EXHIBIT WHL-1T

BEFORE THE WASHINGTON STATE
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	**)**	

DIRECT TESTIMONY

OF

WILLIAM H. LEHR

AND

LEE L. SELWYN

ON BEHALF OF

AT&T COMMUNICATIONS OF THE PACIFIC NORTHWEST, INC.,
AT&T LOCAL SERVICES ON BEHALF OF TCG SEATTLE, AND TCG OREGON
(COLLECTIVELY "AT&T")

ECONOMIC CONSIDERATIONS

December 22, 2003

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I. SUMMARY OF PROFESSIONAL EXPERTISE AND TELECOMMUNICATIONS INDUSTRY EXPERIENCE

William H. Lehr

Q. PLEASE STATE YOUR NAME AND YOUR OCCUPATION.

A. My name is William H. Lehr. My business address is 94 Hubbard Street, Concord, Massachusetts. I am a research associate in the Center for Technology, Policy, and Industrial Development at the Massachusetts Institute of Technology. I am also the Associate Director of the MIT Research Program on Internet and Telecom Convergence.

Q. COULD YOU BRIEFLY OUTLINE YOUR EDUCATIONAL BACKGROUND AND BUSINESS EXPERIENCE IN THE TELECOMMUNICATIONS INDUSTRY?

A. I am a telecommunications industry economist active in academic research and business consulting. My research focuses on the economics and regulation of telecommunications and related information technology industries. I have published numerous papers on the economics and regulation of communications industries and have worked as a consultant to firms and government agencies. My consulting experience includes teaching executive education courses on telecommunications economics and regulation, analysis of business strategy and investments for telecommunications firms, and providing expert testimony on the regulation and economics of the telecommunications industry. In addition to my academic research in the area, I have significant professional experience in the telecommunications industry through positions at consulting firms, at MCI, and as an independent industry consultant.

From 1991 through 2002, I was on the faculty of the Graduate School of Business at Columbia University, first as an assistant professor (1991 to 1996) and then as an adjunct

research scholar (1997 to 2002). Since moving to the Boston area in 1996, I have helped direct the research efforts of the MIT Research Program on Internet and Telecom Convergence. I have a Ph.D. (1992) in economics from Stanford University, an M. B. A. (1985) from Wharton, and an M.S.E. (1984), B.S. (1979), and B.A. (1979) from the University of Pennsylvania. A copy of my *Curriculum Vitae* with additional details is attached as **Exhibit WHL-2**.

Q. HAVE YOU TESTIFIED BEFORE PUBLIC UTILITIES COMMISSIONS OR THE FEDERAL COMMUNICATIONS COMMISSION REGARDING TELECOMMUNICATIONS ISSUES?

A. Yes. I have previously filed or given testimony in telecommunications regulatory proceedings in California, Colorado, Connecticut, Florida, Georgia, Louisiana, Massachusetts, Minnesota, New Mexico, New Jersey, New York, Rhode Island, South Carolina, South Dakota, Utah, and Idaho. I have also submitted affidavits and declarations to the Federal Communications Commission ("FCC") in various telecommunications proceedings.

Lee L. Selwyn

Q. PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.

A. My name is Lee L. Selwyn. I am President of Economics and Technology, Inc. ("ETI"), Two Center Plaza, Boston, Massachusetts 02108. Economics and Technology, Inc. is a research and consulting firm specializing in telecommunications economics, regulation, management and public policy.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND PREVIOUS EXPERIENCE IN THE FIELD OF TELECOMMUNICATIONS REGULATION AND POLICY.

A. I have prepared a Statement of Qualifications, which is provided as **Exhibit WHL-3**.

Q. DR. SELWYN, HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION ("WUTC" OR "COMMISSION")?

A. Yes. I have testified before the WUTC on a number of occasions dating back to the late 1970s. In April 1978, I submitted testimony on behalf of the Boeing Company and Sears, Roebuck and Company in Dockets U-77-50, U-77-51, and U-77-52. In November 1982, I submitted testimony before the Commission on behalf of the Tele-Communications Association ("TCA") in Docket U-82-19 concerning the transfer of Pacific Northwest Bell assets and personnel to AT&T as part of the Plan of Reorganization arising out of the break-up of the former Bell System, and appropriate pricing of terminal equipment. In September 1988, I submitted two pieces of written testimony to the Commission in Docket U-88-2052-P regarding the competitive classification of certain of Pacific Northwest Bell's services. My testimony on behalf of Public Counsel in that case addressed competitive classification of Pacific Northwest Bell's intraLATA toll services, while my testimony on behalf of Telecommunications Ratepayers Association for Cost-based and Equitable Rates ("TRACER") and the State of Washington Department of Information Services addressed competitive classification of Pacific Northwest Bell's private line services. In January 1990, I submitted testimony on behalf of TRACER, Public Counsel, and the State of Washington Department of Information Services in

Docket U-89-3031-P regarding GTE-Northwest's proposal for alternative regulation. I also submitted testimony on behalf of TRACER in June 1993, Dockets U-89-2698-F and U-89-3245-P proposing a "Modified Incentive Regulation Plan" for U S WEST Communications ("USWC"). On April 17, 1995, I submitted direct and supplemental testimony on behalf of the Staff of the Washington Utilities and Transportation Commission in Dockets UT-941464, UT-941465, UT-950-0146 and UT 950265, regarding the cost studies filed by U S WEST in support of its proposed local transport restructure and expanded interconnection tariffs. On August 11, 1995, I submitted testimony in Docket UT-950200 on behalf of the Staff of the Washington Utilities and Transportation Commission concerning U S WEST's request for an increase in its rates and charges. On October 31, 1997, I offered testimony in Docket UT-961638 on behalf of Public Counsel and TRACER in response to U S WEST's request to be relieved of its obligation to serve. On March 4 and June 28, 1999 I sponsored responsive and surrebuttal testimony, respectively, in Docket UT-980948 on behalf of WUTC Staff regarding U S WEST's petition and accompanying testimony seeking to end the imputation of yellow pages directory advertising revenues to its Washington regulated telephone operations. My most recent appearances before the Commission were in May 2003 on behalf of AT&T in Docket No UT-020406, a complaint proceeding addressing the level of Verizon Northwest's intrastate switched access charges, and also in May 2003 on behalf of the WUTC Staff in Docket No. UT-021120, the application of Qwest Corporation regarding the sale and transfer of Qwest Dex to Dex Holdings, LLC.

In addition to the aforementioned appearances, ETI has served as a consultant to the Commission and has submitted other filings and reports to the Commission, projects in which I had participated. In October 1984, ETI prepared a comprehensive evaluation of

Local Measured Service ("LMS"), *A Multi-Part Study of Local Measured Service*, for the WUTC. In 1985, ETI authored Reply Comments of the U.S. Department of Energy, Richland Operations Office, regarding cost of service issues bearing on the regulation of telecommunications companies. These Reply Comments were submitted to the Commission in November of that year. In 1987, ETI was engaged by the Commission to undertake an examination of the outside plant construction and utilization practices of U S WEST Communications and to present recommendations based upon that investigation. The final report arising from that assignment, *An Analysis of the Outside Plant Provisioning and Utilization Practices of US West Communications in the State of Washington*, was submitted to the Commission in March 1990.

II. INTRODUCTION, PURPOSE, AND STRUCTURE OF THE TESTIMONY

Q. ON WHOSE BEHALF IS THIS TESTIMONY BEING OFFERED?

A. Our testimony is offered on behalf of AT&T Communications of the Pacific Northwest, Inc., AT&T Local Services on behalf of TCG Seattle, and TCG Oregon (collectively "AT&T").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of our testimony is to provide economic guidance to the Commission in interpreting and applying the FCC's recent Triennial Review Order ("TRO")[1] and "impairment standard" to determine which Unbundled Network Elements ("UNEs") should continue to be mandated under the Telecommunications Act of 1996. We focus upon applying the impairment analysis to the case of unbundled switching for mass-market customers.

Q. PLEASE SUMMARIZE YOUR MAIN CONCLUSIONS.

A. Our testimony will explain why we reach the following primary conclusions:

(1) The principal goal of the Telecommunications Act of 1996 ("the Act")[2] is to establish effective competition in local telephone services. This coincides with the mission of this Commission to protect and promote consumer interests. Effective competition offers the best way to benefit consumers through lower prices, improved quality, and expanded choice, and to encourage appropriate investment in advanced communication services by providers in Washington. The goal of promoting effective competition ought to govern the determination of which UNEs to require.

(2) UNE-based competition, while still in its infancy, has played a critical role in the progress made to date in the emergence of effective local exchange competition.

[1] *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Federal Communications Commission, CC Docket No. 01-338, (Released August 21, 2003.) ("TRO").

[2] 47 U.S.C. § 251 et. Seq.

UNE-based competition, and in particular competition via UNE-P, has substantial consumer benefits.

(3) In order to produce economically rational results, the FCC's "impairment" standard must be applied in a manner that is consistent with a principal goal of the Act, to establish effective competition. In applying the impairment standard, states must consider which UNEs are necessary for additional Competitive Local Exchange Carrier ("CLEC") entry to be economically viable on a market-by-market basis. In the TRO, the FCC directs state commissions to make this assessment using a two-part impairment analysis. The first part of the impairment analysis involves a "trigger" test, which provides a regulatory short cut that looks at the status of actual non-UNE-based competition in order to infer an absence of entry barriers.[3] If the trigger test fails, then states are directed to conduct a more expansive investigation of the economic viability of potential non-UNE-based competition.[4] It is important that the Commission implement both elements of the impairment analysis in an economically sound manner in order to ensure that consumers will not be denied the benefits of local exchange competition.

(4) The FCC's trigger tests, which rely upon an examination of current ***actual*** CLEC competition without a particular UNE on a market-by-market basis, implies that if the number of CLECs offering service without use of that UNE exceeds the trigger threshold, then economic barriers to entry must be presumed to be negligible. The role of a trigger test is to avoid the burden of further analysis that

[3] TRO, ¶¶ 498-505.

[4] TRO, ¶¶ 506-520.

could be associated with a more wide-ranging consideration of ***potential*** competition. However, both the trigger test and the more expansive investigation of potential competition are intended to result in consistent findings with respect to impairment. For the conclusion implied by nominal satisfaction of a trigger – i.e., that economic barriers to entry are negligible – to be reasonable and consistent with sound economic analysis, the trigger must be applied with focus and care. Appropriate application of the impairment standard, including applying the trigger test, will depend critically upon the quality of data collected, the appropriate definition of the markets, and the correct classification of CLEC competition.

(5) The focus of most of the debate in this proceeding and most of the discussion in this testimony will be on the need for unbundled switching for the mass market,[5] which is used primarily to serve residential and small business customers via the UNE Platform ("UNE-P"). Markets are generally defined with respect to services, customers, and geographic scope. The FCC has directed state commissions to evaluate impairment in the hypothetical absence of UNE-P in geographic areas that are smaller than the state as a whole, but leaves it to state commissions to determine the appropriate size of the geographic market.[6] An efficient CLEC will necessarily make market entry decisions and pursue mass market customers in a geographic area that is sufficiently large to permit the

[5] Although the economic framework we present for applying the UNE standard applies to all UNEs, the UNE that this testimony focuses on is unbundled switching for the mass market. To simplify the discussion, we will refer to this simply as "unbundled switching" as short hand, and will add "for the mass market" only when we think additional clarification is necessary.

[6] TRO, ¶ 495.

CLEC to realize the economies of scale and scope with respect to both network operations and "business" issues such as marketing, advertising, and customer support.

(6) CLEC competition is impaired as long as UNE-P is needed to ensure that CLEC competition is economically viable *throughout* the defined market.

Q. HOW IS THE REST OF YOUR TESTIMONY ORGANIZED?

A. The balance of this testimony is organized into four sections:

Section III explains the economic and policy context for this proceeding and how it relates to the pro-competitive framework put in place by the *Telecommunications Act of 1996*.

Section IV provides an economic interpretation of the TRO's impairment standard, explaining how to evaluate economic barriers to entry. Additionally, this section explains the economic principles to be used when defining the scope of markets (which includes defining their geographic scope) and for purposes of assessing the business case for a qualified, efficient CLEC.

Section V explains the economic and policy role of the triggers and how they should be applied in the context of unbundled switching for the mass market.

Section VI concludes.

III. UNDERSTANDING THE ECONOMIC AND POLICY CONTEXT FOR THIS PROCEEDING.

A. Local Exchange Competition is Important to Consumers.

Q. WHAT IS THE ISSUE AT STAKE IN THIS PROCEEDING?

A. The principal goal of the *Telecommunications Act of 1996* ("the Act" or "Act") is to establish competition in local telephone and access markets. For robust local exchange competition to arise, it must be feasible for multiple CLECs to enter the market and to sustain and expand their market presence. The Act recognizes that it is necessary to adopt a pro-competitive framework that lowers regulatory and economic barriers to entry in order to enable the emergence of efficient and effective competition. The UNE rules are a critical component of this framework. These rules mandate that the Incumbent Local Exchange Carrier ("ILEC") make available for lease wholesale access to individual components (elements) of its local access network at nondiscriminatory, cost-based rates.

The focus of the present proceeding is to determine which UNEs an ILEC should be required to provide under the pro-competitive provisions of the Act.[7] The FCC's recent TRO provides guidance to state commissions regarding how this determination ought to be made. The overall goal of this proceeding is to implement that guidance in a manner that ensures enforcement of the Act by promoting the emergence of competition.

Q. WHAT GUIDANCE IS PROVIDED BY THE FCC'S TRO?

A. The FCC's guidance consists of findings regarding which UNEs are necessary based upon national data, coupled with an economically rational framework for fine-tuning

[7] *Id*., ¶ 5.

these findings based upon more granular information regarding market conditions within each state.[8] The framework, referred to as the FCC's "impairment standard," examines the economic entry conditions to determine if CLEC competition would be impaired if an ILEC were not mandated to provide the UNE.[9]

Q. WHY IS IT IMPORTANT TO PROMOTE LOCAL COMPETITION?

A. The purpose of regulation is to protect consumer interests and promote economic productivity and growth. Promoting competition offers the best way to increase consumer welfare and encourage efficiency. Competitive markets are productively efficient (i.e., goods are produced at the lowest possible cost), allocatively efficient (i.e., resources are directed to their highest value uses), and dynamically efficient (i.e., investment incentives are optimal). Where there is effective competition, consumers benefit from lower prices, improved quality, and expanded choice.

Q. HOW DOES THE ACT PROMOTE COMPETITION?

A. Until the Act, competition was not allowed in most local telephone markets, and where it was allowed, such as here in Washington,[10] the ability of CLECs to obtain the use of ILEC network resources that were essential inputs for the CLECs' services on an

[8] *See*, e.g., *Id.*, ¶ 493.

[9] *Id.*, ¶ 493-494.

[10] The Washington Supreme Court ruled in 1994 that the Commission could not legally confer on any local exchange company the right to be the exclusive provider of telecommunications service in any given local exchange. In the Matter of the Consolidated Cases Concerning the Registration of Electric Lightwave, Inc. and Registration and Classification of Digital Direct of Seattle, Inc. Electric Lightwave, Inc., et al, Respondents, Washington Independent Telephone Association, et al. v. The Utilities and Transportation Commission, 123 Wn.2d 530; 869 P.2d 1045; 1994 Wash. LEXIS 189. Shortly thereafter, this Commission began to authorize various telecommunications providers to offer intraexchange switched and private line telecommunications services. See Petition of Tel-West Central Services, Inc., Docket No. UT-940647, 1994 Wash. UTC LEXIS 49.

economically efficient basis was highly uncertain at best. The ILECs operated under regulatory protection as a monopoly franchise. The Act adopted a framework to facilitate the transition to local competition, but overcoming the legacy of a century of subsidized monopoly control takes time. For competition to emerge, CLECs must be able to lease elements of the ILECs' legacy networks at cost-based rates that allow CLECs to share in the scale/scope economies and first-mover advantages realized by the ILEC. Without such access, the economic barriers to entry are simply too great.

Of course, the ILECs have no incentive to willingly cooperate with the Act's market-opening policies. Therefore, the provisioning of UNEs must be mandated and the pricing and terms regulated. Local competition cannot become firmly established without active regulatory enforcement.

B. UNE-Based Competition Provides Substantial Consumer Benefits.

Q. WHY IS THE AVAILABILITY OF UNES IMPORTANT TO PROMOTE CLEC COMPETITION?

A. UNEs play a critical role in promoting the emergence of local competition. First, UNEs may be used to complement CLEC investments in new facilities. It takes time to build a network and UNEs may be leased to supplement CLEC network capabilities while the CLEC expands its local network.

Second, UNEs provide an efficient way to share ILEC capacity when sufficient capacity already exists in the ILEC's network. In such cases, additional investment would be redundant and would threaten both ILEC and CLEC investments with the risk that they would be stranded.

Third, UNEs can provide the basis for non-facilities-based retail competition. In long distance telephone, in cellular services, and in numerous other industries where facilities-based competition is robust, non-facilities-based retail-level competition offers important benefits in terms of expanded choice, product innovation, and market discipline. Provisions to enable the success of pure resale competition have a long history in pro-competitive regulatory policies. For example, Total Service Resale ("TSR") as mandated by the Act[11] and mandatory resale provisions proved important during the build-out of facilities-based mobile telephony provider networks. In long distance services, the existence of competitive wholesale markets for long distance bulk transport services supports vigorous resale competition that adds to the vibrancy of retail competition and expands consumer choice.

Q. DOES THE ACT EXPRESS A PREFERENCE FOR FACILITIES-BASED COMPETITION OVER OTHER FORMS OF CLEC ENTRY?

A. No, it does not. Entry via investment in CLEC-owned facilities, TSR, or UNEs have different economics such that each may be the most efficient in particular circumstances; and all three strategies provide an avenue for increasing competition. Quite appropriately, the Act does not prefer one type of competition over another.[12] It leaves the choice of the optimal business plan or entry strategy to the CLEC. The Act neither requires nor expects that CLECs will or need be vertically integrated providers of the underlying network services and retailing functions.

[11] 47 U.S.C. § 251(c)(4).

[12] See, generally, 47 U.S.C. § 251.

Q. WOULD CONSUMERS BENEFIT MORE IF ALL CLEC COMPETITION WERE FACILITIES-BASED?

A. No. The best situation is if competition can thrive at all market levels. Some of the facilities-based providers may be pure wholesalers, some may only offer retail services over their integrated networks, and some may participate in both wholesale and retail markets. Permitting competition in all these forms allows each firm to specialize in what it does best and assures that market forces drive all industry participants to adopt best practices.

Q. HOW DO UNES COMPLEMENT CLEC FACILITIES INVESTMENT?

A. The availability of UNEs expands the range of entry options open to a CLEC, and therefore, lowers economic barriers to entry. A CLEC obviously would prefer to use its own facilities whenever this is economically feasible because a CLEC that owns its own facilities is less vulnerable to strategic manipulation by the ILEC. Self-provisioning also allows the CLEC greater flexibility in responding to changing market conditions, offering better control over service features and design, and the timing of market moves (e.g., when and where to offer new or enhanced service). Thus, when self-provisioning is an economically viable option, it will be preferred over UNE leasing even if UNEs are mandated.

However, in those areas where the CLEC has not yet constructed facilities or where the construction of facilities is not economically justified, the ability to use UNEs allows the CLEC to expand its competitive footprint, thereby realizing additional scale and scope economies, and extending the range of consumers that benefit from the CLEC's presence.

Thus, the availability of UNEs lowers the cost of facilities-investment in those areas where such investment is economically feasible.

A successful CLEC entry strategy is likely to include a flexible mix of investment in facilities it owns and facilities it leases from others. Constraining the CLEC to strategies based exclusively upon CLEC-owned facilities will predictably raise the cost of CLEC entry which will reduce competition overall, especially in mass markets where customer margins are lower. Conversely, preserving UNEs as an entry option will permit CLECs to focus their investments on economically efficient opportunities and will result in greater overall CLEC investment.

Q. ISN'T A GOAL OF THE ACT TO PROMOTE INFRASTRUCTURE INVESTMENT?

A. Yes. We believe that the Act seeks to promote *efficient* infrastructure investment. Investment in new technology helps lower costs and facilitates the delivery of advanced communication services. Additionally, when market economics can support multiple local networks, there is the hope that these may support a competitive wholesale market in local access services that will help to sustain competition with less regulatory oversight.[13]

[13] Even were additional local networks to be constructed, there is no guarantee that these would provide wholesale services. For example, cable television providers that have added the capability to offer telephony services do not typically allow resale of their services. Generally, however, the more vigorous is facilities-based competition, the more likely that wholesale competition will emerge.

Q. DOES THAT MEAN THAT PROMOTING ADDITIONAL INVESTMENT IS ALWAYS DESIRABLE?

A. No. The goal of regulatory policy should be to promote efficient investment. Policies that promote facilities investment even where it is inefficient pose a serious threat to competition and to the economic viability of the industry. Certain ILEC network assets involve such large fixed costs that their replication by a competitor in many market situations would be extremely inefficient, even over the long run. As noted economist, Professor Alfred Kahn puts it, "[w]hen the entire demand can most efficiently be supplied via a single set of telephone poles . . . it becomes inefficient to duplicate them and to have two companies digging up the streets at various times instead of one."[14] If excess CLEC investment occurs, the market will not sustain a price that allows either the CLEC or ILEC to recover their economic costs.

Q. DOES THE AVAILABILITY OF UNES PROMOTE EFFICIENT INFRASTRUCTURE INVESTMENT?

A. Yes. As already explained, the availability of UNEs lowers CLEC entry costs, and thereby encourages CLEC investment. CLEC competition, in turn, encourages both CLECs and ILECs to invest in new technology to lower costs and enhance capabilities.

It is also important to remember that UNEs are associated with legacy facilities (investments made and paid for in the past by ILEC ratepayers), not with ILEC investment in new generations of facilities that would be used to provide advanced communication services – indeed, the TRO specifically *exempts* such facilities from the

[14] See page 121-122 in Alfred Kahn, *The Economics of Regulation, Volume II Institutional Issues*: John Wiley & Sons, New York, 1971.

unbundling requirements without even addressing the "impairment" question.[15] UNE policy needs to provide efficient incentives to utilize the legacy technology when appropriate and to invest in alternative technology only when that is efficient.

Q. DOES THAT MEAN THAT A FINDING OF NO IMPAIRMENT FOR MASS MARKET SWITCHING WOULD INCREASE THE RISK OF INEFFICIENT INVESTMENT?

A. Yes. When UNEs are available (and priced appropriately), the CLEC can make the efficient choice between investing in new facilities or leasing ILEC facilities. When UNEs are not available, aggregate CLEC investment will fall and competition will be reduced.

However, without access to UNEs, CLECs may choose to invest in facilities in some markets despite the existence of excess ILEC capacity. Such investment would be inefficient. Additionally, in order to continue to serve their existing customer base in the short-term, some CLECs may be induced to invest in legacy-type switching equipment to duplicate the capabilities already available using excess capacity on ILEC switches.

Excess facilities investment increases the risk that neither the ILEC nor the CLEC will recover the economic cost of its investment, which will threaten future investment in advanced communication services, leaving consumers and society as a whole worse off.

Q. DOESN'T THE ANALYSIS YOU JUST OUTLINED PRESUME THAT UNES WILL BE PRICED APPROPRIATELY?

A. Yes. There is no sense in mandating the availability of UNEs if there is not a commitment to price them correctly. If UNEs are mandated, but regulated prices are set

[15] TRO, ¶ 272.

too high, then they will not be an economically viable option for CLEC entry. This point cannot be overemphasized, as there have been numerous attempts by the ILECs to do away with the Act's forward-looking pricing standard, as implemented in the FCC's TELRIC rules. For the ILECs, pricing UNEs at rates that make them uneconomic for CLECs is as good a result as being allowed to stop offering UNEs.

Q. ARE THERE ECONOMIC COSTS OF NO LONGER REQUIRING UNES?

A. Yes. The economic costs from denying UNEs would likely be quite large. Consumers will suffer very real economic harm if access to a UNE is denied without strong evidence that local exchange competition would remain viable, and the progress that has been made toward promoting local competition will be jeopardized.

The development of CLEC competition is limited and, at this vulnerable stage in its development, remains critically dependent on access to UNEs.[16] CLECs have been expanding their capabilities, but this takes both time and a huge amount of capital. CLECs' (and investors') willingness to undertake these investments has been premised on the promise of the Act – that regulatory policy is committed to promoting the transition from monopoly to competition in local telephone services.

[16] As of December 2002, FCC data reported that CLECs served 24,766 thousand end-user lines (13.2%), out of a total of 187,509 thousand end-user lines in the United States, but only 6,396 thousand were served using CLEC "last mile" facilities (3.4%). These numbers represent an overstatement of lines served using CLEC facilities because in many cases CLEC's rely on ILEC special access facilities or other facilities to provide service. Additionally, CLEC competition is lower for mass market consumers and the reliance on ILEC UNE services is greater (see Tables 1-3 in *Local Telephone Competition: Status as of December 21, 2002*, Federal Communications Commission, Wireline Competition Bureau, June 2003).

Q. IS THE HARM TO COMPETITION LIMITED ONLY TO THOSE CUSTOMERS THAT ARE CURRENTLY BEING SERVED VIA UNE-P IN WASHINGTON?

A. No. The potential harm affects all end-users in Washington. The benefits of competition are shared by all customers for telecommunication services in the state. Moreover, prospects for the expansion of efficient competition in the future may depend on the continued availability of unbundled switching.

One reason the progress of competition in Washington has been limited to date is because it has taken time to remove the economic barriers to entry associated with making use of UNEs. It is worth remembering that, according to the FCC, Qwest only met the requirements under Section 271 of the Act for relief to enter interLATA toll markets in Washington, as of December 23, 2002, which provides an indication of how long it took to implement the UNE rules. Additionally, to the extent that UNE rates are too high (above economic costs), the use of unbundled switching may be uneconomic. However, as long as unbundled switching remains mandatory, these other impediments to CLEC entry are fixable. A finding of "no impairment," however, would effectively eliminate future competition via UNE-P.

Q. ARE THERE ANY ECONOMIC COSTS OF CONTINUING TO REQUIRE UNES?

A. Yes, but these are likely to be small. Remember that the regulatory costs and the wholesale transaction costs associated with continuing UNE mandates are incremental. Substantially all of the costs associated with developing the wholesale regulatory and business apparatus to support UNE leasing have already been incurred. The focus of this proceeding is not on identifying new types of UNEs, but in potentially limiting the scope of UNE entry options currently available to CLECs.

Moreover, as long as some UNEs (e.g., local loops) remain mandatory, the savings from eliminating other UNEs (e.g., unbundled switching) are not likely to be substantial because much of the regulatory costs are either fixed or sunk.

Any economic savings are likely to be further reduced by the increased wholesale transaction costs for customers CLECs continue to serve without unbundled switching.[17] Virtually all mass market UNE switching is used in conjunction with ILEC-provided UNE loops (i.e., in the form of UNE-Platform (UNE-P) services), and it is technically and operationally fairly simple for the ILEC to transfer a customer to a CLEC on this basis. The transaction costs are much higher to transfer a customer to UNE-L and a CLEC-provided switch. This helps explain why "hot cut" procedures for using UNE-L are as poorly developed, inefficient, manually intensive, and expensive as they are.

Q. WHAT ECONOMIC GUIDANCE CAN YOU PROVIDE THIS COMMISSION TO ASSIST IT IN APPLYING THE FCC'S IMPAIRMENT STANDARD?

A. To promote consumer welfare and remain in accordance with the Act, this Commission must act so as to advance competition. The current proceeding provides a welcome chance to collect and evaluate empirical data on the economics of local competition. This data can be used to apply the TRO's economic framework to determine which UNEs must continue to be provided to avoid impairing CLEC competition.

[17] As noted earlier, the availability of a UNE does not deter CLEC facilities-investment and so does not encourage excess wholesale (lease) transactions since the CLEC has an obvious preference for investing in its own facilities whenever this makes economic sense.

While the legal rationale for determining the scope of UNE obligations may have changed, the economic rationale has not. The FCC's TRO merely makes explicit the need to apply sound economic analysis as part of the process for implementing the Act.

In the balance of this testimony, we explain: (1) an economic framework for applying the impairment standard; and (2) the economic role for and application of the trigger test.

IV. ECONOMIC FRAMEWORK FOR APPLYING THE IMPAIRMENT STANDARD.

A. The "Impair" Standard Asks Whether, in the Absence of an Unbundled Element, CLECs Could Overcome Barriers to Entry.

Q. WHY IS AN ECONOMIC FRAMEWORK NEEDED TO INTERPRET THE TRO AND THE IMPAIRMENT STANDARD?

A. The TRO adopts an economic standard for determining whether CLEC competition would be impaired. The focus is on whether entry would be economic if the UNE were not required. The TRO specifies a two-stage test for making this determination. In the first stage, a "trigger test" may be used to see if the number of qualifying CLECs operating without unbundled switching in the "market" exceed a threshold;[18] if not, the impairment analysis proceeds to a second stage involving a more detailed analysis of the business case for efficient CLEC entry.[19]

To maintain logical consistency between both stages of the test and the goal of the Act, it is necessary to adopt an economic framework that (1) properly characterizes efficient CLEC competition; (2) defines the "market" for the relevant UNE appropriately; and (3) supports analysis of sufficiently detailed data to accurately determine the costs and

[18] TRO, ¶¶ 496-505.

revenue opportunities facing an efficient CLEC contemplating entry into the "market." All three of these components must be defined and applied on a consistent and integrated basis in order to support economically rational decisions.

Q. HOW HAS THE FCC DEFINED THE "IMPAIRMENT STANDARD"?

A. The FCC describes the "impairment standard" as follows:

> A requesting carrier [is] impaired when lack of access to an incumbent LEC network element poses a barrier or barriers to entry, including operational and economic barriers, that are likely to make entry into a market uneconomic. (TRO, ¶ 84).

This definition is not restricted to a particular type of "requesting carrier" or CLEC, nor to a particular type of business model or market-entry strategy. The focus of the standard is on the economics of entry facing *any* efficient CLEC in a "but for" world in which the UNE is assumed not to be available. If there is no verifiable, profit-maximizing business model for a CLEC that would deliver competitive alternatives and the benefits of competitive pressure on pricing, service innovation, and quality to all customers in the relevant area without that UNE, then CLEC competition is impaired without it.[20]

Q. WHY IS THIS INTERPRETATION ECONOMICALLY JUSTIFIED?

A. The principal goal of the Act is to promote effective and sustainable competition in all telecommunications markets, *not* to promote competition in only some areas or only for

(continued...)
[19] *Id.*, ¶¶ 506-520.

[20] That is for every customer, there must be multiple verifiable, profit-maximizing (and profitable) CLECs from which each customer could obtain service even if the CLEC was unable to use the particular UNE being studied in the impairment analysis.

some consumers. The benefits of competition ought to be available to all consumers, regardless of where they are located, which services they choose to purchase, and/or how intensively they use those services.

Additionally, the Act did not seek to restrict the modes of competition, but rather to enable all efficient modes of competition by eliminating regulatory and economic barriers to entry. Nor does the Act favor incumbent competitors (the ILEC or CLECs already competing) over potential competitors (CLECs that may choose to enter in the future). The choice of which business model to adopt is appropriately left to profit-maximizing firms, and the choice of which firms succeed is left to market forces. In a competitive market, only efficient firms with efficient business models will survive, but these likely will include providers using both facilities-based and non-facilities-based modes of competition. If either form of efficient competition is impeded without UNEs, then a finding of "impairment" is consistent with the economic goals of the Act.

B. Efficient CLECs Under the Impairment Standard

Q. HOW DOES ONE DEFINE AN "EFFICIENT" CLEC FOR PURPOSES OF THE IMPAIRMENT STANDARD?

A. The impairment standard is judged relative to the business model for a "requesting CLEC." The test business model evaluated to determine whether entry is "uneconomic" is one which is both efficient (cost minimizing) and profit-maximizing[21] for the candidate CLEC. Because there are many ways in which an efficient CLEC may choose to compete, there is no unique efficient business strategy for competing in local telephone

[21] To be "profit-maximizing," a strategy must be at least as good as all alternative strategies available to that CLEC.

services. Therefore, in applying the impairment standard, it is useful to have a set of criteria against which to verify the appropriateness of candidate CLEC business plans. These include the following four criteria:

(1) Profit-maximizing behavior: A valid business model must be consistent with profit-maximizing behavior. For example, it would be unreasonable to expect a CLEC to voluntarily adopt a business strategy that requires it to cross-subsidize customers. That is, the incremental revenue associated with serving each class of customers must be larger than the incremental cost of providing service to those customers. Although a profit-maximizing firm may earn different margins when serving different classes of customers, it will not willingly serve a class of customers if doing so would lower total profits.

(2) Total costs: A valid business model must consider all of the costs associated with the CLEC's decision to enter, including all of the capital, operating, and entry costs faced by the CLEC. The capital and operating costs correspond to the total forward-looking costs that would be included in the estimation of Total Element Long Run Incremental Cost ("TELRIC"). There may also be costs that are uniquely borne by the entrant and not by the incumbent. Adopting a total cost perspective is especially important when evaluating the business decisions of CLECs that are already operating in some portion of the market. For example, it would not be appropriate to regard CLEC investments in existing switches as sunk, since to do so would understate the costs for subsequent CLEC entry.

(3) Reasonable business case for CLEC: As discussed above, neither the TRO nor the Act singles out any specific business case as being exclusively

appropriate. Furthermore, the business case for an efficient CLEC is not unique. There are multiple efficient business cases for CLEC entry. The business case that is used to test impairment ought to be adoptable by a wide class of CLECs, including both potential and actual competitors in local services. Additionally, it must be consistent with a conservative assessment of entry economics. For example, the target market share assumed under the business plan must be consistent with entry by multiple CLECs.

(4) Verifiable: If the data and assumptions underlying the business case are not reasonable and reflective of actual market conditions, then an accurate assessment of entry economics cannot be made. This means that all assumptions must be clearly explained and documented, and that the best available granular data on local competition ought to be used. A business case that relies solely upon speculative business models that have not been seen operating at commercial scale should be rejected. In particular, the Commission should view with skepticism claims by any carrier (e.g., an ILEC) that a profitable business case exists for UNE-L based entry, if that carrier is not itself actively pursuing that entry strategy (e.g., in its own out-of-region entry).

Q. CAN YOU EXPLAIN FURTHER WHAT A REASONABLE TARGET SHARE FOR AN EFFICIENT CLEC OUGHT TO BE?

A. To be consistent with the goal of the impairment analysis, the target market share must be sufficiently small as to be compatible with entry by multiple CLECs and must be reasonable in light of what we know about the economics of local telephone competition.

In this context, it is noteworthy that more than six years after passage of the Act, CLECs collectively have captured less than ten percent of mass market lines in the United States and only slightly more than three percent are being served via CLEC-owned facilities.[22] In light of these estimates, an optimistic target market share for a facilities-based CLEC would likely be five percent or less.[23] Without considering the empirical data and the economics of mass-market entry in Washington, we cannot be more specific.

C. Market Definition Under the Impairment Analysis

Q. HOW DO ECONOMISTS DEFINE A MARKET?

A. The economic definition of a market is based upon a characterization of how the good or service is sold (supply conditions) and purchased (demand conditions) and the context of the economic decision under consideration. Generally, a market is defined with respect to three dimensions: (1) the services purchased; (2) the customers who purchase the services; and (3) the geographic area in which the goods are sold. Two products are considered to be in the same market if they are regarded as substitutes. For example, a market may be defined with respect to a single service (e.g., basic local telephone service) or a bundle of services (e.g., local telephone service plus vertical features or plus long distance services); with respect to customer classes (e.g., local telephone services sold to residential customers vs. enterprise customers); and with respect to the geographic

[22] See note 16, *supra*.

[23] Under the optimistic assumption that CLEC mass market competition would find it economical to convert from UNE-P to UNE-L and that there were three entrants, all with equal market shares, the target market share that would be captured by each would be three percent. If we assume that the most efficient could capture half of the CLEC market, then perhaps the target share for this best-of-the-CLECs might be as large as five percent.

area where the service is offered (e.g., to every customer location in a LATA or only a subset of locations).

Q. HOW SHOULD THE RELEVANT MARKET BE DEFINED TO APPLY THE IMPAIRMENT STANDARD WITH RESPECT TO MASS MARKET SWITCHING?

A. In the context of assessing impairment, market definition should be viewed from two perspectives: that of the efficient CLEC contemplating entry and that of end-customers. The CLEC perspective is necessary to assure that efficient competition is sustainable, while the customer perspective is necessary to assure that all consumers benefit from competition.

Using the CLEC perspective is more closely related to the standard antitrust approach towards market definition, because it focuses upon the supply or entry decisions made by efficient firms that offer customers alternative versions of similar services. The boundaries of the market are set so as to maximize the efficient entrant's expected profits. Questions of whether to expand the service, customer, or geographic scope for entry are made so as to maximize revenue opportunities while minimizing costs. Because of the substantial fixed and sunk costs associated with long-lived investments in local telecommunications infrastructure, the geographic scope of entry may be relatively large.

The customer perspective is necessary to comply with the goal of the Act to deliver the benefits of competition to all consumers. Under the reasonable assumption that the typical consumer will not move location so as to acquire competitive telecommunication services, the relevant market is the customer location. Wireline local exchange service is an unusual product in that it is not at all geographically portable. Unlike the purchase of most goods or services, a consumer cannot travel a short distance for a better deal on

local phone service and then bring it to her home or business. Thus, according to the customer perspective, CLEC competition is impaired if, without UNEs, any subset of customers in the ILEC's serving territory is unlikely to be served by multiple efficient CLECs.

Q. WHAT CONSIDERATIONS NEED TO BE ADDRESSED IN ORDER TO ESTABLISH THE APPROPRIATE GEOGRAPHIC MARKET AREA FOR ASSESSING IMPAIRMENT WITH RESPECT TO MASS MARKET SWITCHING?

A. There are several aspects of this issue that need to be considered. The provision of mass market residential and small business voice telephone exchange service ("POTS") is characterized by economies of scale and scope that are realized only if service is provided over a wide geographic area. Some of these considerations pertain to network architecture and network operations issues, while others involve more general "business" issues such as sales, marketing, and customer service. Collectively, all of these factors influence the "business case" market entry decision as well as more granular network operations issues.

As such, the geographic extent of the market must be sufficiently large so that on a per-customer basis these costs will be sufficiently small that the CLEC can operate profitably.

Q. WHAT ARE THE PRINCIPAL NETWORK ARCHITECTURE AND NETWORK OPERATIONS CONSIDERATIONS?

A. In order to provide "dial tone" to a mass-market customer, the "last mile" link to the customer's premises must be interconnected with a Class 5 central office switch (sometimes referred to as an "end office switch"). When a CLEC provides service to a mass market customer via UNE-P, both the last mile link (the "subscriber loop") and the

switching functions are furnished by the ILEC, and the *interconnection* of the subscriber loop to the end office switch is also the responsibility of the ILEC. However, if the switching function is to be provided by the CLEC while still utilizing ILEC loops (the so-called "UNE-L" arrangement), an interconnection will need to be established between the ILEC's loop and the CLEC's switch.

Accomplishing such an interconnection incurs a substantial cost. Typically, the CLEC will need to establish some sort of physical presence in each ILEC wire center out of which it will provide service to end-user customers so as to gain access to the UNE loops that terminate in that wire center. This is accomplished by means of a collocation arrangement that involves leasing space and power from the ILEC and installing the equipment in this space that is necessary to convert the analog loops to a digital signal and extend the loops to the CLEC's switch. The ILEC will deliver the loop to the CLEC by running a pair of copper wires on the ILEC's Main Distribution Frame ("MDF") from the location on the MDF where the customer's loop terminates to the location on the MDF where the cables that run to the collocation equipment appears. The CLEC switch is not itself located in the collocation facility or even in the same building as the ILEC wire center, and so the CLEC will need to "extend" the loop from its collocation equipment to its switch. This is accomplished by digitizing and multiplexing the loops. The analog signals carried by each of the individual copper wires coming into the collocation arrangement are converted into digital signals and are then merged onto a higher capacity digital facility by means of multiplexing equipment that is also physically located in the collocation. The digital facility then leaves the ILEC wire center building and runs to the location of the remotely located CLEC switch, which may be tens or even hundreds of miles away. The connection between the CLEC's collocation space in the

ILEC wire center and the CLEC's switch is referred to as a "backhaul transport" facility, which can be provided (and owned) by the CLEC, leased from another CLEC or Competitive Access Provider ("CAP"), or leased from the ILEC itself.

These various interconnection facilities and the work involved in effecting the individual interconnections themselves involve considerable costs *that for the most part do not arise under a UNE-P arrangement*. Importantly, generally the CLEC is responsible for all of these *additional* interconnection costs:

- The costs of constructing and outfitting the collocation space;
- The costs of providing or leasing the interoffice transport facility between the collocation and the location of the CLEC's switch;
- The one-time costs of establishing the physical cross-connection between each individual subscriber loop and the equipment in the CLEC's collocation, which includes one-time payments to the ILEC for its work as well as one-time costs incurred by the CLEC; and
- The costs of the various coordination and administrative functions involved in managing the various actions and of maintaining all of the facilities involved in this serving arrangement.

Certain of these costs are customer-specific, i.e., they are incurred only at the time that the CLEC undertakes to provide service to a particular customer. The one-time work activities in establishing the interconnection itself (the so-called "hot cut") are an example of these types of costs. There are also costs that are largely fixed as long as the

CLEC maintains a presence in a given wire center. This include things like the capital investment in constructing and equipping the collocation arrangement, floor space rental payments and other recurring costs (such as power, insurance, security) associated with the collocation itself, and the costs associated with leasing the interoffice transport facilities to interconnect the CLEC collocation with its (remotely located) switch.

Q. ARE THERE COSTS THAT WOULD NOT BE DIRECTLY AFFECTED BY A REQUIREMENT THAT THE CLEC PROVIDE ITS OWN SWITCHING?

A. Yes. Certain costs, which may be thought of as general "business" costs such as the cost of advertising and the fixed cost of setting up a marketing department or customer service support organization are driven by the decision to enter a market and do not vary with the number of customers being served or the number of wire centers from which service is being offered. The costs of radio, TV and newspaper advertising are driven by the reach of these media and not by the number of potential, addressable customers to whom the CLEC is capable of providing service. If the CLEC operates a number of retail outlets from which it sells its services, these costs too may be only indirectly affected by the geographic scope of the CLEC's offering within the broader geographic region.

With respect to such "business" costs, it matters not whether the service is being provided via UNE-P or via UNE-L with CLEC switching; indeed, if the number of customers being served via UNE-L is too small to permit the (relatively fixed) business costs to be spread across a large enough customer population, the CLEC will need to augment the base of addressable customers by utilizing UNE-P to serve locations where UNE-L is not economically feasible. Put another way, even in those situations in which UNE-L/CLEC switching is efficient for a particular wire center, the CLEC's decision to utilize a UNE-L

arrangement therein is intimately linked to its *concurrent ability to provide service via UNE-P in the remaining wire centers within the geographic market area.* To the extent that UNE-P ceases to be available, the CLEC's decision to utilize UNE-L in specific wire centers would itself be subject to reevaluation.

Q. WHAT FACTORS CONTROL A CLEC'S CHOICE OF UNE-P VS. UNE-L?

A. As we have explained, in order to utilize UNE-L with its own remotely-located switch, the CLEC will incur a number of additional costs that are simply not present when UNE-P is utilized. At the same time, the CLEC may realize certain savings and enjoy some additional service flexibility when it uses its own switching facilities. Also, if the CLEC is able to spread its collocation, transport and related fixed costs across a broader base of customers – for example, mass market and "enterprise" customers – then the additional cost to serve mass market customers will be lower, on a per-line basis. A CLEC will presumably choose to utilize a UNE-L/CLEC switch service strategy whenever the economic benefits of that arrangement exceed the additional costs that would be required vis-à-vis UNE-P.

Q. HOW DOES THE SIZE OF THE GEOGRAPHIC AREA AFFECT APPLICATION OF THE IMPAIRMENT ANALYSIS?

A. The objective of the impairment test with respect to mass market switching is to determine whether mass-market competition can flourish if UNE-P is no longer available. Thus, the definition of the relevant geographic market areas or "impairment zones" that will be used to frame this analysis must be sized in a manner that will enable the state commission to be quite confident that consumers in the state would not be left worse off

in the future if a finding of "non-impairment" were to be made with respect to that specific area.[24]

Furthermore, the TRO is explicit in requiring that the same market definition be used for both the trigger test, and if that fails, for any additional analysis of entry economics[25] (TRO, ¶ 495). Because the trigger test relies upon a count of qualifying switch-based CLECs located within a defined geographic area, the outcome of the test will be highly dependent upon the size of the geographic markets selected. Consequently, the market definition exercise becomes a crucial element of the impairment analysis.

Q. BASED UPON THE ABOVE STATED CONSIDERATIONS, DO YOU HAVE A RECOMMENDATION AS TO THE APPROPRIATE GEOGRAPHIC AREA THAT SHOULD BE USED FOR THE IMPAIRMENT ANALYSIS OF UNBUNDLED SWITCHING?

A. Yes, we believe that to be consistent with the prescriptions of the TRO and the economic framework set forth in our testimony, that a market definition encompassing various large geographic areas be taken into consideration by this Commission in performing its impairment analysis. This recommendation is based on a consideration of the nature of competition for mass-market customers. Individual mass-market customers are served from specific wire centers, but most efficient CLEC business plans anticipate serving customers distributed over a much wider geographic area than is served by a single wire center.[26] This is because of scale and scope economies associated both with provisioning

[24] See TRO, footnotes 1536 and 1537.

[25] TRO, ¶ 495.

[26] We say "most" here, because we cannot exclude the potential that there may exist niche CLEC strategies that may be economic under special circumstances (*e.g.*, a wire center adjacent to a college or high-density apartment
(continued...)

network services and with marketing and sales. No CLEC can realistically expect to capture the same market share that the incumbent ILEC has. Whereas an ILEC will typically deploy at least one switch or remote service switching unit in each of its wire centers, a CLEC will need to use a comparably sized and comparably efficient switch to serve multiple wire centers. And even if by serving a number of separate wire centers via the same switch a CLEC is able to achieve switch efficiency comparable to that of the ILEC, it will incur numerous additional costs to support such an arrangement that the ILEC will not, such as the costs of transport ("back-haul") facilities required to

(continued...)
complex). As we explained earlier, however, the existence of such strategies are not relevant to an analysis of impairment in the broader market.

interconnect multiple ILEC wire centers that are served by the CLEC switch.

Scale and scope economies associated with provisioning network services arise as a consequence of the need to design efficient backhaul facilities to connect ILEC loops to CLEC switches. A CLEC seeking to use its own switches to serve customers located in multiple wire centers needs to determine where to locate its switch and collocation facilities, and how to arrange for transport among those facilities. The costs of deploying and operating some of these elements will be shared across all of the mass market customers served.

Scale and scope economies also arise in the context of marketing and sales because it is generally not economic to focus advertising, customer support, or tariffing to customers served from a single wire center.

For all of these reasons, an efficient CLEC will necessarily make market entry decisions and pursue mass market customers in a geographic area that is sufficiently large to permit the CLEC to realize the economies of scale and scope with respect to both network operations and "business" issues such as marketing, advertising, and customer support.

Thus, even if switch-based (i.e., UNE-L) entry would be cost-effective *from a network operations perspective* in a limited number of ILEC wire centers, the CLEC might not find entry profitable unless it is able to spread the often-fixed costs of marketing and advertising over a larger market area.

Q. WHY WOULD IT BE NECESSARY TO EXERCISE SPECIAL CARE WHEN QUALIFYING CLECS AS TRIGGERING FIRMS IF THE GEOGRAPHIC AREA IS LARGE?

A. The reason is that under the TRO the identification of three or more unaffiliated competing carriers "in a particular market" requires a finding of "no impairment" that short-circuits further regulatory analysis. But where CLECs have only used non-ILEC switching to compete in part of the defined geographic market area or for small niches of customers, a reasonable inference cannot be made that economic barriers to entry are negligible elsewhere throughout the broader mass market. If the CLECs that are actually competing without UNEs in the market as defined have chosen not to serve the entire geographic area or all types of mass-market customers, it is reasonable to presume that to do so would be uneconomic. Counting such CLECs towards the "trigger" could contribute to a finding of "no impairment" when the more expansive analysis of "potential" competition would reach a reverse conclusion.

Proper application of the impairment standard must minimize the likelihood of such inherently contradictory outcomes. Therefore, while the Commission may decide in this proceeding to apply its analysis to a smaller (e.g., wire-center) or a larger (e.g., LATA-wide) geographic area,[27] the larger the geographic market area analyzed by the Commission, the greater the need to carefully scrutinize what it means for firms to be counted as "competing" in the market. This point is described in more detail in Section V below.

[27] As noted earlier, efficient CLEC entry into the mass market is likely to occur in a geographic market area that is larger than the area served by an individual wire center.

Q. IF THE COMMISSION DEFINES THE MARKET UTILIZING A SMALL GEOGRAPHIC AREA, HOW WOULD THIS AFFECT YOUR RECOMMENDATION?

A. If the geographic market is defined to encompass a smaller geographic area (*e.g.* a wire center), then the impairment analysis must consider the impact of a finding of no impairment on the entry economics of an efficient CLEC that is operating under a business plan based upon entry into a larger geographic market. This is because UNE-L and UNE-P are often complementary. If unbundled switching is no longer available in a subset of wire centers in a LATA or other broader geographic market area, this may affect the economics of UNE-L both in that subset of wire centers and in the wire centers in the rest of the market.

D. Factors that Determine Whether Barriers to Entry would Impair CLEC Entry and Competition without Access to a Particular UNE.

Q. COULD YOU EXPLAIN THE KEY ECONOMIC CONSIDERATIONS THAT SHOULD INFORM THE COMMISSION'S UNDERSTANDING OF THE ISSUE OF IMPAIRMENT?

A. Yes. The key to a finding of impairment turns on an assessment of the existence of barriers to entry. Barriers to entry include any economic or operational factors that impede or impair entry into a market by an efficient potential competitor. Taken together, these barriers raise a potential entrants' costs relative to the costs faced by an incumbent, and if sufficiently high, can make entry uneconomic.

The "potential use" aspect of the impairment analysis deals with all of the potential barriers to entry explicitly, while the "triggers" aspect of the analysis attempts to use evidence of actual competition as a shorthand way of analyzing the same factors implicitly.

Q. WHAT IS INVOLVED IN CONDUCTING AN ANALYSIS OF ENTRY ECONOMICS?

A. First and foremost, there must be clear and consistent assumptions concerning the "but for" world where the UNE being analyzed is assumed to be unavailable. For example, if a finding of no impairment is based upon certain cost assumptions, then subsequent regulatory actions and assessments cannot change those assumptions without jeopardizing the original finding. Similarly, the impairment analysis needs to be consistent with respect to assumptions about post-entry revenue. For example, an analysis that posits substantial profit opportunities for the CLEC must explain why the ILEC has not already exploited those opportunities, and must take into account the likely competitive response of the ILEC if the CLEC enters.

Second, the business model for the candidate CLEC must be qualified; that is, it must satisfy the criteria we explained earlier, which ensure that only efficient CLEC competition is being considered for purposes of applying the impairment standard.

Third, the business model must be assessed in light of the net revenue opportunities (that is, net of operating costs, including amortization of any necessary capital investment) that might be expected in the post-entry market, and in light of the operational and economic barriers to entry that must be overcome to realize those expected net revenue opportunities. For entry to be economic, an efficient CLEC must expect to earn at least a normal profit, which includes a fair, risk-adjusted return on invested capital.[28] In making this assessment, the regulator must consider the "factors that raise an entrant's cost of service, limit its potential revenues, or increase the risk or cost of failure" and hence

[28] In an effectively competitive market, no firm expects to earn more than a normal profit.

"reduce the likelihood of entry."[29] All economic and operational factors that make entry and operation in the market costly must be considered when making this impairment assessment.[30]

Q. WHAT ARE THE BARRIERS TO ENTRY THAT SHOULD BE CONSIDERED WHEN ASSESSING IMPAIRMENT?

A. When dealt with explicitly, entry barriers may be classified in a number of ways. The TRO organizes potential entry barriers into two general categories: operational and economic. Operational barriers to entry refer to factors that "could significantly delay or reduce the quality of the services" a CLEC might offer in the "but for" world.[31] For example, if local switching is not unbundled, CLECs confront operational barriers in obtaining ILEC unbundled loops and connecting them to the CLEC's switch.[32]

Economic barriers refer, most commonly, to structural factors that would render CLEC entry uneconomic in the "but for" world.[33] Any one or more factors that result in the CLEC having substantially higher costs than the ILEC, such that entry is uneconomic in

[29] TRO, ¶ 77.

[30] It should be noted that this characterization of entry barriers is not limited only to costs that are asymmetrically faced by entrants, but includes any cost that would not contribute to making entry uneconomic. In the context of the TRO, this is more akin to the intent of Bain's original definition of entry barriers, than the subsequent more narrow definition advocated by Stigler (see TRO footnote 240 and 241). However, the definition applied here is also narrower than Bain's in so far as it does not preclude an incumbent from earning supranormal profits.

[31] TRO, ¶ 77.

[32] As explained below (see footnote 34), the FCC associates operational delays with the ongoing problems that would be faced by a CLEC interacting or competing with the ILEC if unbundled access to an element is not provided. This includes hot cut procedures, ordering/repair procedures and delays, and service quality or reliability disparities. See, TRO, ¶ 456.

[33] Any barriers should be considered in tandem with the typical marketing experience of a new market entrant. That is, demand for its product is not immediate. Instead, demand usually starts at zero, ramps up to close to the ultimate level in the first few years, and then flattens out for the remainder of the study period.

light of expected revenues, could be deemed an economic entry barrier.[34] The FCC's Order cites a number of potential factors that might be construed as sources of economic entry barriers, including the following:

Scale economies: In the presence of fixed costs, average costs decline with the size of the market served by a firm. Since the economics of telephony rely heavily upon scale economies, an entrant that cannot expect to capture as large a market as the incumbent will typically suffer a cost disadvantage. Scale economies that are extensive enough can give rise to a natural monopoly.[35]

Sunk costs: Costs that would be incurred as a consequence of the decision to enter a market, but that would not be recoverable if a firm decides to reverse its decision, are regarded as sunk. The impairment analysis is concerned with anticipated, future sunk costs -- not those associated with past investments that particular CLECs or ILECs may have made. Future sunk costs pose a barrier to entry in several ways. First, they make exit more costly, which also makes entry more costly since competition is always uncertain.[36] Second, sunk costs increase the likelihood that *post-entry* prices will be lower, because both the incumbent and the entrant(s) will regard any sunk entry costs as irrelevant when deciding how aggressively to compete in the post-entry market.

[34] The distinction between operational and economic entry barriers is not precise, and is made primarily as a manner of convenience. In the TRO, operational barriers are most often associated with factors related to a CLEC's interactions with the ILEC (*e.g.*, the hot cut process for migrating ILEC loops to CLEC switches). See TRO, ¶ 472. Generally speaking, operational barriers may be more easily reduced by improving the process by which CLECs and ILECs interact; whereas economic barriers are more closely related to the fundamental structure of the market. In the end, it does not matter whether a particular factor is classified as an operational or economic barrier, what matters if taken collectively these imply expected costs that make entry uneconomic in light of expected revenues.

[35] A natural monopoly arises when a single firm can serve aggregate market demand at lower cost than can two or more firms.

First-mover advantages: Being first into a market may provide numerous economic benefits. For example, the incumbent's legacy local network infrastructure was put in place over the past century under the protection of a monopoly franchise. The ILEC had first choice in selecting rights of way and in locating its switches optimally to connect to its loops. Additionally, the ILEC acquired its customer base in a monopoly environment and has developed valuable customer relationships and databases with customers within its region. In contrast, a committed CLEC must incur substantial sunk investment while faced with uncertain prospects that it will be able to obtain access to desirable rights of way, will be able to locate its switching so as to efficiently interconnect with ILEC loops, and to acquire an adequate customer base from the incumbent. These and other factors may contribute to the CLEC having higher costs than the ILEC.

Absolute Cost Advantages: Each of the entry barriers discussed above may result in a CLEC having higher costs than the ILEC, but there are other factors that may also give the ILEC an absolute cost advantage. Anything that might grant an incumbent a cost advantage relative to a potential entrant could constitute an entry barrier. For example, a CLEC may have higher costs because it must expend more than the ILEC for marketing,[37] because it faces asymmetric charges from the ILEC (e.g., loop extension costs or customer change fees), or because it incurs higher costs to make use of its

(continued...)

[36] A viable exit strategy that allows an investor to recover his investment makes entry less risky, and thereby lowers the cost of capital.

[37] For example, because the incumbent already has a relationship with virtually every customer in the market, it may benefit from superior market intelligence that allows it to selectively target its customer acquisition efforts more effectively than a potential entrant.

inferior access to rights of way.[38] Critically, if post-entry prices are expected to approach average total costs, then even a relatively small cost advantage for the ILEC may be sufficient to render entry uneconomic. The larger the absolute cost disadvantage, the more likely that it will pose a significant barrier to entry.

Barriers to entry within the control of the incumbent: An incumbent may also be able to take strategic actions that increase the likelihood that entry will be uneconomic. For example, preemptive investment by an incumbent in excess capacity could deter an entrant from facilities investment because of the expectation that post-entry revenues will be lower. Alternatively, an incumbent's decision to adopt a manual "hot cut" procedure could increase the costs faced by a CLEC seeking to use unbundled loops. These barriers are, at least partially, under the control of the ILEC and may be reduced if the ILEC can be induced to change its behavior.

Q. WHY IS IT APPROPRIATE FOR BACKHAUL COSTS TO BE INCLUDED AS PART OF THE COSTS OF USING UNE-L?

A. As we have explained, because even the largest CLEC will typically serve only a single-digit share of mass-market customers, it cannot achieve switching efficiencies comparable to those of the ILEC unless it is able to use its switches to serve customers in multiple wire centers. By purchasing unbundled switching from the ILEC (i.e., UNE-P), these additional backhaul costs are avoided, because the ILEC's switch is physically located in the same building as the wire center; for this same reason, ILECs ordinarily do

[38] The ILEC's preferential access to rights of way has already been mentioned in the context of first mover advantages, however, ILEC's may continue to have preferential access even for new facilities construction associated with special contracts it may be able to negotiate with rights of way owners.

not incur similar backhaul costs in serving their own retail customers. Assuming that the CLEC is able to achieve switching efficiencies fully comparable with those of the ILEC, the required use of additional backhaul facilities creates a cost disadvantage for the CLEC, a cost that is avoided entirely when switching is provided by the ILEC.

Q. DOES THE COMMISSION NEED TO IDENTIFY A PARTICULAR ONE OF THESE ENTRY BARRIERS AS THE SOURCE OF IMPAIRMENT OR CAN THEIR COMBINED EFFECT BE CONSIDERED?

A. While it is conceivable that any single barrier may create a sufficient impediment to render entry uneconomic, this is not necessary for a finding of impairment. What matters is whether the effect of one or more of these barriers, taken together, is to render entry uneconomic. For example, the TRO concluded that the various operational and economic barriers associated with the current hot cut processes provided a sufficient basis for a national finding of impairment for mass market local switching.

Q. WHY IS IT NECESSARY TO EVALUATE ENTRY BARRIERS RELATIVE TO AN EFFICIENT CLEC?

A. Obviously, there is an infinite range of business strategies for entry that would be uneconomic. By constraining consideration to efficient business plans, the FCC Order eliminates spurious, inefficient strategies from consideration. This is appropriate since no actual CLEC would knowingly pursue an inefficient strategy. However, as noted earlier, the efficient business plan must be one that will permit efficient entry to the entire market, not just a particular niche. The fact that a CLEC has or can efficiently enter to serve a sub-population of the designated market (e.g., a college campus) does not permit a conclusion as to the level of impairment in the market as a whole.

Q. WHAT IS THE PURPOSE OF EVALUATING THE REVENUE OPPORTUNITIES THAT MIGHT BE EXPECTED IN THE POST-ENTRY MARKET?

A. The costs and associated revenue opportunities of serving different classes of customers are typically not similar. For example, the economics of selling to enterprise customers are very different from the economics of selling to mass market customers. A relatively high per customer acquisition cost may be acceptable in an enterprise market where each customer represents a significant amount of revenue. In a mass market, however, per customer revenue is small so the tolerance of fixed per customer costs is much less. Thus, the observation that a CLEC may find it economic to serve high-revenue business customers using UNE-L does not imply that the same would be true for mass- market customers.

In addition to analyzing the different net revenue offered by different market segments (defined in terms of customer classes, service bundles, or geographic locations), it is important to properly consider the implications of post-entry competition. Entry by multiple CLECs will put downward pressure on rates, driving them in line with costs. Additionally, multi-carrier competition will increase customer acquisition costs because of increased churn.

In short, current margins provide an upper bound as to what might be anticipated post-entry. If expected margins are not appropriately adjusted downward to reflect the higher marketing costs and lower revenue opportunities that can be expected with competition, the economic case for additional facilities-based CLEC entry will be overstated.

V. ROLE AND APPLICATION OF THE TRIGGERS

A. Economic Interpretation of Trigger Test in Impairment Analysis

Q. PLEASE EXPLAIN THE ECONOMIC ROLE OF THE FCC'S "TRIGGER TEST."

A. The trigger analysis examines empirical and verifiable evidence of actual CLEC competition in the relevant market, which may be defined with respect to the service, the customers, or the geographic scope. Assuming that the market is properly defined and that the triggers are applied in a focused manner (meaning that CLECs are properly classified to determine whether they should be counted toward the triggers) – two very important assumptions – then if the number of CLECs currently offering service without the UNE exceeds a threshold number, it is generally reasonable to infer that additional CLEC entry into the market would be economically viable. Under those circumstances, a more detailed analysis of entry barriers and the business case for efficient CLEC entry would be unnecessary since it would simply confirm what has already been concluded based upon actual experience to date. Therefore, a finding of no impairment results in the same regulatory outcome with less regulatory investigation and analysis.

Q. PLEASE EXPLAIN WHY A TRIGGER TEST NEEDS TO BE FOCUSED.

A. A trigger test needs to be carefully focused in order to serve its proper function, which is to economize on regulatory process, but not at the expense of making incorrect determinations. A short-cut is only a short-cut if it gets you where you need to go; otherwise you end up having to backtrack and your travel time is extended, not shortened.

If a lax interpretation is used – one that allows triggers to be satisfied too easily – then a finding of no impairment could result where a more detailed analysis would have resulted

in a finding of impairment. This would be inconsistent with the Act and the TRO. On the other hand, if a more rigorous interpretation is used, under which the trigger test is not satisfied, the inquiry does not end. Failure to satisfy the trigger only indicates that the available data does not allow for a quick determination and that a more detailed analysis is needed.

Defining and applying triggers with focused criteria protects against making bad decisions and establishes a sound empirical basis from which to develop a more complete analysis of local competition if the trigger test is not met. The data considered must be suitably granular to allow correct inferences to be made. For example, to apply the trigger test in the case of enterprise loops (dark fiber loops, DS3 loops, and DS1 loops), the existence of unaffiliated competition that does not rely on ILEC-provided facilities is investigated on a customer-location-by-location basis.[39] On the other hand, in the case of dedicated transport, CLEC competition is investigated on a route-by-route basis.[40] In both cases, if the trigger is met, then there is substantial certainty that all potential customers on those routes will have access to multiple alternative facilities-based suppliers. The result of applying the mass-market switching triggers should offer no less certainty.

[39] TRO ¶¶ 330-331.

[40] TRO ¶¶ 400-401.

B. The Trigger Tests for Unbundled Mass Market Switching.

Q. WHAT IS THE TRO TRIGGER TEST FOR UNBUNDLED MASS MARKET SWITCHING?

A. For unbundled mass market switching, the TRO identifies two trigger threshold standards. First, the "self-provisioning" trigger asks whether there are "three or more unaffiliated competing carriers each is serving mass market customers in a particular market with the use of their own switches."[41] Second, the "competitive wholesale facilities trigger" asks whether "two or more competing carriers, not affiliated with each other or the incumbent LEC, offer wholesale switching service for that market using their own switch."[42]

Q. WHY ARE THERE TWO MASS MARKET SWITCHING TRIGGER TESTS WITH DIFFERENT THRESHOLDS?

A. The TRO specifies two trigger tests to highlight the importance of active wholesale competition. The reason the threshold is lower for the wholesale facilities trigger is because empirical evidence of robust wholesale competition provides even stronger support that the UNE provided by the ILEC is not a bottleneck and that additional CLECs beyond those already in the market could find it economically viable to enter the market.

[41] TRO ¶ 501.

[42] TRO ¶ 504.

Q. WHY DOES THE TRIGGER TEST FOCUS UPON ACTUAL RATHER THAN POTENTIAL COMPETITION?

A. The trigger test focuses on the existence of actual competition, because an analysis of potential competition is inherently more complicated. In principle at least, it is much easier to verify what a CLEC is currently doing than what it *might* do in the future or what *might* be profitable if the CLEC's business plan were different.

I say "in principle" because it is still possible to make a mistake in identifying the existence or significance of what might appear at first glance to be "actual" competition. The trigger analysis depends upon properly defining the market and properly classifying CLECs into the markets in which they "actually" (rather than merely "potentially") compete. If the market is defined overly broadly, then CLECs that are at most potential competitors may be mischaracterized as actual competitors.

Q. CAN YOU EXPLAIN THE BASIS FOR THE ECONOMIC INFERENCE REGARDING "ACTUAL" COMPETITION AND ENTRY ECONOMICS?

A. The trigger test rests upon the economically reasonable presumption of profit maximizing behavior. If a firm is *actually* doing something, then we can generally infer that the firm expected the action to be profitable.[43] If a firm is actually competing in a market using its own facilities, then at least that firm was able to overcome the barriers to entry. If multiple firms are able to overcome these barriers, then it suggests that there are multiple

[43] Even in this case, care must be taken because firms may make mistakes. That is, they may have been mistaken about the costs or revenue opportunities that would exist in a market. For example, it is reasonable to presume that a number of the CLECs that entered relying on the regulatory promise that they would have wholesale access to UNE-P will find it unprofitable to continue in the market if unbundled switching is no longer mandated. It would be ironic if their "actual" competition based upon UNE-P were used to satisfy a trigger test that resulted in them no longer being able to compete effectively.

business plans[44] that offered a reasonable expectation of overcoming whatever barriers to entry exist. The trigger is nonetheless making a prediction, rather than fully assessing the potential for additional competitive entry. It is important to understand this distinction, because the test for whether UNEs are needed is not whether a particular (existing) CLEC needs them, but whether their *absence* would impair additional efficient CLEC competition (entry).

Assessing the viability of "potential" (future) competition is inherently more difficult. If we observe a market with no competitors, the natural presumption is that potential entrants face substantial economic barriers to entry. A firm would rationally choose not to enter if it anticipated that entry for it would be unprofitable. However, we must be more circumspect in drawing inferences about why a firm might chose not to do something. Therefore, determining the viability of potential competition generally requires more careful analysis than evaluating the scale and scope of existing, actual competition.

Q. PLEASE EXPLAIN WHY COUNTING A CLEC THAT SERVES MASS MARKET CUSTOMERS USING BOTH UNE-L AND UNE-P MAY RESULT IN AN IMPROPER FINDING OF NO IMPAIRMENT.

A. As we explained earlier, UNE-P complements CLEC-owned facilities investment. A CLEC may be serving some mass-market customers in some wire centers using UNE-L and in other wire centers using UNE-P. If the CLEC were no longer able to serve customers using UNE-P, the CLEC may decide to scale back the scope of its mass-

[44] That is, entry is not limited to a single niche business plan or feasible for a limited class of CLECs characterized by some special circumstances.

market service. It may choose to exit the mass market altogether. Were this to occur, it would demonstrate that that CLEC's business plan was impaired without access to unbundled switching.

a. Classifying CLECs in Order to Apply the Triggers.

Q. HOW SHOULD CLECS BE CLASSIFIED TO APPLY THE TRIGGERS?

A. To apply the trigger test, it is necessary to classify CLECs appropriately in order to determine whether they should be included as counting towards the trigger threshold. As noted earlier, the focus ought to be upon actual competition currently in the market. Therefore, only CLECs that are presently offering basic telephone service to mass market customers without unbundled switching and as more than an incidental element of the CLEC's business plan should be counted towards meeting the trigger.

Q. ARE THERE CIRCUMSTANCES WHEREIN A CLEC SHOULD NOT BE COUNTED TOWARDS MEETING THE SELF-PROVISIONING TRIGGER TEST FOR UNBUNDLED SWITCHING?

A. Yes. There are a number of circumstances in which a CLEC might erroneously be counted toward meeting the trigger test. Any time a CLEC serves merely an incidental number of mass-market customers in a market via UNE-L or is not offering services via UNE-L over a significant share of the geographic area, it should not be counted as one of the three retail providers necessary to satisfy the trigger.

Q. CAN YOU BE MORE SPECIFIC?

A. For the reasons that we just discussed, an appropriate classification of CLECs for applying the unbundled trigger ought to *exclude* the following:

(1) CLECs that do not offer service via UNE-L over a significant share of the geographic area analyzed. If CLECs are currently operating in only a geographically-localized subset of areas (e.g., a few wire centers), it is reasonable to investigate whether they may be able to economically expand to serve customers throughout the market under consideration, but this requires an analysis of potential competition which is only considered if the triggers are not met. If a presumption is to be made without further analysis, the natural presumption is that it is not economic for them to expand.

(2) CLECs that offer potential "intermodal" competition. This category consists of CLECs using non-wireline telephone local networks. These may include cable television providers that sometimes also offer cable telephony services, CLECs offering broadband DSL that may also offer voice-over-DSL, wireless ISPs (WISPs) that may offer bundled telephone services, or others.[45] The very fact that these are referred to as "intermodal" competitors highlights the need to carefully consider the extent to which these offer effective substitutes for the basic telephone service provided by the ILEC and the relevance of such intermodal business models to sustain additional CLEC entry. In any case, the analysis goes beyond a mere trigger test. Anecdotal evidence regarding individual consumers who, at the margin, are replacing their wireline phones with one or another of these intermodal alternatives in no sense establishes the economic substitutability of these alternatives for the mass market generally.

[45] Depending on the locale, potential sources of inter-modal competition may include municipal utilities (with HFC plant), wireless ISPs, or others.

(3) CLECs that are serving only enterprise customers from the defined market using non-ILEC switching. A CLEC may be serving enterprise customers in a defined market and either not be serving mass market customers at all, or only serving mass market customers via UNE-P. In either case, assessing whether it is economically viable for such a CLEC to serve mass-market customers goes beyond the trigger analysis.

(4) CLECs that serve only a restricted niche of mass market customers in the defined market using non-ILEC switching. This would include a CLEC serving a very limited sub-class of customers (e.g., only college students or customers confined to a discrete subset of wire centers in the geographic area), a CLEC with very limited capacity, a CLEC that is only experimenting with UNE-L (on a limited, trial basis),[46] a CLEC that is only providing service to existing customers on a grandfathered basis and that is not presently actively seeking new mass market customers, or a CLEC that is principally an enterprise service provider but may provide some residential service as part of its enterprise offer (e.g., to connect the homes of senior management to the enterprise customers network). To determine whether a CLEC ought to be excluded, it would be useful to have a threshold for the number of lines and the share of CLEC lines that must be served via non-ILEC switching to apply this exclusion principle.[47] This may have the

[46] This also would include a CLEC that may have installed a switch and is offering UNE-L to mass market customers, but has subsequently determined that further expansion of UNE-L is unprofitable. Evidence that the CLEC has stopped marketing service to UNE-L or is converting UNE-L to UNE-P suggest that offering UNE-L is uneconomic, and hence, it would be inappropriate to count such a firm toward meeting the trigger threshold.

[47] E.g., "Any CLEC serving less than X lines or with less than Y% of the total mass market end-user lines served in the relevant geographic area or impairment zone " should be excluded. X is needed to exclude CLECs that are only testing service and there is presumption that they may find full entry uneconomic. Y is needed to exclude the case of enterprise-serving CLEC with large number of lines for which mass market service is purely incidental.

effect of excluding a CLEC that is focused upon the residential market in the defined market (i.e., has capacity, is actively marketing to mass market customers) but is in the early stages of its market penetration. Should this be shown to be the case, such CLECs could be considered an exception to the minimum number of lines limitation.

(5) CLECs whose appropriate classification is unclear. If the data presented during the trigger phase does not allow the Commission to determine with certainty whether a CLEC qualifies as a triggering firm, then the CLEC should not be counted towards the trigger. This is wholly appropriate since it means that additional information is needed in order to assess the economics of local competition. Failing to satisfy the trigger will result in further investigation and data collection to clarify these ambiguities.

Q. CAN YOU EXPLAIN FURTHER WHY CLECS THAT ARE SERVING ONLY A "RESTRICTED NICHE OF MASS MARKET CUSTOMERS" OUGHT TO BE EXCLUDED?

A. The economic logic of the trigger approach rests upon the ability to reliably infer from counts of CLECs alone that there are no substantial barriers to entry that would impair an efficient CLEC from entering if UNEs were not available. There are many reasons that could explain (aside from being in the early stages of entry) why a firm might choose to provide mass market services to a small number of customers at a loss, but nonetheless, under an efficient business model, would not find it profitable to substantially expand service. Examples include test marketing, goodwill sales (e.g., service to senior executives of enterprise customers), and business models customized to serve a niche of mass-market customers.

If any of these reasons apply, then the inference that there are "no barriers to entry" is unwarranted and the justification for the trigger analysis fails. Moreover, to determine whether or not a firm serving only a small number of mass-market customers is merely in the early stages of entry requires conducting additional analysis beyond what the trigger test allows. It requires the Commission to look more broadly, using the "potential use" aspect of the impairment analysis, to determine whether these CLECs could profitably expand their service to the entire range of residential and small business customers in the mass market.

Q. CAN YOU EXPLAIN IN MORE DETAIL WHY INTERMODAL CARRIERS OUGHT TO BE EXCLUDED FROM THE TRIGGER TEST?

A. In most contexts, the focus of intermodal suppliers is not basic telephone service. For example, cable television providers did not build their facilities to offer telephone service and even though most have upgraded their facilities to enable two-way communication, most still do not offer telephone service, or if they do, do not market their service as a substitute for primary fixed line service. Service instead is typically bundled within a package of other products and as such is not properly viewed as a "substitute" for basic telephone service. Because intermodal carriers do not supply a "substitute" product, they are not properly considered to be competitors within the mass market for basic telephone service.

In addition, as the TRO notes,[48] counting intermodal carriers towards meeting the triggers is problematic because it is generally not reasonable to assume that other CLECs could use the same approach to provisioning local telephone service. For example, spectrum

licensing restrictions or television franchise restrictions are likely to limit opportunities for other CLECs to adopt the same entry model as cable and wireless providers, respectively, and thus do not demonstrate that these other CLECs could enter the market in question without access to UNEs.

Finally, an offering of basic telephone service implies a number of features and regulatory responsibilities that establish a high threshold for a would-be competitor to meet. These include external powering so that the phone will keep working even when power fails, a high level of reliability and service quality, and interconnection with emergency services (911). The fact that most cable providers do not yet offer telephony services, and when they do, do not choose to market it as a substitute for basic telephone service is indicative that these are not yet close substitutes for mass market, basic telephone service.

Q. ISN'T THERE A PROBLEM IN AN APPROACH THAT MIGHT EXCLUDE CLECS THAT DEMONSTRATE THE VIABILITY OF ECONOMIC ENTRY WITHOUT UNES?

A. No. The fact that a CLEC should not be counted toward the triggers does not end the impairment analysis; rather, it protects the regulatory process from being aborted prematurely. Failure to satisfy the trigger signifies only that the available data of actual competition is insufficient to make a reasonable inference about entry barriers. Common sense indicates that if you do not have reliable data to apply the test, you should move beyond the test to collect the necessary data to complete the appropriate analysis.

(continued...)
[48] TRO ¶ 98.

VI. CONCLUSIONS

Q. WHAT ARE YOUR PRINCIPAL RECOMMENDATIONS TO THE COMMISSION?

A. The goal of our direct testimony is to assist the Commission in interpreting the TRO and in adopting an appropriate economic framework for implementation of the impairment standard defined therein. Such a framework will ensure that the Commission's decisions in this proceeding will promote and protect the interests of all consumers in Washington. This is best accomplished by promoting the transition to efficient and sustainable competition in local telephone services, a transition that depends on rigorous enforcement of the pro-competitive provisions of the Act.

It is now nearly eight years since the Act became law, and substantial progress has been made in transitioning local markets towards competition, but much more is yet to be done. The CLEC competition that is currently expanding throughout Washington depends critically upon the availability of UNEs. A careful analysis of the economics of CLEC entry will demonstrate the economic need for continuing mandatory UNE provisioning.

Denying CLECs continued access to UNEs will raise CLEC entry costs, thereby limiting CLEC expansion. Without the spur of competition, ILECs will have a reduced incentive to invest in advanced communications infrastructure. And, in those locales where CLECs are induced to expand investment to retain customers currently being served by UNE-P, there will be an increased and perverse risk of inefficient investment in legacy technology that will threaten both CLEC and ILEC capacity with stranding.

Consumers who benefit today and those that would be likely to benefit in the future from expanded CLEC competition will be denied the benefits of choice and enhanced efficiency that competition brings. Continued investment in advanced communications infrastructure would be put unnecessarily at risk.

The current proceeding offers a valuable opportunity to take stock of the progress in local telephone competition across Washington. To ensure that the Commission reaches decisions that are consistent with the Act and the TRO, it is necessary for it to apply the trigger test for unbundled switching to a suitably defined geographic area and to classify CLECs that are counted toward satisfying the trigger threshold appropriately. The Commission has adopted the right approach in specifying that the data underlying that analysis ought to be collected on a wire-center basis because this is the only way to ensure that adequate data is collected and analyzed.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.