholesale/clecs/nta.html>) and typically incorporated in company-specific Interconnection Agreements: CenturyLink QC’s Minnesota Performance Assurance Plan Version 10.1, ICA Exhibit K (“ICA Exhibit K”) and CenturyLink Service Performance Indicator Definitions (PID) ICA Exhibit B – PID Version 10.0 (“ICA Exhibit B”).

¹¹ Per CenturyLink’s PAP, Section 3.2.2: “Benchmark standards do not apply statistical methodologies, but instead apply a “stare and compare” approach and other calculations defined in Sections

13. For other wholesale performance measures, the ILEC's data are compared against its performance for itself ("*retail*" service performance) to see whether the company provides its *wholesale* customers service quality *on par* with its own retail customers. These instances are referred to as *parity* standards.¹² Wholesale service quality is considered acceptable as long as it is at least at parity with the corresponding service that the ILEC provides to itself. A relaxation of retail service quality rules may lead to deteriorated levels of wholesale service quality for products that utilize parity standards.

14. This affidavit addresses a select group of CenturyLink's wholesale services that rely on maintaining parity with CenturyLink's retail services by means of parity standards. There are no performance assurance plans for other ILECs, such as Frontier, since they are not, subject to Section 271 of the Telecommunications Act of 1996, but the same concerns expressed with respect to CenturyLink's wholesale service quality apply equally to those of other ILECs.

C. Regulatory Relief May Cause a Deterioration in Retail Service Quality and thus in Wholesale Service Quality

15. In evaluating CenturyLink's Petition, the Commission will seek to evaluate the extent to which the workings of competitive markets may protect retail customers better than certain retail quality of service rules. I will express no opinion on the current state of competition in Minnesota and the extent to which it may or may not be sufficient to warrant granting the Company's Petition. However, this affidavit is motivated by a concern that the current wholesale service quality parity standards create a dangerous and

4.0 through 8.0 to determine whether the reported performance results meet benchmarks or trigger payments."

¹² Per CenturyLink's PAP, Sec. 3.2.1 "Parity standards apply statistical and other related calculations defined in Sections 4.0 through 8.0 to determine whether reported performance results meet parity standards or trigger payments."

possibly fatal point of vulnerability in a regulatory scheme that relies too single mindedly on retail competition.

16. Competition is a dynamic process with ebbs and flows that cannot be reliably anticipated. This is especially true in telecommunications that may see a flurry of activity in a certain location only to see it wane a few years later. In part, this may be caused by the rapid rate of technological change in telecommunications. It also has to do with the trial and error nature of the free market systems, in which entrepreneurs are drawn into markets to find out that the profits they had hoped for are either harder to achieve than anticipated, causing them to exit the market, or reduce their presence, or easier, causing them to grow rapidly and possibly inducing others to enter in the market as well.

17. In the process, as retail competition waxes and wanes, retail service quality may be adversely impacted – and to the extent wholesale service quality relies on retail parity – *so may wholesale service quality*.

18. Furthermore, the Commission should note that the presence of retail competition in no way ensures that wholesale markets require less regulatory oversight – the opposite is true. As the FCC noted, as competition emerges, ILECs have an *incentive* to leverage their control over wholesale services into retail markets:

We find that incumbent LECs have no economic incentive, independent of the incentives set forth in sections 271 and 274 of the 1996 Act, to provide potential competitors with opportunities to interconnect with and make use of the incumbent LEC's network and services. Negotiations between incumbent LECs and new entrants are not analogous to traditional commercial negotiations in which each party owns or controls something the other party desires. Under section 251, monopoly providers are required to make available their facilities and services to requesting carriers that intend to compete directly with the incumbent LEC for its

customers and its control of the local market. Therefore, although the 1996 Act requires incumbent LECs, for example, to provide interconnection and access to unbundled elements on rates, terms, and conditions that are just, reasonable, and nondiscriminatory, incumbent *LECs have strong incentives to resist such obligations.*¹³ (Emphasis added.)

19. That is, as competition strengthens, the ILECs will have an increased incentive to use their control over wholesale facilities to gain an advantage over their competitors.

20. In sum, while the Commission will be assessing whether the degree of competition is sufficient to grant CenturyLink's Petition, it is important to ensure that wholesale markets are insulated from the vicissitudes of retail competition. To this purpose, I propose that certain CenturyLink wholesale standards that rely on parity measurements are converted to benchmark standards.

III. RECOMMENDATIONS FOR CONVERTING PARITY STANDARDS TO BENCHMARK STANDARDS

21. This section discusses my recommendations for converting certain parity standards to benchmark standards. I focus on wholesale services most typically purchased by the MCCA members. A discussion of the specific metrics and my proposals is found in Exhibit 2 hereto.

22. One crucial wholesale product that members of the MCCA purchase from CenturyLink is Local Interconnection Service ("LIS") trunks. At least *ten* wholesale service quality metrics utilize a parity standard when measuring wholesale service quality

¹³ *Local Competition Order*, at 55.

for LIS trunks.¹⁴ One example is wholesale service metric NI-1 “Trunk Blocking,” which measures the rate at which calls were blocked (i.e., did not complete) because the trunk was busy (i.e., did not have capacity). Blocking may occur when trunks are not properly sized to accommodate the expected traffic. The current wholesale service quality standard for blocking on LIS trunks is parity with blocking on CenturyLink’s own interoffice trunks.

23. A number of provisions within rules under consideration in this rulemaking address adequacy of service and facility sizing. For example, rule 7810.4900 “Adequacy of Service” says that “Each utility shall employ reasonable engineering and administrative procedures to determine the adequacy of service being provided to the customer. Traffic studies shall be made and records maintained to the extent and frequency necessary to determine that sufficient equipment and an adequate operating force are provided during the busy hour, busy season.” Rule 7810.5000 “Utility Obligations” says that “Each telephone utility has the obligation of continually reviewing its operations to assure the furnishing of adequate service.” Rule 7810.5400 “Interoffice Trunks” prescribes as follows: “Local interoffice trunks shall be provided so that at least 95 percent of telephone calls offered to the group will not encounter an all-trunks-busy condition. For toll connecting trunks, this figure shall be at least 97 percent. When the completion rate falls below 95 percent on a continuing basis investigative or corrective action should be initiated.” Rule 7810.5500 “Transmission Requirements” says that “Telephone utilities shall furnish and maintain adequate plant, equipment, and facilities to provide satisfactory transmission of communications between customers in their

¹⁴ One other wholesale service quality metric on LIS trunks utilizes a “benchmark standard” – standard prescribed as a fixed numerical value.

service areas.” Relaxation of these rules may result in deterioration of service quality (increased trunk blocking) on CenturyLink’s own interoffice trunks, which in turn may adversely affect wholesale service quality (trunk blocking on LIS trunks) because the standard by which wholesale service quality is judged was lowered.

24. Another example is the wholesale service metric MR-6 “Mean Time to Restore,” which measures time actually taken to restore service to proper operations. Under this metric, performance on LIS trunks is compared against performance on CenturyLink’s Feature Group D (“FGD”) trunks. FGD trunks are trunks that CenturyLink provides to Interexchange Carriers (long-distance companies) for connecting CenturyLink’s own retail customers with long-distance services. CenturyLink provides FGD service to long-distance companies under federal and state access tariffs. These tariffs contain only limited provisions regarding service quality, and more importantly, CenturyLink may change language in its access tariffs without consent of MCCA members. At the same time state service quality rules under consideration in this rulemaking contain various provisions on the adequacy of telecommunications service – provisions that provide protection to various customers, including customers of FGD service. Again, relaxation of these rules may result in deterioration of service quality (increased mean time to restore service) on CenturyLink’s FGD trunks, which in turn may adversely affect wholesale service quality (mean time to restore service on LIS trunks) because the standard by which wholesale service quality is judged was lowered.

25. I propose replacing parity standards with benchmark standards for CenturyLink’s wholesale service quality metrics on LIS trunks to address the above described potential adverse effect of relaxation of rules in section 7810 as discussed below.

26. As noted, I provide detailed support for my numerical proposal in Exhibit 2 to this Affidavit. My general approach to proposing benchmarks to replace current parity standards on wholesale performance metrics involving LIS trunks was to examine historical CenturyLink wholesale performance measures data for Minnesota.¹⁵ The specific time period for which I collected wholesale performance data starts with the CenturyLink/Qwest merger (April 2011) and ends with January 2015, which is the most recent month for which CenturyLink posted its wholesale performance results at this time. I then propose specific benchmarks based on relevant industry standards (to the extent available), past wholesale and CenturyLink performance reported for specific metrics, common sense and other considerations.

27. The following table summarizes my numerical proposal:

¹⁵¹⁵ CenturyLink posts the most current wholesale performance results at <http://centurylinkapps.com/wholesale/results/roc.cfm>. In addition, I utilized previously posted data that QSI has in its archives.

Table

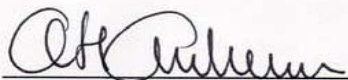
Proposed Benchmarks for Wholesale Performance Indicator Metrics on LIS Trunks to Replace Current Parity Standards.

PID	Description	Service	Proposed Standard	Type
Absolute Metrics				
MR-6	Mean Time to Restore	LIS	4 hours	payment-eligible
OP-4	Installation Interval	LIS	10 days	payment-eligible
OP-15A	Interval for Pending Orders Delayed Past Due Date	LIS	0 days	diagnostic
Percentage/Rates Metrics				
MR-5	Troubles Cleared within Specified Intervals (4 hours)	LIS	90%	payment-eligible
MR-7	Repair Repeat Report Rate	LIS	4%	payment-eligible
MR-8	Trouble Rate	LIS	0.004%	payment-eligible
NI-1	Trunk Blocking	LIS	1%	diagnostic
OP-3	Installation Commitments Met	LIS	95%	payment-eligible
OP-5A	New Service Quality	LIS	98%	payment-eligible
PO-9C	Timely Jeopardy Notices	LIS	95%	diagnostic

28. Again, a detailed discussion supporting the benchmark standards is found in Exhibit 2.

Further, affiant sayeth not.

Dated this 13th day of March, 2015.



August H. Ankum, Ph.D.



August H. Ankum, Ph.D.

Senior Vice President
Founding Partner
QSI Consulting, Inc.
gankum@qsiconsulting.com



Biography

Dr. Ankum is a founding partner of QSI, Senior Vice President, and serves as the firm's Chief Economist. Dr. Ankum assists corporate and government clients with various aspects of complex litigation, such as damages calculations, intellectual property disputes, antitrust issues, mergers and acquisitions, contract negotiations, billing disputes, as well as general economic analysis, such as econometric modelling, industry research, due diligence and asset evaluations and industrial organization issues. Dr. Ankum also assists clients with issues of public policy and public relations.

Before co-founding QSI, Dr. Ankum worked in his own firm, Ankum & Associates, Inc., which provided economic consulting services to such large companies as AT&T and MCI (now Verizon) and to governmental agencies. Prior to that, in 1996, he served as Senior Economist for MCI Telecommunications Corporation's Public Policy Division, and before that, in 1995, as a Manager in the Regulatory and External Affairs Division of Teleport Communications Group, Inc. (subsequently purchased by AT&T). While at MCI and TCG, Dr. Ankum worked as an economist and provided advice on public policy issues before the FCC and state public utility commissions. Dr. Ankum began his career at the Texas Public Utility Commission, where he served as the Commission Staff's Chief Telecommunications Economist before leaving in 1994.

Educational Background

Ph.D., Economics	
<i>University of Texas, Austin, Texas</i>	1992
Master of Arts, Economics	
<i>University of Texas, Austin, Texas</i>	1987
Bachelor of Arts, Economics	
<i>Quincy College, Quincy, Illinois</i>	1982



Professional Experience

QSI Consulting (1999 to Current)	Founding Partner, Senior Vice President, Chief Economist
Ankum & Associates (1996 - 1999)	Founding Partner and President
MCI (1995 - 1996)	Senior Economist
TCG (1994 - 1995)	Manager
Texas Office of Public Utility Commission (1987 – 1994)	Chief Economist, and Economist.

PROCEEDINGS IN WHICH DR. ANKUM HAS FILED EXPERT WITNESS TESTIMONY

Before the Arizona Corporation Commission

Docket No. T-01051B-11-0378

In the matter of the application of Qwest Corporation D/B/A CenturyLink QC (“CenturyLink”) to classify and regulate retail local exchange services as competitive, and to classify and deregulate certain services as non-essential

On behalf of the United States Department of Defense and all Other Federal Executive Agencies

Before the Arizona Corporation Commission

Docket Nos. T-01051B-10-0194, et al.

Joint Notice and Application of Qwest Corporation, et al. and CenturyLink Communications, et al. for Approval of the Proposed Merger of Their Parent Corporations Qwest Communications International Inc. and CenturyTel, Inc.

On behalf of Integra Telecom, tw telecom, Level 3 Communications and PAETEC Business Services

Before the California Public Utilities Commission

Consolidated Docket

Joint Application of AT&T Communications of California, Inc. (U 5002 C) and WorldCom, Inc. for the Commission to Reexamine the Recurring Costs and Prices of Unbundled Switching in Its First Annual Review of Unbundled Network Element Costs Pursuant to Ordering Paragraph 11 of D.99-11-050

On behalf of ATT and MCI



Before the Public Utilities Commission of the State of Colorado

Docket No. 10A-350T

Joint Application of Qwest Communications International, Inc. and CenturyLink, Inc. for Approval of Indirect Transfer of Control of Qwest Corporation, et al.

On behalf of Integra Telecom, Level 3 Communications, PAETEC Business Services, Cbeyond Communications, and Covad Communications Company

Before the Public Utilities Commission of the State of Colorado

Docket No. 08F-259T

Qwest Communications Company, LLC, (Complainant), v. MCIMetro, XO Communications Services, Time Warner Telecom, Granite Telecommunications, Eschelon Telecom, Arizona DialTone, CAN Communications, Bullseye Telecom, Inc., ComTel Telecom Assets, LP, Earnest Communications, Inc., Level3 Communications, LLC, and Liberty Bell Telecom, LLC. (Respondents)

On behalf of Eschelon Telecom, XO Communications Services, Granite Telecommunications, and ACN Communication Services

Before the Public Utilities Commission of the State of Colorado

Docket No. 07A-211T

In the Matter of Qwest Corporation's Application, Pursuant to Decision Nos. C06-1280 and C07-0423, Requesting that the Commission Consider Testimony and Evidence to Set Costing and Pricing of Certain Network Elements Qwest Is Required to Provide Pursuant to 47 U.S.C. §§ 251(B) and (C)

On Behalf of CBeyond Communications, Comcast Phone of Colorado, Covad Communications Company, Integra Telecom, PAETEC Business Services, XO Communications Services

Before the Connecticut Department of Public Utility Control

Docket No. 02-05-17

DPUC Investigation of Intrastate Carrier Access Charges

On behalf of AT&T and MCI

Before the Connecticut Department of Public Utility Control

Docket Nos. 09-04-21, 08-12-04

DPUC Investigation into the Southern New England Telephone Company's Cost of Service Re: Reciprocal Compensation and Transit Services

On Behalf of the Connecticut Department of Utility Control

Before the Delaware Public Service Commission

PSC Docket No. 00-025

Petition of Focal Communications Corporation of Pennsylvania For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic – Delaware, Inc.

On behalf of Focal Communications Corporation of Pennsylvania



Public Service Commission of the District of Columbia

Formal Case No. 1040

In the Matter of the Investigation into Verizon Washington, D.C. Inc.'s Universal Emergency Number 911 Services Rates in the District of Columbia

Advisor to the Public Service Commission of the District of Columbia

Before the Federal Communications Commission

CC Docket No. 01-92

In the Matter of Developing a Unified Intercarrier Compensation Regime

On behalf of NuVox Communications

Before the Florida Public Utilities Commission

Docket No. 990649B-TP

Investigation into Pricing of Unbundled Network Elements

On behalf of AT&T Communications of the Southern States, MCImetro Access Transmission Services, MCI WorldCom Communications, and Florida Digital Network

Before the Florida Public Utilities Commission

Docket No. 030829-TP

In the Matter of Complaint of FDN Communications for Resolution of Certain Billing Disputes and Enforcement of UNE Orders and Interconnection Agreements with BellSouth Telecommunications, Inc.

On behalf of Florida Digital Network d/b/a FDN Communications

Before the Georgia Public Service Commission

Docket No. 6352-U

AT&T Petition for the Commission to Establish Resale Rules, Rates and terms and Conditions and the Initial Unbundling of Services

On behalf of MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 94-0048

Adoption of Rules on Line-Side Interconnection and Reciprocal Interconnection

On behalf of Teleport Communications Group, Inc.

Before the Illinois Commerce Commission

Docket No. 94-0096

Proposed Introduction of a Trial of Ameritech's Customer First Plan in Illinois

On behalf of Teleport Communications Group, Inc.

Before the Illinois Commerce Commission

Docket No. 94-0117

Addendum to Proposed Introduction of a Trial of Ameritech's Customer First Plan in Illinois

On behalf of Teleport Communications Group, Inc.



Before the Illinois Commerce Commission

Docket No. 94-0146

AT&T's Petition for an Investigation and Order Establishing Conditions Necessary to Permit Effective Exchange Competition to the Extent Feasible in Areas Served by Illinois Bell Telephone Company

On behalf of Teleport Communications Group, Inc.

Before the Illinois Commerce Commission

Docket No. 95-0315

Proposed Reclassification of Bands B and C Business Usage and Business Operator Assistance/Credit Surcharges to Competitive Status

On behalf of MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket 94-480

Investigation Into Amending the Physical Collocation Requirements of 83 Ill. Adm. Code 790

On behalf of MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 95-0458

Petition for a Total Local Exchange Wholesale Tariff from Illinois Bell Telephone Company d/b/a Ameritech Illinois and Central Telephone Company Pursuant to Section 13-505.5 of the Illinois Public Utilities Act

On behalf of MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 95-0296

Citation to Investigate Illinois Bell Telephone Company's Rates, Rules and regulations For its Unbundled Network Component Elements, Local Transport Facilities, and End office Integration Services

On behalf of MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 96-AB-006

In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois

On behalf of MCI Telecommunications Corporation



Before the Illinois Commerce Commission

Docket No. 96-AB-007

In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Central Telephone Company of Illinois

On behalf of MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 96-0486

Investigation into forward looking cost studies and rates of Ameritech Illinois for interconnection, network elements, transport and termination of traffic

On behalf of MCI Telecommunications Corporation

Before the Illinois Commerce Commission

Docket No. 98-0396

Phase II of Ameritech Illinois TELRIC proceeding

On behalf of MCIWorldCom

Before the Illinois Commerce Commission

Docket No. 00-0700

Illinois Commerce Commission On its Motion vs Illinois Bell Telephone Company Investigation into Tariff Providing Unbundled Local Switching with Shared Transport

On behalf of AT&T Communications of Illinois, Inc., and WorldCom, Inc.

Before the Illinois Commerce Commission

Docket No. 02-0864

In the Matter of: Illinois Bell Telephone Company, Filing to Increase Unbundled Loop and Nonrecurring Rates (Tariffs Filed December 24, 2002)

On Behalf of WorldCom, Inc., McLeodUSA Telecommunications Services, Inc., Covad Communications Company, TDS Metrocom, Allegiance Telecom of Illinois, RCN Telecom Services of Illinois, Globalcom, Z-Tel Communications, XO Illinois, Forte Communications, and CIMCO Communications

Before the Indiana Regulatory Commission

Cause No. 39948

In the matter of the Petition of MCI Telecommunications Corporation for the Commission to Modify its Existing Certificate of Public Convenience and Necessity and to Authorize the Petitioner to Provide certain Centrex-like Intra-Exchange Services in the Indianapolis LATA Pursuant to I.C. 8-1-2-88, and to Decline the Exercise in Part of its Jurisdiction over Petitioner's Provision of such Service, Pursuant to I.C. 8-1-2.6

On behalf of MCI Telecommunications Corporation



Before the Indiana Regulatory Commission

Cause No. 40178

In the matter of the Petition of Indiana Bell Telephone company, Inc. For Authorization to Apply a Customer Specific Offering Tariff to Provide the Business Exchange Services Portion of Centrex and PBX Trunking Services and for the Commission to Decline to Exercise in Part Jurisdiction over the Petitioner's Provision of such Services, Pursuant to I.C. 8-1-2.6

On behalf of MCI Telecommunications Corporation

Before the Indiana Regulatory Commission

Cause No. 40603-INT-01

MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Indiana Bell Telephone Company d/b/a Ameritech Indiana

On behalf of MCI Telecommunications Corporation

Before the Indiana Regulatory Commission

Cause No. 40611

In the matter of the Commission Investigation and Generic Proceeding on Ameritech Indiana's Rates for Interconnection Service, Unbundled Elements and Transport and Termination under the Telecommunications Act of 1996 and Related Indiana Statutes

On behalf of MCI Telecommunications Corporation

Before the Indiana Regulatory Commission

Cause No. 40618

In the Matter of the Commission Investigation and Generic Proceeding on GTE's Rates for Interconnection, Service, Unbundled Elements, and Transport under the FTA 96 and related Indiana Statutes

On behalf of MCI Telecommunication Corporation

Before the Indiana Regulatory Commission

Cause No. 40611-S1

In the matter of the Commission Investigation and Generic proceeding on the Ameritech Indiana's rates for Interconnection, Unbundled Elements, and Transport and Termination Under the Telecommunications Act of 1996 and Related Indiana Statutes

On behalf of WorldCom, Inc., AT&T Communications of Indiana

Before the Indiana Utility Regulatory Commission

Cause No. 42393

In the Matter of the Commission Investigation and Generic Proceeding of Rates and Unbundled Network Elements and Collocation for Indiana Bell d/b/a SBC Indiana Pursuant to the Telecommunications Act of 1996 and Related Indiana Statues

On Behalf of WorldCom, McLeodUSA Telecommunications Services, Covad Communications Company, Z-Tel Communications



Before the Iowa Utilities Board

Docket No. SPU-2010-0006

In RE: Qwest Communications International, Inc. and CenturyTel, Inc.

On behalf of PAETEC Business Services

Before the Iowa Utilities Board

Docket No: RPU-00-01

IN RE: US West Communications, Inc.

On behalf of McLeodUSA Telecommunications Services

Before the State of Maine Public Utilities Commission

Dockets Nos. 2007-611, 2008-214 through 2008-218, 2009-41-44.

CRC Communications of Maine, Inc., Investigation Pursuant to 47 U.S.C. §251(f)(1) Regarding CRC Communications of Maine's Request of Lincolnville, Telephone Company, UniTel, Inc., Oxford Telephone Company, Oxford West Telephone Company, Tidewater Telecom, Inc.

On behalf of CRC Communications and Time Warner Cable

Before the Maryland Public Utilities Commission

Case No. 8988

In the matter, The Implementation of the Federal Communications Commission's Triennial Review Order

On behalf of Cavalier Telephone

Before the Massachusetts Department of Energy and Transportation

D.P.U. 96-83

NYNEX/MCI Arbitration

On behalf of MCI Telecommunications Corporation

Before the Massachusetts Department of Energy and Transportation

Docket 01-20

Investigation into Pricing based on TELRIC for Unbundled Network Elements and Combinations of Unbundled Networks Elements and the Appropriate Avoided Cost Discount for Verizon New England, Inc. d/b/a Verizon Massachusetts' Resale Services

On behalf of Allegiance, Network Plus, El Paso Networks, and Covad Communications Company

Before the Massachusetts Department of Energy and Transportation

Docket 01-03

Investigation by the Department of Telecommunications and Energy on its own Motion into the Appropriate Regulatory Plan to succeed Price Cap Regulation for Verizon New England, Inc. d/b/a Verizon Massachusetts' intrastate retail telecommunications services in the Commonwealth of Massachusetts

On behalf of Network Plus



Before the Massachusetts Department of Telecommunications and Energy

D.T.E. 03-60

Proceeding by the Department on its own Motion to Implement the Requirements of the Federal Communications Commission's Triennial Review Order Regarding Switching for Mass market Customers

On behalf of Conversent Communications of Massachusetts

Before the Massachusetts Department of Telecommunications and Cable

D.T.E. 06-61

Investigation by the department on its own Motion as to the Propriety of the rates and Charges Set Forth in the following tariff: M.D.T.E. No. 14, filed with the Department on June 16, 2006, to become Effective July 16, 2006, by Verizon New England, Inc. d/b/a Verizon Massachusetts

On behalf of Broadview networks, DSCI Corporation, InfoHighway Communications, Metropolitan Telecommunications of Massachusetts a/k/a MetTel, New Horizon Communications, and One Communications

Before the Massachusetts Department of Telecommunications and Cable

D.T.E. 07-9

Department Investigation into the Intrastate Access Rates of Competitive Local Exchange Carriers

On behalf of One Communications, PAETEC Communications, RNK Communications, and XO Communications Services

Before the Massachusetts Department of Telecommunications and Cable

D.T.E. 10-2

Petition of Choice One Communications of Massachusetts Inc., Conversent Communications of Massachusetts Inc., CTC Communications Corp. and Lightship Telecom LLC For Exemption from Price Cap on Intrastate Switched Access Rates as Established in D.T.C. 07-9

On behalf of One Communications

Before the Michigan Public Service Commission

Case No. U-10647

In the Matter of the Application of City Signal, Inc. for an Order Establishing and Approving Interconnection Arrangements with Michigan Bell Telephone Company

On behalf of Teleport Communications Group, Inc.

Before the Michigan Public Service Commission

Case No. U-10860

In the Matter, on the Commission's Own Motion, to Establish Permanent Interconnection Arrangements Between Basic Local Exchange Providers

On behalf of MCI Telecommunications Corporation



Before the Michigan Public Service Commission

Case No. U-11280

In the Matter, on the Commission's Own Motion, to consider the total service long run incremental costs and to determine the prices for unbundled network elements, interconnection services, resold services, and basic local exchange services for Ameritech Michigan

On behalf of MCI Telecommunications Corporation

Before the Michigan Public Service Commission

Case No. U-11366

In the matter of the application under Section 310(2) and 204, and the complaint under Section 205(2) and 203, of MCI Telecommunications Corporation against Ameritech requesting a reduction in intrastate switched access charges

On behalf of MCI Telecommunications Corporation

Before the Michigan Public Service Commission

Case No. U-13531

In the matter, on the Commission's own motion, to review the costs of telecommunications services provided by SBC Michigan

On behalf of AT&T, Worldcom, McLeodUSA, and TDS Metrocom

Before the Michigan Public Service Commission

Case No. U-11831

In the Matter of the Commission's own motion, to consider the total service long run incremental costs for all access, toll, and local exchange services provided by Ameritech Michigan

On behalf of MCIWorldCom, Inc.

Before the Michigan Public Service Commission

Case No. U-11830

In the matter of Ameritech Michigan's Submission on Performance Measures, Reporting, and Benchmarks, Pursuant to the October 2, 1998 Order in Case No. U-11654

On behalf of Covad Communications, McLeodUSA Telecommunications Services, LDMI Telecommunications, Talk America, and XO Communications Services

Before the Michigan Public Service Commission

MPSC Case No. U-14952

In the matter of the formal complaint of TDS Metrocom, LLC, LDMI, Telecommunications, Inc and XO Communications Services, Inc against Michigan Bell Telephone Company, d/b/a AT&T Michigan, or in the alternative, an application

On behalf of TDS Metrocom, LDMI Telecommunications, and XO Communications Services



Before the Minnesota Public Utilities Commission

Docket No. P-421, et al./PA-10-456

In the Matter of the Joint Petition for Approval of Indirect Transfer of Control of Qwest Operating Companies to CenturyLink

On behalf of Cbeyond Communications, Charter FiberLink, Integra Telecom, Level 3 Communications, PAETEC Business Services, TDS Metrocom, Orbitcom and POPP.com

Before the Minnesota Public Utilities Commission

PUC Docket No. P-442, 421, 3012 /M-01-1916

In Re Commission Investigation Of Qwest's Pricing Of Certain Unbundled Network Elements

On behalf of Otter Tail Telecom, Val-Ed Joint Venture d/b/a 702 Communications, McLeodUSA Telecommunications, Eschelon Telecom, and USLink

Before the Minnesota Public Utilities Commission

PUC Docket No . P-421/AM-06-713

OAH Docket No. 3-2500-17511-2

In the Matter of Qwest Corporation's Application for Commission Review of TELRIC rates Pursuant to 47 U.S.C. § 251

On behalf of Integra Telecom of Minnesota, McLeodUSA Telecommunications Services, POPP.com, Covad Communications Company, TDS Metrocom, and XO Communications

Before the Minnesota Public Utilities Commission

PUC Docket #P-421/CI-05-1996

OAH Docket No. 12-2500-17246-2

In the Matter of a Potential Proceeding to Investigate the Wholesale Rate Charged by Qwest

On behalf of Integra Telecom, McLeodUSA Telecommunications Services, POPP.com, Covad Communications Company, TDS Metrocom, and XO Communications

Before the Montana Public Service Commission

Docket No. D2010.5.55

In the Matter of Joint Application of Qwest Communications International, Inc. and CenturyLink, Inc., for Approval of Indirect Transfer of Control of Qwest Corporation, Qwest Communications Company, LLC, and Qwest LD Corp.

On behalf of Integra Telecom

Before the New Jersey Board of Public Utilities

Petition of Focal Communications Corporation of New Jersey For Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Bell Atlantic

On behalf of Focal Communications Corporation of New Jersey



Before the New Jersey Board of Public Utilities

Docket No. TO00060356

I/M/O the Board's Review of Unbundled Network Elements Rates, Terms and Conditions of Bell Atlantic-New Jersey, Inc.

On behalf of WorldCom, Inc.

Before the New Jersey Board of Public Utilities

Docket No. TO03090705

In The Matter, The Implementation Of the Federal Communications Commission's Triennial Review Order

On behalf of Conversent Communications of New Jersey

Before the New Jersey Board of Public Utilities

Docket No. TX08090830

In the Matter of the Board's Investigation and review of Local Exchange Carrier Intrastate Access Rates

On behalf of One Communications, PAETEC Communications, US LEC of Pennsylvania, Level3 Communications, and XO Communications Services

Before the New Mexico Public Regulation Commission

Case No. 11-00340-UT

In the Matter of the Petition of Qwest Corporation d/b/a CenturyLink QC For a Determination That Telecommunications Services Are Subject to Effective Competition in New Mexico

On behalf of the United States Department of Defense and all Other Federal Executive Agencies

Before the New Mexico Public Regulation Commission

Case No. 11-00305-UT

In the Matter of the Joint Petition for Determination of MCI Communications Services, Inc. d/b/a Verizon Business Services, et al. to Eliminate Certain Filing Requirements

On behalf of the United States Department of Defense and all Other Federal Executive Agencies

Before The New Mexico Public Regulation Commission

Case No. 96-307-TC

Brooks Fiber Communications of New Mexico, Inc. Petition for Arbitration

On behalf of Brooks Fiber Communications of New Mexico, Inc.

Before The New Mexico Public Regulation Commission

Case No. 3495, Phase B

In the matter of the consideration of costing and pricing rules for OSS, collocation, shared transport, non-recurring charges, spot frames, combination of network elements and switching.

On behalf of the Commission Staff



Before the New York Public Service Commission

Case Nos. 95-C-0657, 94-C-0095, 91-C-1174

Commission Investigation into Resale, Universal Service and Link and Port Pricing

On behalf of MCI Telecommunications Corporation

Before the New York Public Service Commission

Case 99-C-0529

In the Matter of Proceeding on Motion of the Commission To Reexamine Reciprocal Compensation

On behalf Of Cablevision LightPath, Inc.

Before the New York Public Service Commission

Case 98-C-1357

Proceeding on the Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements

On behalf of Corecomm New York, Inc.

Before the New York Public Service Commission

Case 98-C-1357

Proceeding on Motion of the Commission to Examine New York Telephone Company's Rates for Unbundled Network Elements

On behalf of MCIWorldCom

Before the State Of New York Public Service Commission

Case 02-C-1425

In The Matter, Proceeding on Motion of the Commission to Examine the Processes, and Related Costs of Performing Loop Migrations on a More Streamlined (e.g., Bulk) Basic

On behalf of Conversent Communications of New York, LLC

Before the Public Utilities Commission of Ohio

Case No. 96-888-TP-ARB

In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish and Interconnection Agreement with Ameritech Ohio

On behalf of MCI Telecommunications Corporation

Before the Public Utilities Commission of Ohio

Case No. 96-922-TP-UNC.

In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic

On behalf of MCI Telecommunications Corporation



Before the Public Utilities Commission of Ohio

Case No. 00-1368-TP-ATA

In the Matter of the Review of Ameritech Ohio's Economic Costs for Interconnection, Unbundled Network Elements, and Reciprocal Compensation for Transport and Termination of Local Telecommunications Traffic. Case No. 96-922-TP-UNC and In the Matter of the Application of Ameritech Ohio for Approval of Carrier to Carrier Tariff

On behalf of MCIWorldCom and AT&T of the Central Region

Before the Public Utilities Commission of Ohio

Case No. 97-152-TP-ARB

In the Matter of the Petition of MCI Telecommunications Corporation for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Cincinnati Bell Telephone Company

On behalf of the MCI Telecommunications Corporation

Before the Public Utility Commission of Ohio

Case No. 02-1280-TP-UNC

In the Matter of the Review of SBC Ohio's TELRIC Costs for Unbundled Network Elements

On Behalf of MCImetro Access Transmission Services, McLeodUSA Telecommunications Services, Covad Communications Company, XO Communications, and NuVox Communications

Before the Public Utility Commission of Ohio

Case No. 08-45-TP-ARB

In the Matter of the Petition of Communication Options, Inc. for Arbitration of Interconnection Rates, Terms and Conditions and Related Arrangements with United Telephone Company of Ohio d/b/a Embarq Pursuant to Section 252(b) of the Telecommunications Act of 1996

On behalf of Communications Options, Inc.

Before the Oregon Public Utility Commission

Docket UM 1484

In the Matter of CenturyLink, Inc. Application for Approval of Merger between CenturyTel, Inc. and Qwest Communications International, Inc.

On behalf of Covad Communications Company, Charter FiberLink, Integra Telecom, Level 3 Communications and tw telecom

Before the Pennsylvania Public Utility Commission

Docket No. I-00940035

In Re: Formal Investigation to Examine Updated Universal Service Principles and Policies for telecommunications Services in the Commonwealth Interlocutory order, Initiation of Oral Hearing Phase

On behalf of MCI Telecommunications Corporation



Before the Pennsylvania Public Utility Commission

Docket No. M-0001352

Structural Separation of Verizon

On behalf of MCI WorldCom

Before the Puerto Rico Telecommunications Regulatory Board

Docket No. 97-0034-AR

Petition for Arbitration Pursuant to 47 U.S.C. & (b) and the Puerto Rico Telecommunications Act of 1996, regarding Interconnection Rates Terms and Conditions with Puerto Rico Telephone Company

On behalf of Cellular Communications of Puerto Rico, Inc.

Before the Public Service Commission of South Carolina

Dockets Nos. 2008-325-C, 2008-326-C, 2008-327-C, 2008-328-C, and 2008-329-C

In Re: Docket No. 2008-325-C - Application of Time Warner Cable Information Services (South Carolina), LLC d/b/a Time Warner Cable to Amend its Certificate of Public Convenience and Necessity to Provide Telephone Services in the Service Area of Farmers Telephone Cooperative, Inc. and for Alternative Regulation

On behalf of Time Warner Cable

Before the Public Utility Commission of South Dakota

Docket TC07-117

In the Matter of the Petition of Midcontinent Communications for the Approval of its Intrastate Switched Access Tariff and for an Exemption from Developing Company-Specific Cost-Based Switched Access Rates

On Behalf of Midcontinent Communications, Inc.

Before the State of Rhode Island and Providence Plantations Public Utilities Commission

Docket No. 2252

Comprehensive Review of Intrastate Telecommunications Competition

On behalf of MCI Telecommunications Corporation

Before the State of Rhode Island and Providence Plantations Public Utilities Commission

Docket Nos. 3550 and 2861

In The Matter, Implementation of the Requirements of the FCC's Triennial Review Order ("TRO")

On behalf of Conversent Communications of Rhode Island, LLC

Before the Tennessee Public Service Commission

Docket No. 96-00067

Avoidable Costs of Providing Bundled Services for Resale by Local Exchange Telephone Companies

On behalf of MCI Telecommunications Corporation



Before the Public Utility Commission of Texas

Docket No. 7790

Petition of the General Counsel for an Evidentiary Proceeding to Determine Market Dominance

On behalf of the Public Utility Commission of Texas

Before the Public Utility Commission of Texas

Docket No. 8665

Application of Southwestern Bell Telephone Company for Revisions to the Customer Specific Pricing Plan Tariff

On behalf of the Public Utility Commission of Texas

Before the Public Utility Commission of Texas

Docket No. 8478

Application of Southwestern Bell Telephone Company to Amend its Existing Customer Specific Pricing Plan Tariff: As it Relates to Local Exchange Access through Integrated Voice/Data Multiplexers

On behalf of the Public Utility Commission of Texas

Before the Public Utility Commission of Texas

Docket No. 8672

Application of Southwestern Bell Telephone Company to Provide Custom Service to Specific Customers

On behalf of the Public Utility Commission of Texas

Before the Public Utility Commission of Texas

Docket No. 8585

Inquiry of the General Counsel into the Reasonableness of the Rates and Services of Southwestern Bell Telephone Company

On behalf of the Public Utility Commission of Texas

Before the Public Utility Commission of Texas

Docket No. 9301

Southwestern Bell Telephone Company Application to Declare the Service Market for CO LAN Service to be Subject to Significant Competition

On behalf of the Public Utility Commission of Texas

Before the Public Utility Commission of Texas

Docket No. 10382

Petition of Southwestern Bell Telephone Company for Authority to Change Rates

On behalf of the Public Utility Commission of Texas



Before the Public Utility Commission of Texas

Docket No. 14658

Application of Southwestern Bell Telephone Company, GTE Southwest, Inc., and Contel of Texas, Inc. For Approval of Flat-rated Local Exchange Resale Tariffs Pursuant to PURA 1995 Section 3.2532

On behalf of the Office of Public Utility Counsel of Texas

Before the Public Utility Commission of Texas

Docket No. 14658

Application of Southwestern Bell Telephone Company, GTE Southwest, Inc., and Contel of Texas, Inc. For Interim Number Portability Pursuant to Section 3.455 of the Public Utility Regulatory Act

On behalf of the Office of Public Utility Counsel of Texas

Before the Public Utility Commission of Texas

Docket Nos. 16226 and 16285

Application of AT&T Communications for Compulsory Arbitration to Establish an Interconnection Agreement Between AT&T and Southwestern Bell Telephone Company, and Petition of MCI for Arbitration under the FTA96

On behalf of AT&T and MCI

Before the Public Utility Commission of Texas

Docket No. 21982

Proceeding to examine reciprocal compensation pursuant to section 252 of the Federal Telecommunications of 1996

On behalf of Taylor Communications

Before the Public Utility Commission of Texas

Docket No. 25834

Proceeding on Cost Issues Severed from PUC Docket 24542

On behalf of AT&T and MCIMetro

Before the Public Utility Commission of Texas

PUC Docket No. 31831

Staff's Petition to Determine whether Markets of Incumbent Local Exchange Carriers (ILECs) Should Remain Regulated

On behalf of the Office of Public Utility Counsel of Texas

Before the Public Utility Commission of Texas

PUC Docket No. 34723

Petition for Review of Monthly Per-Line Support Amounts from the Texas High Cost Universal Service Plan Pursuant to PURA § 56.031 and P.U.C. Subst. R. 26.403

On behalf of the Office of Public Utility Counsel of Texas



Before the Public Utility Commission of Texas

Docket No. 33323

Petition of UTEX Communications Corporation for Post-Interconnection Dispute resolution with AT&T Texas and petition of AT&T Texas for Post Interconnection Dispute Resolution with UTEX Communications Corporation

On behalf of UTEX Communications Corporation

Before the Public Utility Commission of Texas

SOAH Docket No. 473-07-1365

PUC Docket No. 33545

Application of McLeodUSA Telecommunications Services, Inc. for Approval of Intrastate Switched Access rates Pursuant to PURA Section 52.155 and PUC Subst. R. 26.223

On behalf of McLeodUSA Telecommunications Services

Before the Utah Public Service Commission

Docket No. 10-049-16

Joint Application of Qwest Communications International, Inc. and CenturyTel, Inc. for Approval of Indirect Transfer of Control of Qwest Corporation, Qwest Communications Company, LLC and Qwest LD Corporation

On behalf of Integra Telecom, Level 3 Communications, PAETEC Business Services and tw telecom

Before the Utah Public Service Commission

Docket No. 01-049-85

In the Matter of the Determination of the Costs Investigation of the Unbundled Loop of Qwest Corporation, Inc.

On behalf of AT&T and WorldCom

Before the Public Service Commission of Utah

Docket No. 09-049-37

In the Matter of the Complaint of Qwest Corporation against McLeodUSA Telecommunications Services, Inc., d/b/a PAETEC Business Services

On behalf of McLeodUSA Telecommunications Services

Before the Vermont Public Service Board

Docket No. 5713

Investigation into NET's tariff filing re: Open Network Architecture, including the Unbundling of NET's Network, Expanded Interconnection, and Intelligent Networks

On behalf of MCI Telecommunications Corporation



Before the Washington Utilities and Transportation Commission

Docket No. UT-100820

In the matter of Joint Application of Qwest Communications International, Inc. and CenturyTel, Inc. for Approval of Indirect Transfer of Control of Qwest Corporation, Qwest Communications Company LLC, and Qwest LD Corp.

On behalf of Cbeyond Communications, Covad Communications Company, Integra Telecom, Level 3 Communications, PAETEC Business Services and tw telecom

Before the Washington Utilities and Transportation Commission

Docket No. UT-090892

Qwest Corporation (Complainant) v. McLeodUSA Telecommunications Services, Inc., d/b/a PAETEC Business Services (Respondent)

On Behalf of McLeodUSA Telecommunications Services

Before the Public Service Commission of Wisconsin

Cause No. 05-TI-138

Investigation of the Appropriate Standards to Promote Effective Competition in the Local Exchange Telecommunications Market in Wisconsin

On behalf of MCI Telecommunications Corporation

Before the Public Service Commission of Wisconsin

Docket 670-TI-120

Matters relating to the satisfaction of conditions for offering interLATA services (Wisconsin Bell, Inc. d/b/a Ameritech Wisconsin)

On behalf of MCI Telecommunications Corporation

Before the Public Service Commission of Wisconsin

Docket Nos. 6720-MA-104 and 3258-MA-101

In the Matter of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Interconnection Agreement with Wisconsin Bell, Inc. d/b/a Ameritech Wisconsin

On behalf of MCI Telecommunications Corporation

Before the Public Service Commission of Wisconsin

Docket No. 05-TI-349

Investigation Into The Establishment of Cost-Related Zones For Unbundled Network Elements

On behalf of AT&T Communications of Wisconsin, McLeodUSA Telecommunications Services, TDS Metrocom, and Time Warner Telecom

Before the Public Service Commission of Wisconsin

Docket No. 6720-TI-161

Investigation into Ameritech Wisconsin's Unbundled Network Elements

On behalf of AT&T Communications of Wisconsin, WorldCom, Rhythms Links, KMC Telecom, and McLeodUSA Telecommunications Services



AFFIDAVITS AND DECLARATIONS SUBMITTED TO THE FEDERAL COMMUNICATIONS COMMISSION

Before the Federal Communications Commission

File No. EB-04-MD-006

EarthLink, Inc. (Complainant) v. SBC Communications Inc., SBC Advanced Solutions, Inc. (Defendants)

On behalf of Earthlink, Inc.

Before the Federal Communications Commission

CC Docket No. 04-223

In the Matter of Petition of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. §160(c) in the Omaha Metropolitan Statistical Area

On behalf of McLeodUSA Telecommunications Services

Before the Federal Communications Commission

CC Docket No. 01-92

In the Matter of Developing a Unified Inter-carrier Compensation Regime

On behalf of NuVox Communications

Before the Federal Communications Commission

CC Docket No. 01-92

In the Matter of Developing a Unified Inter-carrier Compensation Regime

On Behalf of Cavalier Telephone, Inc.

Before the Federal Communications Commission

WC Docket No. 05-337 CC Docket No. 96-45 WC Docket No. 03-109 WC Docket No. 06-122 CC Docket No. 99-200 CC Docket No. 96-98 CC Docket No. 01-92 CC Docket No. 99-68 WC Docket No. 04-36

In the Matter of High-Cost Universal Service Support Federal-State Joint Board on Universal Service Lifeline and Link Up Universal Service Contribution Methodology, Numbering Resource Optimization Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Developing a Unified Inter-carrier Compensation Regime, Inter-carrier Compensation for ISP-Bound Traffic IP-Enabled Services

On behalf of PAETEC

Before the Federal Communications Commission

WC Docket No. 07-97

In the Matter of Petitions of Qwest Corporation for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Denver, Minneapolis-St. Paul, Phoenix, and Seattle Metropolitan Statistical Areas

On behalf of PAETEC



Before the Federal Communications Commission

WC Docket No. 09-223

In the Matter of: Cbeyond, Inc. Petition for Expedited Rulemaking to Require Unbundling of Hybrid, FTTH, and FTTC Loops Network Elements Pursuant to 47 U.S.C. §251(c)(3) of the Act

On behalf of Covad Communications Company

Before the Federal Communications Commission

GN Docket Nos. 09-47, 09-51, 09-137

Comments Sought on Broadband Study Conducted by the Berkman Center for Internet and Society, NBP Public Notice #13

On behalf of Covad Communications Company

MISCELLANEOUS

Ingham County Circuit Court

Case No. 04-689-CK

T&S Distributors, LLC Custom Software, Inc., Arq, Inc., Absolute Internet, Inc., CAC Medianet, Inc., ACD Telecom, Inc., and Telnet Worldwide, Inc. V. Michigan Bell Telephone Company, d/b/a SBC Michigan.

On behalf of ACD Telecom, Inc. and Telnet Worldwide, Inc.
(2005-2009).

JAMS Reference No.1340005643

Case No. 05-C-6250

Cingular Wireless, LLC, a Delaware Limited Liability Company V. PlatinumTel Communications, LLC, a Delaware Limited Liability Company

On behalf of PlatinumTel Communications, LLC.
(2005-2006).

U.S. District Court, Northern District of Illinois Eastern Division

Case No. 05-C-6250

Cingular Wireless, LLC, a Delaware Limited Liability Company V Omar Ahmad

On behalf of Omar Ahmad.
(2005-2006)

United States District Court, Northern District of Texas Dallas Division

Civil Action No. 09-CV-1268

Southwestern Bell Telephone Company, et. al. Plaintiffs, vs. IDT Telecom, Inc., Entrix Telecom, Inc., and John Does 1-10, Defendants.

On behalf of IDT



United States District Court, Northern District of Texas, Fort Worth Division.

Case No. 4:09-cv-755-A

Transcom Enhanced Services, Inc. v. Qwest Corporation

On behalf of Transcom

(2010)

District Court for the Eastern District of Texas, Sherman Division

Case Nos. 4:11-MC-0053, 4:11-MC-0054, 4:11-MC-0055; Case No. 11-42464, and Adversary Proceeding No. 11-4160

IN RE: Halo Wireless, Inc. Debtor

On behalf of Halo Wireless, Inc.

(2011)

Before the Michigan House Committee on Energy and Technology

Presentation on House Bills 4257

On behalf of Michigan Internet and Telecommunications Alliance

White Paper: Chicago Clean Energy Coke/Coal Gasification to SNG Project, Analysis of Return on Equity per Section 9-220(h-3)(1)(B) of Public Act 97-96, October 12, 2011

In re Proposed Contracts between Chicago Clean Energy, Inc. and Ameren Illinois Company and Between Chicago Clean Energy, Inc. and Northern Illinois Gas Company for the Purchase and Sale of Substitute Natural Gas Under the Provisions of Illinois Public Act 97-0096.

On behalf of Illinois Power Agency, presented in Illinois Commerce Commission

Docket 11-0710

EXHIBIT 2

SUPPORT FOR THE PROPOSED BENCHMARKS

Absolute Metrics

MR-6 Mean Time to Restore

This is a payment-eligible PID.¹ It measures the time actually taken to restore services to proper operation.² Results for LIS trunks are reported at disaggregated level through sub-measures MR-6D (in Interval Zone 1) and MR-6E (in Interval Zone 2).³ The current wholesale performance standard for LIS trunks for this metrics is parity with Feature Group D CenturyLink trunks (“CenturyLink trunks”).

An examination of CenturyLink’s Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

For sub-metric MR-6D (interval Zone 1): The average⁴ mean time to restore CLEC LIS trunks was approximately 3.37 hours, compared to the CenturyLink result of 3.27 hours. The median (mid-point of observed data) mean times to restore trunks were much lower: 1.96 hours for CLEC LIS trunks and 1.55 hours for the CenturyLink trunks. For sub-metric MR-6E (interval Zone 2): The average mean time to restore CLEC LIS trunks was approximately 7.23 hours, compared to the CenturyLink result of 2.68 hours. The median (mid-point of observed data) mean times to restore trunks were much lower: 3.34 hours for CLEC LIS trunks and 1.32 hours for the CenturyLink trunks. For both sub-metrics, approximately 70% of observations on the CenturyLink trunks were better (lower) than average.

I propose that the standard for this metric be replaced with a benchmark of 4 hours. Four hours is a broadly used standard for repair intervals. For example, Utah Service Quality Guidelines prescribe the repair interval for LIS trunks as 4 hours (unless other repair intervals have been agreed to).⁵ CenturyLink’s *Service Interval Guide for Resale, UNE and Interconnection Services* uses the value of 4 hours as repair interval guidelines for a number of services, including unbundled dedicated transport (DS0, DS1, DS3 and OC3 and higher services), as well as various “designed” UNE-loops and resale services.⁶ Finally, wholesale service quality metric

¹ See *ICA Exhibit K*, p. 1.

² See *ICA Exhibit B*.

³ As explained in *ICA Exhibit B*, Interval Zone 1 areas are wire centers for which CenturyLink QC specifies shorter standard service intervals than for Interval Zone 2 areas.

⁴ Averaged across months of observations.

⁵ Utah Administrative Code Rule R746-365-4 available at <http://www.rules.utah.gov/publicat/code/r746/r746-365.htm>.

⁶ See CenturyLink, *Service Interval Guide for Resale, Unbundled Network Elements (UNE) and Interconnection Services*, V109.00 (“*Service Interval Guide for Resale, UNE and Interconnection Services*”) available at <http://www.centurylink.com/wholesale/guides/sig/>. Note that this Guide contains a 24-hour repair interval guide for LIS trunks, which is unreasonable given the importance of LIS trunks and given that CenturyLink’s actual performance exceeds this interval significantly.

EXHIBIT 2

MR-5 “Troubles Cleared within Specified Intervals” uses the threshold of “4 hours” to measure performance on LIS trunks.

OP-4 Installation Interval

This is a payment-eligible PID.⁷ It measures the average time actually taken to install services.⁸ Results for LIS trunks are reported at disaggregated level through sub-measures OP-4D (in Interval Zone 1) and OP-4E (in Interval Zone 2). The current wholesale performance standard for LIS trunks for this metrics is parity with Feature Group D CenturyLink trunks.

An examination of CenturyLink’s Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

Only two data points are available for CLEC LIS trunks (suggesting no installations in other months), both for sub-metric OP-4D (interval Zone 1), with no data reported for the CenturyLink trunks (suggesting no installations of the CenturyLink trunks during those periods): The first data point is 18 days (May 2011), and the second data point is 7 days (January 2015).

CenturyLink’s *Service Interval Guide for Resale, UNE and Interconnection Services* contains the following installation guidelines on LIS trunks in Minnesota: five business days, unless facilities are not available, in which case it is 15 business days.

I propose that the standard for this metric be replaced with a benchmark of ten business days. The value “ten business days” is a midpoint of the installation guidelines contained in CenturyLink’s *Service Interval Guide for Resale, UNE and Interconnection Services* (five and fifteen days).

OP-15A Interval for Pending Orders Delayed Past Due Date

There are two sub-metrics for metric OP-15 that relate to LIS trunks, sub-metrics OP-15A and OP-15B, both of which are diagnostic (not eligible for payment) metrics.⁹ I address here only sub-metric OP-15A.¹⁰ It measures the average days by which pending orders are delayed past the applicable due date.¹¹ The current diagnostic performance standard for LIS trunks for this metrics is parity with Feature Group D CenturyLink trunks.

⁷ See *ICA Exhibit K*, p. 1.

⁸ See *ICA Exhibit B*.

⁹ See *ICA Exhibit K*, p. 1.

¹⁰ Sub-metric OP-15B reports pending orders that were delayed due to CenturyLink facility reasons. I found only three data points -- three months during which data on this sub-metric was reported during my period of study, with no observations reported for the CenturyLink trunks. For simplicity, I do not propose changes to this sub-metric.

¹¹ See *ICA Exhibit B*.

EXHIBIT 2

An examination of CenturyLink's Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

Only three data points are available for CLEC LIS trunks (suggesting no installations in other months); with no data reported for the CenturyLink trunks (suggesting no installations of the CenturyLink trunks during those periods): They range from 0.5 days (April 2014) to 11.5 days (December 2014). To collect additional data points on CenturyLink FGD trunks, I reviewed the CenturyLink most recent performance data files (January 2014-January 2015) for three other "large" states – Arizona, Colorado and Washington.¹² I found three instances in which performance data on the CenturyLink trunks was reported for this metrics. In all three instances the interval for pending CenturyLink orders delayed was zero.

I propose that the standard for this metric be replaced with a diagnostic benchmark of zero business days.

Percentage/Rate Metrics

MR-5 Troubles Cleared within Specified Intervals

This is a payment-eligible PID.¹³ It measures the percentage of trouble reports that are cleared within 4 or 24 hours of receipt of trouble reports.¹⁴ Results for LIS trunks are reported for interval "4 hours" and disaggregated level through sub-measures MR-5A (in Interval Zone 1) and MR-5B (in Interval Zone 2). The current wholesale performance standard for LIS trunks for this metric is parity with Feature Group D CenturyLink trunks.

An examination of CenturyLink's Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

The average (across months of observations) percentage of troubles on LIS trunks cleared within 4 hours was 73% for CLEC trunks and 82% for the CenturyLink trunks. The median (mid-point of observed data) percentages of trouble reports that were cleared within 4 hours was 100% on both CLEC and the CenturyLink trunks.

I propose that the standard for this metric be replaced with a benchmark of 90%. This is a reasonable benchmark given actual performance and my other proposal to set the benchmark for metric MR-6, "Mean Time to Restore" equal to 4 hours. This proposal is also consistent with a benchmark for a similar metric adopted in the Verizon California and Florida wholesale service

¹² I picked "large" states to maximize the likelihood of finding additional observations.

¹³ See *ICA Exhibit K*, p. 1.

¹⁴ See *ICA Exhibit B*.

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performance plan.¹⁵ Specifically, the Verizon plan sets the benchmark for the Verizon metric MR-3 “Percentage of Customer Troubles Not Resolved Within Estimated Time” equal to 10% for interconnection trunks.

MR-7 Repair Repeat Report Rate

This is a payment-eligible PID.¹⁶ It measures the rate of repeat trouble reports received on a circuit that had a trouble report within previous 30 days.¹⁷ Results for LIS trunks are reported at disaggregated levels through sub-measures MR-7D (in Interval Zone 1) and MR-7E (in Interval Zone 2). The current wholesale performance standard for LIS trunks for this metrics is parity with Feature Group D CenturyLink trunks.

An examination of CenturyLink’s Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

The average (across months of observations) repeat trouble rate was approximately 4% on CLEC trunks and under 1% on the CenturyLink trunks. The median (mid-point of observed data) rate of repeat trouble reports was zero on both CLEC and the CenturyLink trunks.

I propose that the standard for this metric be replaced with a benchmark of 4%. This is a reasonable benchmark given actual performance on CLEC and the CenturyLink trunks. This proposal is also consistent with a benchmark for a similar metric adopted in the Verizon California and Florida wholesale service performance plan, which sets the benchmark for the Verizon metric MR-5 “Frequency of Repeat Troubles in 30 Day Period” equal to 4% for interconnection trunks.

MR-8 Trouble Rate

This is a payment-eligible PID.¹⁸ It measures the overall rate of trouble reports as a percentage of the installed circuits.¹⁹ The current wholesale performance standard for LIS trunks for this metrics is parity with Feature Group D CenturyLink trunks.

¹⁵ See Attachment A to Verizon’s Joint Partial Settlement Agreement effective March 2008 - CA, FL (document “Carrier-to-Carrier Guidelines Performance Standards and Reports”) available at <http://www22.verizon.com/wholesale/clecsupport/content/performanceassuranceplans.html> (“Verizon California and Florida Plan”).

¹⁶ See ICA Exhibit K, p. 1.

¹⁷ See ICA Exhibit B.

¹⁸ See ICA Exhibit K, p. 1.

¹⁹ See ICA Exhibit B.

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An examination of CenturyLink's Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

The average (across months of observations) trouble rate was approximately 0.004% on CLEC trunks and 0.002% on the CenturyLink trunks. The median (mid-point of observed data) rate of repeat trouble reports was 0.003% CLEC trunks and 0.001% on the CenturyLink trunks.

I propose that the standard for this metric be replaced with a benchmark of 0.004%. This is a reasonable benchmark given actual performance on CLEC and the CenturyLink trunks. One illustration is that during the months for which CenturyLink reported out of parity service (positive "parity scores"), the trouble rate on CLEC trunks was at or above 0.004%.

NI-1 Trunk Blocking

This is a diagnostic (not eligible for payment) PID.²⁰ It measures the rate at which calls were blocked because the trunk was busy. The current wholesale service quality standard for blocking on LIS trunks is blocking on CenturyLink's own interoffice trunks. Results for LIS trunks are reported within four sub-metrics (NI-1A, NI-1B, NI-1C and NI-1D), which distinguish whether the trunk is connected to the tandem or end office, and also whether Trunk Group Service Request²¹ has been issued on this trunk group.

An examination of CenturyLink's Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed that trunk blocking on either CLEC or the CenturyLink trunks has been under 1% for all four metrics. One percent is the industry engineering design standard for local trunks. For example, the Utah Service Quality Guidelines prescribe the minimum engineering design standard of (P.01) grade of service for local interoffice trunks,²² which is equivalent to a requirement that the probability of blocking is under 1%.²³ Similarly, the AT&T Florida wholesale performance plan adopted a benchmark of 1% for trunk blocking on both end office and tandem trunks.²⁴

I propose that the standard for this metric be replaced with a benchmark of 1%.

²⁰ See *ICA Exhibit K*, p. 1.

²¹ Per *ICA Exhibit B*, Trunk Group Service Request is a CenturyLink notification to CLEC that trunk blocking exceeds the thresholds on a trunk group.

²² Utah Administrative Code Rule R746-365-4 available at <http://www.rules.utah.gov/publicat/code/r746/r746-365.htm>.

²³ See also https://downloads.avaya.com/elmodocs2/s8700/cnet/NW_Ref_Ch73.html.

²⁴ See AT&T Service Quality Measurement Plan (SQM), Florida Performance Metrics, Measurement Descriptions Version 6.02 (Effective Date: March 1, 2014), metric TGP-1 "Trunk Group Performance."

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OP-3 Installation Commitments Met

This is a payment-eligible PID.²⁵ It measures the percentage of orders for which the scheduled due date is met.²⁶ Results for LIS trunks are reported through sub-measures OP-3D (in Interval Zone 1) and OP-3E (in Interval Zone 2). The current wholesale performance standard for LIS trunks for this metric is parity with Feature Group D CenturyLink trunks.

An examination of CenturyLink's Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

The average (across months of observations) percentage of installation commitments met was approximately 98.9% on CLEC trunks and 97.9% on the CenturyLink trunks. The median (mid-point of observed data) percentage of installation commitments met was 100% on both CLEC trunks and the CenturyLink trunks.

I propose that the standard for this metric be replaced with a benchmark of 95%. This is a reasonable benchmark given actual performance on CLEC and the CenturyLink trunks. One illustration is that the 10-state Verizon East wholesale performance plan uses this benchmark for the similar metric PR-4-15 "Percent on Time Provisioning – Trunks,"²⁷ which is a metric designed specifically for CLEC interconnection trunks.

OP-5 New Service Quality

There are two sub-metrics for this metric that relate to LIS trunks, sub-metric OP-5A, which is a payment-eligible PID, and sub-metric OP-5R, which is a diagnostic metric.²⁸ I address here only sub-metric OP-5A.²⁹ It measures the percentage of orders that are free of trouble reports within 30 days of installation. The current wholesale performance standard for LIS trunks for this metrics is parity with Feature Group D CenturyLink trunks.

An examination of CenturyLink's Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

²⁵ See *ICA Exhibit K*, p. 1.

²⁶ See *ICA Exhibit B*.

²⁷ See *Verizon Carrier-to-Carrier Guidelines, Performance Standards and Reports. Verizon Reports, Connecticut Delaware District of Columbia Maryland Massachusetts New Jersey New York Pennsylvania Rhode Island Virginia*, Verizon 18.0 available at <http://www22.verizon.com/wholesale/clecsupport/content/performanceassuranceplans.html>.

²⁸ See *ICA Exhibit K*, p. 1.

²⁹ Sub-metric OP-5R is "New Service Quality Multiple Reports." I found only two data points -- two months during which data on this sub-metric was reported during my period of study. Therefore, for simplicity I do not propose changes to this sub-metric.

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The average (across months of observations) percentage of orders that are free of trouble reports within 30 days of installation was 99.6% on CLEC trunks and 100% on the CenturyLink trunks. The median (mid-point of observed data) percentage of installation commitments met was 100% on both CLEC trunks and the CenturyLink trunks.

I propose that the standard for this metric be replaced with a benchmark of 98%. This is a reasonable benchmark given actual performance on CLEC and the CenturyLink trunks. This proposal is also consistent with a benchmark for a related metric adopted in the Verizon California and Florida wholesale service performance plan. That plan contains a metric PR-6-01 “% Troubles in 30 days for Special Services Orders” with a benchmark for interconnection trunk set at 2%.³⁰ Since the Verizon metric measures the percent of troubles following installation, and the CenturyLink metric at issue measures the percent installations free of follow up troubles, the Verizon benchmark of 2% (=100% - 98%) is analogous to my proposal to use benchmark 98% for the CenturyLink metric.

PO-9 Timely Jeopardy Notices

This is a diagnostic (not eligible for payment) PID.³¹ When original due dates for an order are missed, it measures the percent of late orders for which advance jeopardy notifications was provided. Results for LIS trunks are reported within sub-metric PO-9C.

An examination of CenturyLink’s Minnesota statewide wholesale performance from the time of the CenturyLink/Qwest merger (April 2011) to present (January 2015) showed the following:

Only two data points are available for CLEC LIS trunks (suggesting no installations in other months); with one data point reported for the CenturyLink trunks. In all instances the percent of timely jeopardy notices was zero. To collect additional data points on the CenturyLink FGD trunks, I reviewed the CenturyLink most recent performance data files (December 2013-January 2015) for three other “large” states – Arizona, Colorado and Washington.³² I found eight instances in which performance data on the CenturyLink trunks was reported for this metrics in these three states. In all instances the percent of timely jeopardy notices on both CLEC and the CenturyLink trunks was zero.

I propose that the standard for this metric be replaced with a benchmark of 95%. This is a reasonable benchmark given benchmarks for similar metrics adopted by other ILECs. Specifically, the AT&T Florida wholesale performance plan adopted a benchmark of 95% for metric P-2A “Percentage of Orders Given Jeopardy Notices >= 48 Hours”.³³ This benchmark

³⁰ *Verizon California and Florida Plan.*

³¹ See *ICA Exhibit K*, p. 1.

³² I picked “large” states to maximize the likelihood of finding additional observations for this metric.

³³ See AT&T Service Quality Measurement Plan (SQM), Florida Performance Metrics, Measurement Descriptions Version 6.02 (Effective Date: March 1, 2014), metric TGP-1 “Trunk Group Performance.”

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applies for local interconnection trunks, as well as all other wholesale services. The Verizon California and Florida wholesale service performance plan³⁴ contains metric PR-7-01, which measures the percentage of jeopardy notices that were sent by the required interval, utilizes a benchmark of 95% (this benchmark is not product-specific).

³⁴ *Verizon California and Florida Plan.*

CERTIFICATE OF SERVICE

I, Valerie Mendoza, on behalf of the Minnesota Cable Communications Association hereby certify that I have this day, served copies of the following document on the attached list of persons by electronic filing, certified mail, e-mail, or by depositing a true and correct copy thereof properly enveloped with postage paid in the United States Mail at St. Paul, Minnesota:

REPLY COMMENTS OF MINNESOTA CABLE COMMUNICATIONS ASSOCIATION

MPUC Docket No.: P-999/R-14-413

Dated this 13th day of March 2015

/s/Valerie Mendoza, Paralegal

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