BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Petition of:	)	
	)	Docket No. UT-033044
QWEST CORPORATION	)	
	)	
To Initiate a Mass-Market Switching and Dedicated Transport Case Pursuant to the Triennial Review Order	)	

RESPONSE TESTIMONY

OF

Dean R. Fassett

On Behalf of

Eschelon Telecom of Washington, Inc., Global Crossing Local Services, Inc.,

Integra Telecom of Washington, Inc.,

McLeodUSA Telecommunications, Inc., Pac-West Telecomm, Inc., and

XO Washington, Inc.

February 2, 2004

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dean R. Fassett. My business address is 141 Juniper Drive, Ballston Spa, New York, 12020.

Q. BY WHOM AND IN WHAT CAPACITY ARE YOU EMPLOYED?

A. I am the owner of Adirondack Telecom Associates. Currently, I am providing telecommunications consulting services to Eschelon Telecom of Washington, Inc., Global Crossing Local Services, Inc., Integra Telecom of Washington, Inc., McLeodUSA Telecommunications, Inc., Pac-West Telecomm, Inc., and XO Washington, Inc. (collectively "Joint CLECs") to address the proper application of the impairment analysis for unbundled dedicated transport as directed by the Federal Communications Commission ("FCC") in the *Triennial Review Order* ("TRO").

Q. PLEASE SUMMARIZE YOUR BACKGROUND IN OUTSIDE PLANT ENGINEERING AND CONSTRUCTION.

A. I have over 33 years of telecommunications experience in outside plant engineering and construction. Prior to my retirement from NYNEX in May 1996, I had outside plant engineering and construction responsibilities for the Adirondack District as the Area Operations Manager. This work included both the actual performance of outside plant engineering work and the supervision of construction personnel performing those tasks. Before that assignment, I was the Engineering Manager for the Capital South District. In this capacity, I was

responsible for all engineering operations for the design and construction of the local network within an area that encompassed metropolitan, suburban and rural environments. During these assignments I personally participated in and was responsible for numerous projects that included:

- The planning/design and construction of a $10.7 million 117 mile interoffice SONET project
- Design and deployment of numerous fiber fed DLC systems within 69 central offices.
- Design and construction of feeder and distribution facilities to meet the service requirements for a customer base of approximately 400,000 residential customers
- OSP rehabilitation projects to upgrade distribution plant to engineering design standards for the 69 central offices under my responsibility
- Designing and provisioning of numerous digital services to meet the requirements of business customers within city and rural environments including the first HDSL application within region and first PG Flex installation within NYNEX
- Implementation and conversion and utilization of OSP assignment records to mechanized databases

- Preparation and administration of contracts with vendors and labor contractors

Since my retirement from NYNEX, I have continued to work in the outside plant engineering and construction arena working as a contract engineer and operations manager on various projects, including interoffice fiber networks. In summary, I have had a wide range of hands-on experience that includes urban, suburban and rural network design and construction. From late 1998 through April, 2000 I was responsible for company operations and engineering at Frontier Communications of AuSable Valley in upstate New York, a small incumbent local exchange company ("ILEC") that until recently was an independent company and is currently owned by Citizen's Telephone Company. In that capacity, I was responsible for the planning, engineering design and construction of all interoffice and OSP projects, including coordination with other utilities and service providers, preparation and awarding of outside contracts and acquisition of material and test equipment. During that assignment I was also responsible for the planning/designing, constructing and operation of facilities used during the first Winter Goodwill Games at Whiteface Mountain in February 2000. In August 2000 I resumed providing consulting services to various clients as an outside plant engineering and construction expert.

Thus, I have experience with both large and small ILECs and have actually designed the interoffice and local loop networks and performed the outside plant

tasks that I will discuss in my testimony. My Curriculum Vitae is included as Exhibit DRF-2 to this testimony.

Q. HAVE YOU RECEIVED ANY TRAINING IN OUTSIDE PLANT ENGINEERING AND CONSTRUCTION?

A. Yes. I have attended many outside plant training courses for engineering and construction at the Bell System and Bellcore Training Centers including, among others, Principles of Digital Technology, Applied Transmission, Advanced Distribution Design, Underground Conduit Systems, SONET, FACS, COSMOS-RCMAC/engineering, Engineering Economy, Loop Technology Planning, along with private training available through various vendors including Nortel, NEC, Alcatel, 3M, and Siecor. The training centers attended also included Mountain Bell's Training Center in Colorado.

Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION AND OTHER PUBLIC UTILITY COMMISSIONS?

A. Yes. Since 1996, I have testified before this commission and several other State Public Service or Utility Commissions or Boards. Attached Exhibit DRF-3, (docket data) also identifies the various proceedings in which I have participated.

II. PURPOSE

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to respond to the transport issues raised in the testimony and exhibits submitted by Rachel Torrence on behalf of Qwest Corporation ("Qwest"), with particular emphasis on the technical aspects for

applying the impairment analysis for unbundled dedicated interoffice transport that the FCC adopted in its TRO.

To best enable the Commission to understand my analysis, I discuss the FCC's requirements with respect to impairment in the context of unbundled transport. As I discuss below, the FCC made a national finding that requesting carriers are impaired without access to unbundled transport. The FCC stated, however, that there might be limited transport routes on which CLECs are not impaired. The FCC established triggers that the states must apply if an ILEC challenges the impairment finding to determine whether the FCC's impairment finding has been overcome on that particular route. Within the impairment analysis, I discuss the triggers that the FCC has specified and explain how those triggers must be applied to each route that Qwest has identified as non-impaired. I will explain that the analysis is location and route specific, and that the analysis must be performed separately for each capacity level for which an ILEC challenges the FCC's finding of impairment. The FCC provided state commissions with specific criteria to interpret these triggers. As such, I will describe the key terms used in the triggers, and I will explain how those terms should be interpreted consistent with the FCC's rules.

In light of these requirements, I discuss the various components of typical network architecture to provide high capacity dedicated transport facilities as defined by the FCC. I then address the impairment analysis within the framework

that the FCC provided to the states to conduct this analysis. I explain why the information that Qwest has provided is insufficient to demonstrate that no impairment exists on the routes that Qwest has specified. I then address the information on transport that CLECs provided in response to the Commission's bench requests – information that Qwest inexplicably ignores. Based on my analysis of the available evidence, I conclude that CLECs are still impaired on all of the routes identified by Qwest for the Seattle area. Accordingly, I recommend that the Commission reject Qwest's proposal to have these routes declared non-impaired and that the Commission continue to require Qwest to provide unbundled dedicated transport to requesting carriers on all routes between Qwest central offices in Washington.

III. FCC REQUIREMENTS

Q. OTHER WITNESSES HAVE TESTIFIED ON THE REQUIREMENTS IN THE TRO WITH RESPECT TO UNBUNDLED TRANSPORT. DO YOU NEED TO INCLUDE A DISCUSSION OF THOSE REQUIREMENTS?

A. Yes. Qwest's testimony on unbundled transport flies in the face of many of the requirements the FCC established for determining when impairment no longer exists on specific dedicated transport routes. To enable the Commission to understand my analysis of that testimony and the available evidence, a brief discussion of the relevant FCC requirements is necessary.

Q. PLEASE DESCRIBE YOUR UNDERSTANDING OF THE FCC'S APPROACH TO DETERMINING IMPAIRMENT FOR UNBUNDLED TRANSPORT.

A. The FCC concluded that competing carriers are impaired on a national level without access to unbundled high capacity transport (DS1, DS3, and dark fiber).

As a result, the FCC rules require that competing carriers have access to unbundled loops and transport everywhere unless the ILEC can prove that competing carriers would not be impaired in their ability to obtain transport on a specific route without access to unbundled transport. The FCC delegated authority to the states to conduct a granular analysis to identify any such routes.

Q. DID THE FCC ESTABLISH GUIDELINES FOR THE STATES TO USE?

A. Yes. The FCC adopted two triggers to guide the route-specific impairment analysis that states must use to identify particular routes where competing carriers truly are not impaired without access to unbundled dedicated transport: a self-provisioning trigger and a wholesale facilities trigger. The self-provisioning trigger applies only to DS3 and Dark Fiber transport, and the wholesale trigger applies only to DS1 and DS3 transport.

Q. PLEASE DESCRIBE THE FCC'S SELF PROVISIONING TRIGGER FOR UNBUNDLED DEDICATED TRANSPORT.

A. The self-provisioning trigger is designed to identify routes "along which the ability to self-provide transport facilities is evident" based on the existence of several competitive transport providers. *TRO* ¶ 400. To satisfy the self-provisioning trigger, a state must find that there are ***three or more*** competing providers not affiliated with each other or the ILEC that have deployed their own DS3 dedicated transport facilities and are operationally ready to use those facilities to provide dedicated transport along the particular route. For dark fiber transport, under the self-provisioning trigger, the state must find that there are ***three or more*** competing providers not affiliated with each other or the ILEC that

have deployed their own dark fiber facilities. 47 C.F.R. § 51.319(e)(3)(i)(A). (The self-provisioning trigger does not apply to DS1 transport.)

For both dark fiber and DS3 dedicated transport, under the FCC's rules, to satisfy the self-provisioning trigger, each of the competing provider's facilities must "terminate at a collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises." 47 C.F.R. §§ 51.319(e)(2)(i)(A)(2) – 51.319(e)(3)(i)(A)(2).

Q. PLEASE DESCRIBE THE FCC'S WHOLESALE TRIGGER FOR UNBUNDLED DEDICATED TRANSPORT.

A. The wholesale facilities trigger examines whether there are competing providers offering a bona fide product on the specific route. To satisfy the wholesale facilities trigger, the Commission must find that there are there are ***two or more*** competing providers that have deployed their own dedicated transport facilities, that are operationally ready to use those transport facilities and are willing to provide transport over those facilities on a widely available wholesale basis to other carriers. Specifically, the trigger requires evidence that:

- Two or more competing providers not affiliated with each other or with the ILEC are present on the route;
- Each provider has deployed its own transport facilities "and is operationally ready to use those facilities to provide dedicated … transport along the particular route;"
- Each provider "is willing immediately to provide, on a widely available basis," dedicated transport to other carriers on that route;

- Each provider's facilities terminate in a collocation arrangement at each end of the transport route; and

- Requesting telecommunications carriers are able to obtain reasonable and nondiscriminatory access to the competing provider's facilities through a cross-connect to the competing provider's collocation arrangement." 47 C.F.R. § 51.319(e)(1)(ii).

Q. FOR PURPOSES OF APPLYING THE TRIGGERS, WHICH FACILITIES COUNT AS "OWNED FACILITIES"?

A. In order for facilities to count as owned, the carrier must have deployed its "own facilities" on the transport route. There are two ways that a carrier can have ownership over the facilities: the carrier can have legal title to the facilities; or the carrier can have a "long-term" (*i.e.*, 10 years or more) dark fiber indefeasible-right-of-use ("IRU"), if the fiber is lit by the qualifying carrier by attaching its own optronics to the facilities. If the carrier does not own its own facilities, then the carrier cannot be counted toward the self-provisioning trigger.

Q. WHICH FACILITIES DO NOT COUNT AS "OWNED FACILITIES"?

A. Facilities obtained from other sources such as through special access arrangements, UNEs, capacity leases (unless they are long-term IRUs), and all third party provided facilities do not count as "owned facilities." As I stated above, the FCC specifically emphasized that a CLEC "using the special access facilities of the incumbent LEC or the transmission facilities of the other competitive provider … would *not* satisfy the definition of a self-provisioning competitor for purposes of the trigger." *TRO* ¶ 333. Dark fiber long term IRUs do not count as an owned facility unless optronics are attached.

Q. WHAT DOES IT MEAN FOR A CLEC'S TRANSPORT FACILITIES TO BE "OPERATIONALLY READY"?

A. Under the FCC's rules, carriers cannot be included for purposes of either trigger unless they are operationally ready to use those facilities. For purposes of the self-provisioning trigger, at a minimum, operational readiness requires that the carrier actually be using facilities to provide qualifying telecommunications services.

In establishing the competitive wholesale facilities trigger, the FCC recognized that there might be wholesale competition to the ILEC's facilities. CLECs would welcome a truly wholesale competitive market. For a wholesale market to develop, however, the appropriate systems and processes must be in place (not unlike ILEC OSS processes). Part of these systems and processes pertains to the capabilities of the alternative provider, while an equal part pertains to the readiness of the ILEC to support competitive wholesale suppliers.

Accordingly, with regard to the wholesale facilities trigger, to evaluate whether a carrier is operationally ready and willing to provide transport at each capacity level, the Commission should consider, at a minimum, whether the carrier:

- Has sufficient systems, methods and procedures for pre-ordering, ordering, provisioning, maintenance and repair, and billing;
- Possesses the ability to actually provision wholesale high capacity loops to each specific customer location identified or to provide dedicated transport along the identified route;
- Is capable of providing transport at a comparable level of capacity, quality, and reliability as that provided by the ILEC;
- Is collocated in each central office at the end point of each transport route;

- Has the ability to provide wholesale high capacity transport in reasonably foreseeable quantities, including having reasonable quantities of additional, currently installed capacity; and

- Reasonably can be expected to provide wholesale transport capacity on a going-forward basis.

The FCC specifically stated that the wholesale facilities trigger "safeguards against counting alternative fiber providers that may offer service, but … are otherwise unable immediately to provision service along the route" and "avoid[s] counting alternative transport facilities owned by competing carriers not willing to offer capacity to their network on a wholesale basis." *TRO* ¶ 414. The FCC sought to ensure that "transport can readily be obtained from a firm using facilities that are not provided by the incumbent LEC." *TRO* ¶ 412. Under this analysis, the ILEC must demonstrate that the wholesale provider actually provides wholesale service on the particular route at issue. A general demonstration that the carrier provides wholesale service is not sufficient because it is not route specific.

Q. WHAT DOES "WIDELY AVAILABLE" MEAN FOR THE WHOLESALE FACILITIES TRIGGER?

A. To be widely available, service must be made available on a common carrier basis, for example, through a tariff or standard contract. An offer to negotiate an individualized private carriage contract does not constitute being widely available. In addition, each carrier identified as a wholesale provider must be able "immediately to provide" wholesale service. 47 C.F.R. § 51.319(e). If the carrier

is required to construct facilities in order for the service to be made available, then the service is not widely available.

Q. WHAT DOES IT MEAN TO BE "SERVING CUSTOMERS"?

A. Under the FCC's rules, to be counted for purposes of the self-provisioning and wholesale triggers, the carrier must be serving customers such that there is live traffic on the route; a carrier cannot merely have facilities on both ends of a transport route. The FCC accurately recognized that carriers incur costs to provide service in addition to the initial investment to deploy facilities. *TRO* ¶ 404. Therefore, non-impairment would exist only if the carrier actually provided service on the route at issue. If the carrier had deployed facilities, but had not yet provided a service on that route, then it must be deemed to still be impaired, such that the carrier cannot count toward satisfying the trigger.

Q. WHAT DOES IT MEAN TO HAVE REASONABLE ACCESS TO THE WHOLESALE PROVIDER?

A. Requesting carriers must be able to access cross-connects at nondiscriminatory rates, terms, and conditions in accordance with FCC and state commission rules. In addition, ILECs must provide requesting carriers with adequate cross-connect terminations at cost-based rates, and must enable sufficient capacity expansion. If carriers are not able to cross connect at the ILEC central office, then they cannot obtain access to the wholesale providers' facilities.

In addition, as I discussed above, for a competitive wholesale market to be in place, there must be proper systems and processes for ordering and provisioning.

For example, requesting carriers also must be able to access an electronic ASR ordering process. In the past, carriers have experienced problems because of having to use two USOCs and due to the fact that the ordering process is not the same as if they were ordering directly from the ILEC. Further, the carriers must be able to respond to service interruptions or quality of service problems experienced by the carriers' end-users. The trouble reporting and resolution process must be seamless in order for a route to be nonimpaired. Carriers also must be able to obtain the service at nondiscriminatory rates and on nondiscriminatory intervals.

Q. IF A CARRIER SATISFIES THE TRIGGER FOR PURPOSES OF ONE CAPACITY LEVEL WILL IT SATISFY THAT TRIGGER FOR OTHER CAPACITY LEVELS?

A. No. As one example, if a carrier satisfies the wholesale facilities trigger for purposes of DS3 transport, that carrier does not automatically satisfy the wholesale facilities trigger for purposes of DS1 transport. Many wholesale carriers, for example, will not provision DS1 transport. Indeed, in the *Triennial Review Order*, the FCC specifically stated that "DS1 transport is not generally available on a wholesale basis." *TRO* ¶ 392 & n.1216 (stating that there is "very limited evidence of carriers using alternative DS1 transport.").

Q. IF A CARRIER SATISFIES THE TRIGGER FOR PURPOSES OF THE SELF PROVISIONING TRIGGER, WILL IT AUTOMATICALLY QUALIFY AS AN ELIGIBLE PROVIDER UNDER THE COMPETITIVE WHOLESALE FACILITIES TRIGGER OR VICE VERSA?

A. No. The FCC emphasized that the triggers are separate and distinct. The purpose of the self-provisioning trigger is to determine through actual experience whether

similar situated CLECs feasibly can deploy their own facilities on a particular route. In contrast, the wholesale facilities trigger examines whether the provider makes its facilities available to other carriers. Some wholesale carriers also may self-provide facilities to serve their own customers. However, others may not provide any service and thus cannot be self-provisioners under the triggers.

IV. NETWORK ARCHITECTURE

Q. HOW DID THE FCC DEFINE UNBUNDLED DEDICATED TRANSPORT FOR PURPOSES OF THE IMPAIRMENT ANALYSIS?

A. In the *Triennial Review Order*, the FCC defined dedicated interoffice transport facilities as "facilities dedicated to a particular customer or competitive carrier that it uses for transmission among incumbent LEC central offices and tandem offices." *TRO* ¶ 361. The FCC stated, "We limit our definition of dedicated transport under section 251(c)(3) to those transmission facilities connecting incumbent LEC switches and wire centers within a LATA." TRO ¶ 365. By definition, dedicated transport facilities exclude shared transport, which consists of facilities shared by more than one carrier. *TRO* ¶ 361 & n.1100. Dedicated transport, as currently defined by the FCC, also excludes transmission facilities that connect a CLEC network to the ILEC network. TRO ¶ 366.

Q. DID THE FCC'S IMPAIRMENT ANALYSIS DISTINGUISH AMONG DIFFERENT TYPES OF UNBUNDLED DEDICATED TRANSPORT?

A. Yes. The FCC segregated dedicated transport by levels of capacity before performing its impairment analysis stating that this would "be the most informative manner to review the economic barriers to entry that affect how a competing carrier is impaired without access to unbundled transport." *TRO* ¶ 380.

The FCC performed separate impairment analyses for OC(n) Transport, Dark Fiber Transport, DS3 Transport, and DS1 Transport.

Q. FOR PURPOSES OF THE TRIGGER ANALYSIS, HOW DID THE FCC DEFINE A TRANSPORT ROUTE?

A. For purposes of the trigger analysis, the FCC defined a transport route as "a connection between wire center or switch 'A' and wire center or switch 'Z'." *TRO* ¶ 401. The FCC elaborated that "[e]ven if, on the incumbent LEC's network, a transport circuit from 'A' to 'Z' passes through an intermediate wire center 'X,' the competing providers must offer service connecting wire centers 'A' and 'Z,' but do not have to mirror the network path of the incumbent LEC through wire center 'X'."

Q. BASED UPON THIS DEFINITION, CAN THE COMMISSION DETERMINE ON WHICH ROUTES THERE IS NO IMPAIRMENT BY IDENTIFYING CENTRAL OFFICES IN WHICH COMPETING CARRIERS HAVE PLACED FIBER OPTIC FACILITIES WITHIN COLLOCATION ARRANGEMENTS?

A. No. The FCC's determination that "the competing providers must offer service connecting wire centers 'A' and 'Z'" requires the competing carrier to actually have provisioned live circuits between wire centers "A" and "Z". While a route requires the presence of a collocation arrangement and fiber in wire centers "A" and "Z", it also requires that the capability exists to connect the two wire centers either on a physical basis via a fiber splice, or a logical basis via an optical cross connection arrangement. Additionally, the appropriate optical terminating equipment and multiplexers must be present in each wire center, and the competing provider must have the administrative means of accepting an order and

provisioning a circuit between the two offices. The self-provisioning trigger requires that facilities be in current use to service customers.

Q. DO TRANSPORT ROUTES INCLUDE OTHER TYPES OF CONNECTIONS?

A. No. A transport route must be between two ILEC central offices or wire centers. By definition, routes do not include connections to CLEC switches or third party facilities such as carrier hotels or data centers.

Q. PLEASE DESCRIBE A TYPICAL NETWORK ARCHITECTURE UTILIZED FOR PROVISIONING DEDICATED TRANSPORT FACILITIES BETWEEN ILEC SWITCHES OR CENTRAL OFFICES?

A. A typical interoffice transport network architecture connecting two ILEC switches or central offices consists of several components. The most obvious component is the fiber cable placed between to two locations as the transmission path or medium. Typically interoffice fiber is placed either within underground or a combination of underground and buried plant structure with aerial structure being utilized occasionally.

At each central office, the fiber cable is terminated into an LGX or Fiber Distribution or Termination Panel. This termination is accomplished be "fusing" or splicing individual fibers to "pigtails" or a "MIC" fiber cable containing multiple fibers and provides the actual connection or path between fibers within the interoffice fiber cable and fiber connectors within the LGX or fiber panel. Fiber distribution panels or cross-connects are available in several configurations and capacities, but typically are installed within standard 23-inch relay racks.

Wall mounted configurations are available for small or specialized installations where a minimal number of fibers are being terminated or relay racks are unavailable.

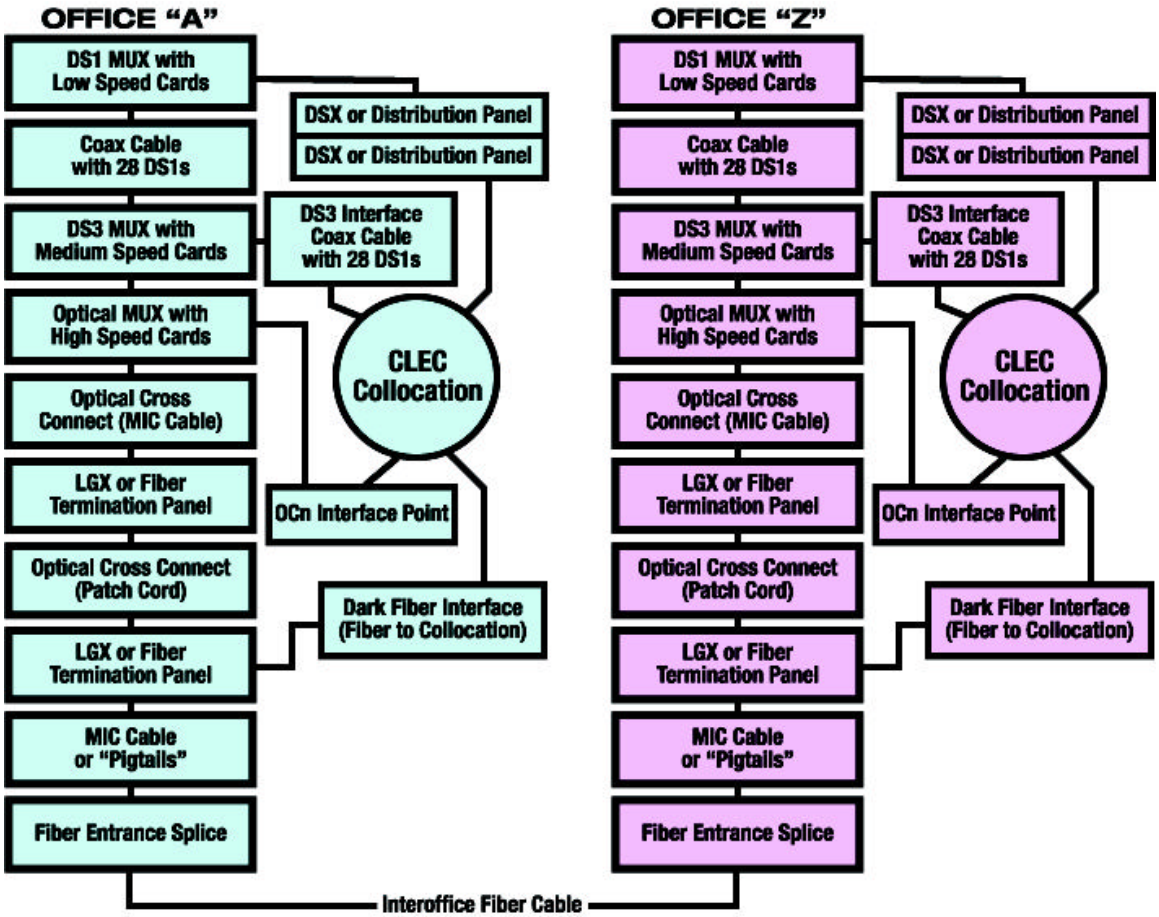
The next component is a fiber "pigtail" or jumper that connects the fiber termination panel from the outside plant fiber to the fiber termination panel or LGX where the multiplexer is terminated. These fiber "jumpers" are also referred to as "optical cross-connects".

The multiplexer is the next component and its function is to convert the capacity or bandwidth of a facility from a lower level to a higher level into a single channel for transmission over the transport network. A multiplexer similarly converts the capacity or bandwidth of a facility from a higher level to a lower level at the far end or termination point. For example, multiplexers convert 24 DS0's into a DS1, 28 DS1's into a DS3 and 12 DS3's into an OC12 bandwidths. OCn capacity levels typically will range between OC3 and OC 192, with OC3 having a capacity of 3 DS3's or 84 DS1's. These conversions or multiplexing are accomplished through a series of shelves and channel cards to establish a single Optical Carrier (OCn) for transmission between the two central offices. Multiplexers and the associated shelves with plug-ins or cards are typically mounted within a relay rack. The capacity requirements, whether DS-1's or DS-3's to be transported, determine the speed of the plug-in card to be installed into the multiplexer. High-speed cards are required for all levels of optical transmission, and medium speed

cards are required to transmit and receive at a DS-3 level. For the transmission of DS-1 capacity circuits, it is necessary to install "low speed" cards. This also requires the installation of coaxial cabling from the multiplexer to the DSX or digital cross-connect for DS-1 transport facilities.

These components are required at each central office or other location where the transport is being provisioned. In other words, both ends of the transport network mirror each other. Thus, there obviously is much more to provisioning a dedicated transport facility between central offices than simply having a fiber cable placed between them or within "close proximity" to them.

In offices where CLECs are collocated, their high capacity circuits are connected to these network components depending upon the level of dedicated transport being provisioned. For example, in a dark fiber scenario, CLEC's cross-connect optically at the LGX or FTP where the outside plant fiber is terminated. For DS-3 transport CLEC's would typically interconnect at the DS-3 shelf or cross-connect. Likewise DS-1's would cross connect electrically at a DSX or other DS-1 cross-connect point. The following provides a basic overview of the typical dedicated transport facility architecture that I have described above:



V. QWEST'S DEFICIENT INFORMATION

Q. HAS QWEST PRESENTED EVIDENCE CONSISTENT WITH THE FCC'S REQUIREMENTS FOR DEMONSTRATING LACK OF IMPAIRMENT ON THE TRANSPORT ROUTES THAT QWEST HAS IDENTIFIED?

A. Definitely not. Qwest's "evidence" does not approach the granularity or reliability required by the FCC. Qwest ignores the CLEC responses to the Commission's bench requests and relies solely on information that Qwest independently developed to reach its conclusions. Typical of Qwest's approach is its failure even to attempt to distinguish between different transport capacity

levels. Qwest is satisfied merely to assume that CLECs have deployed OCn facilities and further assume that because an OCn facility could be used to provide DS3 and DS1 (and presumably dark fiber) transport, all CLECs are self-provisioning or offering wholesale transport services at all of those levels. In stark contrast to the FCC's requirements, Qwest's "evidence" addresses only the transport facilities and services that Qwest believes CLECs ***could*** be deploying or providing, rather than attempting to prove the facilities and services that CLECs actually have deployed or are providing.

Q. ON WHAT INFORMATION DOES QWEST RELY?

A. Qwest relies on its own central office facility records, two surveys conducted by outside consultants, and the personal observations of Ms. Torrence. This information is not even arguably sufficient to demonstrate lack of impairment on the transport routes that Qwest has identified.

Q. WHY ARE QWEST'S CENTRAL OFFICE FACILITY RECORDS INSUFFICIENT?

A. Qwest's central office facility records reflect which CLECs are collocated in a particular central office and what facilities the CLEC obtains from Qwest in that central office. Even Qwest concedes, however, that those records do not include the location of any transport facilities between Qwest central offices that the CLEC self-provisions or obtains from a carrier other than Qwest. Nor should the Commission accept Qwest's assumption that such transport facilities exist. The CLEC may simply deploy the equivalent of an entrance facility between its switch (or a "collocation hotel") and the Qwest central office for purposes of exchanging

traffic and accessing other UNEs. A CLEC may have a number of such entrance facilities between its switch (or a collocation hotel) and various Qwest central offices, but those facilities are not equivalent to dedicated transport as defined by the FCC.

Q. WHAT ABOUT THE SURVEYS THAT QWEST COMMISSIONED?

A. The two surveys the Ms. Torrence references in her testimony address only the location of fiberoptic networks that have been constructed by CLECs in the greater Seattle metropolitan area. Again, this information does not provide any insights on the extent to which a CLEC has self-provisioned operationally ready transport facilities between Qwest central offices. As I discussed above, operationally ready transport facilities include far more than fiberoptic cable.

Q. IN FOOTNOTE 13 ON PAGE 20 OF MS. TORRENCE'S TESTIMONY IT STATES THAT QWEST, FROM AN ENGINEERING PERSPECTIVE, CONSIDERS 300 FEET A REASONABLE DISTANCE THAT ALLOWS FOR ECONOMICAL ACCESS TO QWEST CENTRAL OFFICE. EVEN IF THIS WERE TRUE, IS IT APPLICABLE TO THE SELF PROVISIONING OR WHOLESALE TRIGGERS?

A. No. This would only be an issue if Qwest wanted to pursue a separate track for the Commission to determine that competing providers are not impaired without access to ILEC dedicated transport facilities; potential deployment Sections 51.319(e)(2)(ii) and (3)(ii). Other than this vague reference, Qwest did not pursue this option in its direct case. Therefore, the Commission should ignore this reference.

Q. DO YOU AGREE WITH QWEST'S ASSUMPTION THAT 300 FEET IS A REASONABLE DISTANCE FOR ECONOMICAL ACCESS?

A. No, I strongly disagree with Qwest's determination that, from an engineering perspective, 300 feet is considered a reasonable distance to allow economical access to the Qwest central office. This is like saying that residents of a small town with no entrance or exit ramps to an interstate highway have access to the interstate simply because the interstate highway passes near the small town - even though the nearest entrance interchange may be 20 miles away. Qwest is truly stretching the limits and ignoring too many factors that impact whether economical access to the fiber cable can actually be provided. Some of these factors include:

- Does spare capacity exist within the fiber cable?
- Where is the nearest existing fiber splice?
- Is there adequate slack in the cable to accommodate a new fiber splice at the location?
- Where does the existing fiber cable terminate?
- Does the fiber cable actually route to the end office of the route being analyzed?
- What is the impact of creating an intermediate splice in the existing fiber cable and how will this impact existing facilities within the cable?

Q. WHY DOES THE LOCATION OF EXISTING FIBER SPLICES HAVE AN IMPACT UPON WHETHER DARK FIBER CAN BE ACCESSED ECONOMICALLY?

A. Existing splice locations are very critical in determining whether it is economically feasible to access an existing fiber cable. When designing fiber

cable systems or networks, engineers take into consideration where fiber splices will be located. Just because a fiber cable may pass within 300 feet of a Qwest office doesn't mean that an existing fiber splice is located at that point in the network. It may be entirely possible that the fiber was placed as a point to point network, or "home runs" with no intermediate splices.

Q. WHEN WOULD DARK FIBER BE CONSIDERED ACCESSIBLE FROM AN ENGINEERING PERSPECTIVE AND UNDER THE CRITERIA SPECIFIED IN THE TRO?

A. From an engineering perspective dark fiber would be considered accessible only when it appears terminated in a fiber termination or distribution panel or LGX within the central office or at a collocation point. In the TRO, the FCC specifies that for the self-provisioning trigger to be satisfied "the competing provider's facilities terminate in collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises."[1] Qwest's "close proximity" likewise misses the TRO trigger requirements for competitive wholesale facilities. Wholesale triggers require that the competing provider's facility be "operationally ready to lease or sell", be available "on a widely available basis" along a particular route[2]. In addition "access to the competing provider's dark fiber through a cross-connect to the competing provider's collocation arrangement at each end of the transport route that is

[1] TRO Appendix B, Final Rules, 51.319 (3)(i)(A)(2)
[2] TRO Appendix B, Final Rules, 51.319 (3)(i)(B)(1) & (2)

located at an incumbent LEC premises". This certainly doesn't mean within 300 feet of Qwest's central office.

Q. IN ADDITION TO NOT SATISFYING THE TRO REQUIREMENTS, ARE THERE OTHER ENGINEERING ISSUES BESIDES ACTUAL ACCESS TO THE FIBER THAT RENDER QWEST'S 300 FEET "CLOSE PROXIMITY" ASSUMPTION UNREALISTIC?

A. Yes, besides not meeting the requirements specified in the TRO, Qwest's 300 feet "close proximity" assertion raises several other engineering concerns that make it unrealistic. These engineering concerns include:

- Power Supply and backup power – How would power requirements be met in a manhole or handhole location?
- Placement of electronics & equipment– fiber termination panel, Multiplexer, DS3 and DS1 shelves and cross connects.

Q. ARE MS. TORRENCE'S PERSONAL OBSERVATIONS ANY MORE ILLUMINATING?

A. Not of the transport issues in this proceeding. Ms. Torrence summarizes several observations, including review of CLEC websites and inspection of collocated facilities and manhole or handhole locations. None of this information demonstrates that any CLEC has self-provisioned or offers wholesale transport facilities. None of the website information that Qwest provides indicates anything other than some carriers' general representation that they provide wholesale services. There is no reference to interoffice transport, much less transport between specific Qwest central offices.

I have reviewed Qwest Exhibit RT.5C which contains some photographs of manhole or handhole locations at Qwest central offices that are assumed to be owned by CLECs. Also included in the exhibit are drawings illustrating the location of these manholes or handholes in relation to Qwest's central offices. As discussed above, even if these manholes or handholes house fiber and other facilities owned by CLECs, they do not demonstrate that CLECs have deployed operationally ready transport facilities through those manholes or handholes.

Finally, Ms. Torrence's personal observations of collocation arrangements are no more instructive than Qwest's central office facility records. Simply looking at collocated equipment provides no indication of whether that equipment is being used for transport between Qwest central offices, much less the location or capacity of any such transport facilities.

Q. DID QWEST PROVIDE ANY EXPLANATION OF HOW IT DERIVED EXHIBIT RT-9HC FROM THE INFORMATION IT DEVELOPED?

A. No. Both the Joint CLECs and AT&T propounded data requests asking Qwest to provide a detailed explanation of the basis on which Qwest identified each CLEC on each route listed in Exhibit RT-9HC. Qwest's response to the Joint CLECs is attached as Exhibit DRF-4 and simply refers to Ms. Torrence's exhibits – specifically Exhibits RT.2C and RT.3HC – and provides printouts of some carrier website pages. Exhibit RT.2C, however, is the map with various CLEC fiber networks, and Exhibit RT.3HC is the consultant's survey of CLEC network facility locations. As I discussed above, neither of these exhibits provide sufficient evidence of operationally ready CLEC transport routes between Qwest

central offices. The CLEC websites, moreover, contain only general representations that carriers provide wholesale services, without any reference to transport services, much less transport on specific routes between Qwest central offices.

Q. HOW DOES QWEST'S INFORMATION COMPARE WITH THE FCC'S REQUIREMENTS FOR PROVING NONIMPAIRMENT ON SPECIFIC TRANSPORT ROUTES?

A. Qwest's information falls woefully short of the FCC's requirements. With respect to the self-provisioning trigger, Qwest has provided CLEC network location information, but none of that information includes the ownership, location or capacity of CLEC facilities used to provide transport between Qwest central offices or whether any such facilities actually terminate at a collocation arrangement in Qwest's central offices. Qwest has also provided information that CLECs have collocated equipment that is in use in various Qwest central offices, but none of that information indicates whether that equipment is used to provide transport between Qwest central offices, much less whether it is operationally ready for such use.

Qwest similarly fails to satisfy the FCC requirements for the wholesale trigger. As is true of the self-provisioning trigger, none of Qwest's information demonstrates that any CLEC has deployed its own transport facilities and is operationally ready to provide dedicated transport along the routes that Qwest has identified. In addition, Qwest has provided information that some CLECs offer services to other CLECs, but none of that information includes serving customers

or offering transport services on the routes Qwest has specified, much less that the CLECs offer wholesale transport services on a widely available basis. Nor does Ms. Torrence address other operational issues that may be the source of impairment, including the ability of CLECs to access Qwest loops in offices where they are not collocated using third party transport.

The information that Qwest has provided is nothing but unsubstantiated assumptions based on general CLEC network data, which does not even approach the type of evidence the FCC expects the Commission to evaluate. Qwest thus has given neither the Commission nor the parties any basis consistent with the TRO to conclude that impairment does not exist on any of the routes that Qwest has identified.

VI. INDEPENDENT ANALYSIS

Q. DOES THE RECORD INCLUDE ANY EVIDENCE THAT THE COMMISSION CAN USE TO DETERMINE WHETHER IMPAIRMENT NO LONGER EXISTS ON ANY SPECIFIC TRANSPORT ROUTE?

A. Yes. The most reliable information on CLEC self-provisioning and wholesale transport service offerings comes from the CLECs themselves. The Commission and the parties previously recognized this fact and developed bench requests asking for just this type of information. Ms. Torrence inexplicably does not even acknowledge the CLECs' responses to these bench requests, much less use any of the responsive information in her analysis. Had she done so, she would have found that much of that information ***directly contradicts*** the assertions she makes in her testimony.

Q. HAVE YOU UNDERTAKEN AN ANALYSIS OF THE AVAILABLE EVIDENCE?

A. Yes. I have reviewed the CLEC responses to the Commission bench requests on transport issues, as well as responses to the Joint CLECs' supplemental data requests and subpoenas that were propounded to the CLECs that Ms. Torrence identifies in her testimony.[3] I have also undertaken a further independent investigation of one carrier that Qwest has identified as providing wholesale transport on most of the routes that Qwest has identified, as well as a carrier that Qwest has identified as self-provisioning transport on several of those routes. The results of my analysis are included in Exhibit DRF-5HC, which is a table modeled on Exhibit RT-9HC attached to Ms. Torrence's testimony. My analysis demonstrates that where CLEC-provided data exists, it demonstrates that Qwest's information is wholly unreliable and that there is no evidence that a sufficient number of CLECs either self-provision or offer wholesale service on any of the transport routes that Qwest has identified.

With respect to the wholesale designations, most carriers deny providing wholesale transport services on the routes Qwest specified. My analysis of specific "wholesale" carrier routes, moreover, concluded that carriers deploying their own facilities predominantly route traffic between Qwest central offices indirectly, via their hubs. Of the 17 routes reviewed for one carrier, only two of

[3] Unfortunately, responses to the supplemental data requests and subpoenas by some carriers were not available by the time this testimony was filed. I have indicated on Exhibit DRF-5HC where insufficient data exists to undertake an analysis, and I will be prepared to revise this exhibit if more information becomes available from these carriers.

these 17 routes are routed directly between Qwest central offices – all others are routed through the carrier's hub or switching center – and those two routes are provisioned using unbundled dark fiber from Qwest. In addition, of those 17 routes, all but two include unbundled dark fibers that are obtained from Qwest on a monthly basis. With the exception of one carrier-specific route (that uses unbundled dark fiber from Qwest), all facilities are back hauled to the carrier's switching center or hub, and no facilities have been constructed directly between the central offices that Qwest has identified.

I had the opportunity to further discuss these routes and their transport facility status with a network engineer with one competing carrier. This engineer is responsible for that carrier's network throughout the Seattle area. Our discussion further validated my route impairment analysis and the inaccuracy of Qwest's analysis. He confirmed that of the routes Qwest has identified for this carrier, 15 out of 17, or all but two routes, contain dark fibers leased from Qwest and have capacity limitations. Over the past year this competitive provider has had no activity providing wholesale services. Furthermore, any prior wholesale activity did not include Transport facilities as they are defined in the TRO. Rather, the facilities connect an ILEC switching site with a CLEC switching site or carrier hotel – in other words, they provide what is commonly known as entrance facilities, not Transport as defined by the TRO.

Q. DID YOUR ANALYSIS ALSO INCLUDE CLECS THAT QWEST HAD CLAIMED SATISFIED THE SELF-PROVISIONING TRIGGER FOR THE IDENTIFIED ROUTES?

A. Yes, my analysis also included CLECs that Qwest claims are providing dedicated transport facilities on a self provisioning basis. Again, the vast majority of the carriers Qwest has identified deny that they are self-provisioning transport on the routes that Qwest has identified. A review of one of these CLEC's network, for example, indicates that with the exception of a single fiber cable between its hub or switching center and Qwest's Kent O'Brien central office that it owns, this CLEC leases 100% of its fiber facilities from Qwest via unbundled dark fiber through its interconnection agreement, which fails to satisfy the TRO requirements for CLEC self-provisioning. This lease agreement certainly does not meet the TRO trigger requirement for qualifying dark fiber leases that must be on a long term indefeasible-right-to-use basis or IRU.

My analysis of the routes that Qwest has identified demonstrates that the information that Qwest has relied upon to support Qwest's claim of non-impairment for dark fiber is inaccurate and unreliable. Based on the available information, many of the CLECs that are providing or utilizing DS1, DS3 and OCn facilities in the routes identified by Qwest are actually leasing all or part of their fiber networks from Qwest, and virtually no CLEC has deployed or offers wholesale service on transport facilities between Qwest central offices as required by the FCC. The available evidence thus fails to satisfy either of the TRO trigger requirements for unbundled transport.

VII. SUMMARY AND CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY AND CONCLUSIONS.

A. After examining the impairment criteria established by the FCC in the Triennial Review Order for dedicated transport, reviewing the documentation and testimony provided by Qwest and other parties and by applying sound engineering judgment, I have concluded that CLECs are still impaired on the routes identified by Qwest for the Seattle area. Throughout Qwest's impairment analysis, Qwest has made insupportable and inaccurate assumptions and has failed to apply reasonable engineering judgment. The Commission should reject Qwest's proposal to have these routes declared non-impaired and should require Qwest to continue to provide unbundled dedicated transport to requesting carriers on all routes between Qwest central offices in Washington.

Q. DOES THAT CONCLUDE YOUR TESTIMONY?

A. Yes, it does.