

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

**PUBLIC UTILITIES COMMISSION**

In re Review of Bell Atlantic's TELRIC Studies.

Docket No. 2681

Implementation of the Requirements of the Federal  
Communications Commission's Triennial Review Order

Docket No. 3550

**DIRECT TESTIMONY OF WILLIAM LEHR, Ph.D.**

(Economic Framework for Trigger Analysis & Mass Market Switching)

ON BEHALF OF AT&T

PUBLIC VERSION

February 24, 2004

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1 **I. SUMMARY OF PROFESSIONAL EXPERTISE AND TELECOMMUNICATIONS**

2 **INDUSTRY EXPERIENCE**

3 **Q. PLEASE STATE YOUR NAME AND YOUR OCCUPATION.**

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

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

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

21 From 1991 through 2002, I was on the faculty of the Graduate School of Business at  
22 Columbia University, first as an assistant professor (1991 to 1996) and then as an adjunct  
23 research scholar (1997 to 2002). Since moving to the Boston area in 1996, I have helped

1 direct the research efforts of the MIT Research Program on Internet and Telecom  
2 Convergence. I have a Ph.D. (1992) in economics from Stanford University, an M.B.A.  
3 (1985) from Wharton, and an M.S.E. (1984), B.S. (1979), and B.A. (1979) from the  
4 University of Pennsylvania. A copy of my *Curriculum Vitae* with additional details is  
5 attached as Attachment WHL-1.

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

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

15 **II. INTRODUCTION, PURPOSE, AND STRUCTURE OF THE TESTIMONY.**

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

17 A. The purpose of my testimony is to provide economic guidance to the Commission in  
18 interpreting and applying the FCC's recent *Triennial Review Order* ("*TRO*")<sup>1</sup> and  
19 "impairment standard" to determine which Unbundled Network Elements ("UNEs") should

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<sup>1</sup> *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*").

1 continue to be mandated under the Telecommunications Act of 1996. Specifically, I focus  
2 on explaining how to properly apply the "triggers analysis" in assessing whether CLECs  
3 seeking to serve mass market customers would be impaired without access to unbundled  
4 switching. In addition, I comment on the trigger case for mass market switching presented  
5 on behalf of Verizon in the testimony of Ms. Theresa O'Brien and Mr. John White.<sup>2</sup>

6 **Q. PLEASE SUMMARIZE YOUR MAIN CONCLUSIONS AT THIS STAGE OF THE**  
7 **CASE.**

8 A. My testimony will explain why I reach the following primary conclusions:

9 (1) The ultimate goal of this proceeding is to implement the Telecommunications  
10 Act of 1996 ("TA96" or the "Act"), which is intended to promote the emergence of effective  
11 competition in local telephone services. Unbundled Network Elements ("UNEs"), including  
12 access to unbundled switching, continue to play a critical role in facilitating the emergence  
13 of local competition. The FCC's TRO seeks to implement the Act's unbundling rules by  
14 providing an economic framework for determining *which* UNEs are necessary for additional  
15 Competitive Local Exchange Carrier ("CLEC") entry to be economically viable on a market-  
16 by-market basis. In the TRO, the FCC reached a national finding that CLECs seeking to  
17 serve mass market customers would be impaired without access to unbundled switching.  
18 The TRO directs States to conduct an empirical fact-intensive review of local market  
19 conditions in order to confirm or rebut this national finding of impairment.

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<sup>2</sup> See *Direct Testimony of Theresa L. O'Brien and John White on behalf of Verizon Rhode Island*, In the Matter of Implementation of the Requirements of the Federal Communications Commission's Triennial Review Order, Before the State of Rhode Island Public Utilities Commission, Docket No. 3550, December 8, 2003 (hereafter, "O'Brien and White")

1 (2) To assist states in applying its impairment standard, the FCC's TRO sets forth a  
2 two-phase impairment analysis that examines both actual competition ("trigger tests") and  
3 potential deployment competition ("business case analysis") in order to determine whether  
4 CLECs face substantial entry barriers without access to UNEs. In order for the analysis to  
5 lead to economically rational results,<sup>3</sup> both phases of the analysis must be applied in a  
6 consistent and economically sound manner.

7 (3) The FCC's mass market switching trigger tests proceeds by examining current  
8 *actual* CLEC competition on a market-by-market basis. When properly applied, if three or  
9 more qualifying CLECs are currently offering service to mass market consumers using  
10 CLEC-owned switching, then the self-provisioning trigger test is met and entry barriers for  
11 additional CLEC entry (potential deployment) are presumed to be negligible. The role of the  
12 trigger test is twofold: first, it provides the basis for assessing the current state of  
13 competition which is useful in its own right and also helpful when subsequently evaluating  
14 the case for potential competition; and second, if the evidence of actual competition is  
15 sufficient, it provides a basis for concluding that CLECs would not be impaired without  
16 access to unbundled switching. When the trigger is satisfied, this avoids the burden of  
17 further analysis associated with a more wide-ranging consideration of *potential* competition.  
18 However, both the trigger test and the more expansive investigation of potential competition  
19 are intended to result in consistent impairment findings. For the conclusion implied by  
20 nominal satisfaction of a trigger – i.e., that economic barriers to entry are negligible – to be

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<sup>3</sup> As the FCC explained in the TRO: “we believe that any reasonable application of the impairment standard and unbundling requirements should be economically rational.” TRO ¶ 78.

1 reasonable and consistent with sound economic analysis, the trigger must be applied  
2 objectively, with focus and care. Appropriate application of the impairment standard,  
3 including applying the trigger test, will depend critically upon the quality of data collected,  
4 the appropriate definition of the markets, and the correct classification of CLEC  
5 competition. If the evidence of current actual competition does not clearly, objectively, and  
6 unambiguously demonstrate that additional CLEC entry would not be impaired without  
7 access to unbundled switching, then the trigger test cannot be satisfied and the Commission  
8 should either confirm the national finding of impairment with respect to mass market  
9 switching, or proceed to an analysis of potential competition.

10 (4) To determine impairment on a market-by-market basis, the Commission must  
11 define the relevant market for which impairment will be assessed. Markets are generally  
12 defined with respect to services, customers, and geographic scope. The FCC has directed  
13 state commissions to evaluate impairment in the hypothetical absence of UNE-P in  
14 geographic areas that are smaller than the state as a whole, but leaves it to state commissions  
15 to determine the appropriate size of the geographic market.<sup>4</sup> An efficient CLEC will  
16 necessarily make market entry decisions and pursue mass market customers in a geographic  
17 area that is sufficiently large to permit the CLEC to realize the economies of scale and scope  
18 with respect to both network operations and "business" issues such as marketing,  
19 advertising, and customer support. However, in assessing impairment, it is important that the  
20 Commission evaluate suitably granular data to ensure that competition is viable for each

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<sup>4</sup> TRO, ¶ 495.

1 class of mass market customer throughout the defined market before determining that  
2 CLEC's would not be impaired without access to unbundled switching. If the market is  
3 defined to encompass a relatively broad geographic area, encompassing multiple wire  
4 centers, then the trigger analysis cannot be reduced to a simple counting exercise less  
5 evidence of localized niche competition<sup>5</sup> be relied upon incorrectly to infer that entry  
6 barriers do not exist throughout the market.

7 (5) Verizon has recommended that the Commission adopt wire-center density zones  
8 as the relevant market for assessing impairment in Rhode Island and for applying the  
9 triggers. The decision to adopt a particular market definition cannot be made separately from  
10 the decision of how to apply the triggers, and if necessary, how to evaluate potential  
11 competition since both phases of the analysis must use the same market definition. Because  
12 there are multiple wire centers in each density zone, objective and economically consistent  
13 application of the triggers requires the Commission to properly classify CLECs before  
14 counting them toward the trigger test threshold. This is necessary in order to avoid reaching  
15 a finding of "no impairment" over all of the wire centers included in a density zone even  
16 when the available granular evidence of actual competition suggests that entry barriers *do*  
17 *exist* in parts of the defined market.

18 (6) After evaluating the evidence of actual competition in Rhode Island, it is clear  
19 that the self-provisioning trigger tests fail in all three density zones. In reaching an opposite  
20 conclusion for density zones 1 and 2, Verizon inappropriately counts CLECs toward

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<sup>5</sup> That is, in only a few wire centers in the defined market or for only one class of mass market customer (*e.g.*, small business customers, but not residential customers).

1 meeting the self-provisioning trigger threshold that should not be included. Moreover, the  
2 evidence Verizon presents demonstrates that CLEC-switch-based competitors are serving  
3 only a trivial share of the lines in each density zone, and that such competition as exists is  
4 niche focused (business not residential) and geographically localized within particular wire  
5 centers within each density zone. Furthermore, Verizon relies on the presence of intermodal  
6 competition from cable carriers which should not be counted toward meeting the trigger test.  
7 This evidence demonstrates that entry barriers do confront CLECs wishing to serve mass  
8 market customers in each density zone.

9 (7) In light of the evidence that the trigger tests fail and Verizon's decision not to  
10 present a case concerning potential competition, the Commission should confirm the FCC's  
11 national finding of impairment with respect to mass market switching in Rhode Island.

12 **Q. HOW IS THE REST OF YOUR TESTIMONY ORGANIZED?**

13 A. The balance of this testimony is organized into the following sections:

14 Section III explains the economic and policy context for this proceeding and how it  
15 relates to the pro-competitive framework put in place by the Telecommunications Act of  
16 1996. The Act recognized that UNEs are necessary to facilitate the transition to competition  
17 and can help promote efficient investment.

18 Section IV provides an economic interpretation of the TRO's impairment standard;  
19 and, using this context, explains how to properly apply the trigger tests for unbundled  
20 switching so as to be consistent with the goals of the Act and the TRO. This includes  
21 guidance on how to properly define the mass markets to be used to assess impairment and  
22 the economic principles to be used to properly qualify CLECs given a particular definition  
23 for the market.

1 Section V evaluates the evidence put forth in Verizon's trigger case, as set forth in  
2 the testimony of Ms. O'Brien and Mr. White. I explain why this evidence contradicts  
3 Verizon's claim that the self-provisioning triggers are met in density zones 1 and 2, and  
4 instead, demonstrates why the Commission should confirm the TRO's national finding of  
5 impairment with respect to mass market switching in Rhode Island.

6 Section VI concludes.

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

8 **A. Goal of this proceeding is to implement Act's pro-competitive UNE rules.**

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

10 A. The principal goal of the Telecommunications Act of 1996 (TA96) is to promote the  
11 emergence of competition in local telephone and access markets. For robust local exchange  
12 competition to be feasible, it must be economically viable for multiple CLECs to enter the  
13 market and to sustain and expand their market presence. The TA96 recognized that it was  
14 necessary to adopt a pro-competitive framework that would lower regulatory and economic  
15 barriers to entry to enable the emergence of efficient and effective competition. The UNE  
16 rules are a critical component of this framework. These rules mandate that the ILEC make  
17 available for lease wholesale access to portions of its local access network at non-  
18 discriminatory, cost-based rates.

19 The focus of the present proceeding is to determine *which* UNEs an ILEC should be  
20 required to provide under the pro-competitive provisions of the TA96.<sup>6</sup> The TRO provides

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<sup>6</sup> See TRO, ¶15.

1 guidance to the Commission regarding how this determination ought to be made.

2 The FCC's guidance consists of national findings regarding which UNEs are  
3 necessary, and an economically rational framework for fine-tuning these findings based on  
4 more granular information within each state. The framework, referred to as the FCC's  
5 "impairment standard," examines the economic entry conditions to determine if CLEC  
6 competition would be impaired if an ILEC were not mandated to provide a particular UNE.

7 **B. UNEs help promote competition and investment.**

8 **Q. WHY ARE UNES IMPORTANT TO PROMOTE COMPETITION?**

9 A. UNEs play a critical role in promoting the emergence of local competition.

10 First, UNEs may be used to complement investments by CLECs in new facilities. It  
11 takes time to build a local network and UNEs may be leased to supplement CLEC network  
12 capabilities while the CLEC expands its local network. The opportunity to begin offering  
13 services over a larger geographic area and to more customers than can be currently served  
14 using the CLEC's facilities helps the CLEC to build the scale necessary to justify additional  
15 investment, helping to make CLEC facilities investment economically viable.

16 Second, UNEs provide an efficient way to share ILEC capacity when sufficient  
17 capacity already exists in the ILEC's network. In such cases, additional investment would be  
18 redundant and would threaten both ILEC and CLEC capacity with an increased risk of  
19 stranding.

20 Third, UNEs can provide the basis for non-facilities-based retail competition. In long  
21 distance telephone, in cellular services, and in numerous other industries where facilities-  
22 based competition is robust, non-facilities-based competition offers important benefits in  
23 terms of expanded choice, product innovation, and market discipline. Provisions to enable

1 the success of pure resale competition have a long history in pro-competitive regulatory  
2 policies, including the Total Service Resale (TSR) provisions of the TA96 and mandatory  
3 resale provisions for facilities-based mobile telephone service providers. These latter proved  
4 important while mobile service providers were building out their networks. In long distance  
5 services, the existence of competitive wholesale markets for long distance transport services  
6 supports vigorous resale competition that adds to the vibrancy of competition and expands  
7 consumer choice.

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

10 A. No, it does not. Entry via investment in CLEC-owned facilities, TSR, or UNEs have  
11 different economics such that each may be the most efficient in particular circumstances;  
12 and all three strategies provide an avenue for increasing competition. Quite appropriately,  
13 the Act does not prefer one type of competition over another.<sup>7</sup> It leaves the choice of the  
14 optimal business plan or entry strategy to the CLEC. The Act neither requires nor expects  
15 that CLECs will or need be vertically integrated providers of the underlying network  
16 services and retailing functions.

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

19 A. No. The best situation is if competition can thrive at all market levels. Some of the facilities-  
20 based providers may be pure wholesalers, some may only offer retail services over their  
21 integrated networks, and some may participate in both wholesale and retail markets.

1 Permitting competition in all these forms allows each firm to specialize in what it does best  
2 and assures that market forces drive all industry participants to adopt best practices.

3 **Q. DOES THE TA96 EXPRESS A PREFERENCE FOR FACILITIES-BASED**  
4 **COMPETITION OVER OTHER FORMS OF CLEC ENTRY?**

5 A. No, it does not. Quite appropriately, the TA96 does not prefer one type of competition over  
6 another or mandate one form of entry over another. It does not require or expect that CLECs  
7 will or need be vertically integrated providers of the underlying network services and  
8 retailing functions. Although entry via TSR or UNEs have different economics, they each  
9 provide an avenue for increasing competition and lowering economic barriers to entry that  
10 are valuable in promoting the transition to competition.

11 Facilities-based CLEC networks will be constructed where the presence of multiple  
12 networks is economically feasible. This will not always be the case. For example, for mass  
13 market services, networks of "last mile" connections to individual subscribers involve very  
14 high fixed costs and thus require relatively high levels of utilization to be efficient. CLEC  
15 duplication of such networks would require enormous amounts of investment capital which,  
16 when recovered over the relatively small share of the market that any individual CLEC is  
17 likely to acquire, will make it difficult for the CLEC to achieve unit cost efficiencies  
18 comparable to the incumbent, and hence, may make facilities-based competition from such a  
19 CLEC uneconomic. In many markets, it unrealistic to expect that competing facilities-based

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(continued...)

<sup>7</sup> See, generally, 47 U.S.C. § 251.

1 networks capable of supplying mass market services will become generally available any  
2 time in the foreseeable future. Moreover, there is no assurance that even if an additional "last  
3 mile" network were to be constructed, its owner would voluntarily offer wholesale services  
4 to other CLECs.<sup>8</sup>

5           Until such time as CLECs complete their build-out of their networks where it is  
6 economically feasible to do so, and competitive wholesale markets for UNEs emerge in  
7 those markets, regulatory mandated provisioning of UNEs by ILECs is needed for  
8 competition to take place at the retail level.

9 **Q. HOW DO UNES COMPLEMENT CLEC FACILITIES INVESTMENT?**

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

18           However, in those areas where the CLEC has not yet constructed facilities or where  
19 the construction of facilities is not economically justified, the ability to use UNEs allows the  
20 CLEC to expand its competitive footprint, thereby realizing additional scale and scope

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<sup>8</sup> For example, in some local areas, cable television providers have upgraded their facilities and are now offering local telephony services. None of these offer these services for resale by unaffiliated CLECs.

1 economies, and extending the range of consumers that benefit from the CLEC's presence.  
2 Thus, the availability of UNEs lowers the cost of facilities-investment in those areas where  
3 such investment is economically feasible.

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

11 It is also important to remember that UNEs are associated with legacy facilities  
12 (investments made and paid for in the past by ILEC ratepayers), not with ILEC investment  
13 in new generations of facilities that would be used to provide advanced communication  
14 services – indeed, the TRO specifically *exempts* such facilities from the unbundling  
15 requirements without even addressing the "impairment" question.<sup>9</sup> UNE policy needs to  
16 provide efficient incentives to utilize the legacy technology when appropriate and to invest  
17 in alternative technology only when that is efficient.

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

20 A. Yes. We believe that the Act seeks to promote *efficient* infrastructure investment.

21 Investment in new technology helps lower costs and facilitates the delivery of advanced

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<sup>9</sup> TRO, ¶ 272.

1 communication services. Additionally, when market economics can support multiple local  
2 networks, there is the hope that these may support a competitive wholesale market in local  
3 access services that will help to sustain competition with less regulatory oversight.<sup>10</sup>

4 **Q. IS PROMOTING ADDITIONAL INVESTMENT ALWAYS DESIRABLE?**

5 A. No. The goal of regulatory policy should be to promote efficient investment. Policies that  
6 promote facilities investment even where it is inefficient pose a serious threat to competition  
7 and to the economic viability of the industry. Certain ILEC network assets involve such  
8 large fixed costs that their replication by a competitor in many market situations would be  
9 extremely inefficient, even over the long run. If excess CLEC investment occurs, the market  
10 will not sustain a price that allows either the CLEC or ILEC to recover their economic costs.

11 **Q. WOULD A FINDING OF NO IMPAIRMENT FOR MASS MARKET SWITCHING  
12 INCREASE THE RISK OF INEFFICIENT INVESTMENT?**

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

16 However, without access to UNEs, CLECs may choose to invest in facilities in some  
17 markets despite the existence of excess ILEC capacity. Such investment would be  
18 inefficient. Additionally, in order to continue to serve their existing customer base in the

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<sup>10</sup> 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.

1 short-term, some CLECs may be induced to invest in legacy-type switching equipment to  
2 duplicate the capabilities already available using excess capacity on ILEC switches.

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

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

8 A. Yes. There is no sense in mandating the availability of UNEs if there is not a commitment to  
9 price them correctly. If UNEs are mandated, but regulated prices are set too high, then they  
10 will not be an economically viable option for CLEC entry. This point cannot be  
11 overemphasized, as there have been numerous attempts by the ILECs to do away with the  
12 Act's forward-looking pricing standard, as implemented in the FCC's TELRIC rules. For the  
13 ILECs, pricing UNEs at rates that make them uneconomic for CLECs is as good a result as  
14 being allowed to stop offering UNEs.

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

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

1           The development of CLEC competition is limited and, at this vulnerable stage in its  
2 development, remains critically dependent on access to UNEs.<sup>11</sup> CLECs have been  
3 expanding their capabilities, but this takes both time and a huge amount of capital. CLECs'  
4 (and investors') willingness to undertake these investments has been premised on the  
5 promise of the Act – that regulatory policy is committed to promoting the transition from  
6 monopoly to competition in local telephone services.

7 **Q. IS THE HARM TO COMPETITION LIMITED ONLY TO THOSE CUSTOMERS**  
8 **THAT ARE CURRENTLY BEING SERVED VIA UNE-P IN RHODE ISLAND?**

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

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

14 A. Yes, but these are likely to be small. Remember that the regulatory costs and the wholesale  
15 transaction costs associated with continuing UNE mandates are incremental. Substantially  
16 all of the costs associated with developing the wholesale regulatory and business apparatus  
17 to support UNE leasing have already been incurred. The focus of this proceeding is not on

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<sup>11</sup> As of June 2003, FCC data reported that CLECs served 26.9-million end-user lines (14.7%), out of a total of 182.8-million end-user lines in the United States, but only 6.3-million 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 upon 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 June 30, 2003*, Federal Communications Commission, Wireline Competition Bureau, December 2003).

1 identifying new types of UNEs, but in potentially limiting the scope of UNE entry options  
2 currently available to CLECs.

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

6 Any economic savings are likely to be further reduced by the increased wholesale  
7 transaction costs for customers CLECs continue to serve without unbundled switching.<sup>12</sup>  
8 Virtually all mass market UNE switching is used in conjunction with ILEC-provided UNE  
9 loops (i.e., in the form of UNE-Platform (UNE-P) services), and it is technically and  
10 operationally fairly simple for the ILEC to transfer a customer to a CLEC on this basis. The  
11 transaction costs are much higher to transfer a customer to UNE-L and a CLEC-provided  
12 switch. This helps explain why "hot cut" procedures for using UNE-L are as poorly  
13 developed, inefficient, manually intensive, and expensive as they are.

14 **IV. ECONOMIC FRAMEWORK FOR APPLYING THE IMPAIRMENT STANDARD.**

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

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

19 A. The TRO adopts an economic standard for determining whether CLEC competition would  
20 be impaired without access to a particular UNE in a particular market. The TRO specifies a

1 two-stage test for making this determination. In the first stage, a "trigger test" examined the  
2 status of current competition. If the number of qualifying CLECs operating without  
3 unbundled switching in the "market" exceed a threshold then the Commission may infer that  
4 CLECs would not be impaired without access to unbundled switching. If the trigger  
5 threshold is not met, then the impairment analysis may proceed to a second stage of analysis  
6 of potential deployment or of the business case for CLEC entry.

7 Verizon has elected not to present evidence relating to the economics of potential  
8 competition and so this proceeding is focusing on Verizon's claim that the trigger tests are  
9 satisfied in certain markets in Rhode Island. To evaluate this claim, it is necessary to have a  
10 consistent economic framework that can incorporate both phases of the impairment analysis.  
11 To maintain logical consistency between the analysis of *actual* competition ("trigger tests")  
12 and the analysis of *potential* competition ("business case analysis") and consistency with the  
13 goal of the TA96, it is necessary to apply the mass market switching triggers based on an  
14 economic framework that (1) properly characterizes efficient CLEC competition; (2) defines  
15 the "market" for the relevant UNE appropriately; and (3) supports analysis of sufficiently  
16 detailed data to accurately determine the costs and revenue opportunities facing an efficient  
17 CLEC contemplating entry into the "market." All three of these components must be defined  
18 and applied on a consistent and integrated basis in order to support economically rational

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(continued...)

<sup>12</sup> 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.

1 decisions.

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

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

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

8 This definition is not restricted to a particular type of "requesting carrier" or CLEC, nor to a  
9 particular type of business model or market-entry strategy. The focus of the standard is on  
10 the economics of entry facing *any* efficient CLEC in a "but for" world in which the UNE is  
11 assumed not to be available. In this Phase we are concerned with unbundled switching.  
12 Under the FCC's impairment standard, if there is no verifiable, profit-maximizing business  
13 model for a CLEC that would deliver competitive alternatives and the benefits of  
14 competitive pressure on pricing, service innovation, and quality to all customers in the  
15 relevant area without UNE-P and unbundled switching, then CLEC competition is impaired  
16 without it.<sup>13</sup>

17 **Q. WHY IS THIS INTERPRETATION ECONOMICALLY JUSTIFIED?**

18 A. This interpretation is necessary to maintain consistency with the goals of the TA96 and to

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<sup>13</sup> As I explain further below, this does not mean that every CLEC has to be able to serve every single customer, as if each CLEC needed to be able to function as a carrier of last resort. Rather, it means that for every customer, there must be multiple verifiable, profit-maximizing (and profitable) CLECs from which the customer could obtain service even if the CLEC was unable to use unbundled switching and UNE-P. Put another way, in the absence of evidence that multiple CLECs could enter the market and offer consumers the benefits of robust competition without UNE-P, then CLECs are impaired without unbundled switching.

1 protect consumer interests. The principal goal of the TA96 is to promote effective and  
2 sustainable competition in all telecommunications markets, with a special focus on  
3 promoting competition in local telephone services that prior to the TA96 were a regulatory-  
4 protected monopoly franchise. The goal is *not* to promote competition in only some areas or  
5 only for some consumers. The benefits of competition ought to be available to all  
6 consumers, regardless of where they are located, which services they choose to purchase,  
7 how intensively they use those services, or their ability to pay for those services.

8 Additionally, the TA96 did not seek to restrict the modes of competition, but rather  
9 to enable all efficient modes of competition by eliminating regulatory and economic barriers  
10 to entry. The TA96 did not seek to favor some competitors or business models over others.  
11 The pro-competitive framework adopted by the TA96 does not seek to favor incumbent  
12 competitors (the ILEC or CLECs already competing) over potential competitors (CLECs  
13 that may choose to enter in the future). The choice of what business model to adopt is  
14 appropriately left to profit-maximizing firms, and the choice of which firms succeed is left  
15 to market forces. In a competitive market, only efficient firms with efficient business models  
16 will survive, but these likely will include both facilities-based and non-facilities-based  
17 modes of competition. If either form of efficient competition is impeded without UNEs, then  
18 a finding of "impairment" is consistent with the economic goals of the TA96.

19 **B. Efficient CLECs Under the Impairment Standard.**

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

22 A. The impairment standard is judged relative to the business model facing a "requesting  
23 CLEC." The determination of whether entry is "uneconomic" implies that the test business

1 model is efficient and profit-maximizing for the candidate CLEC. An "efficient" business  
2 model is cost-minimizing. A "profit-maximizing" strategy is one that is at least as good as  
3 all alternative strategies available to that CLEC. Because there are many ways in which an  
4 efficient CLEC may choose to compete, there is no unique efficient business strategy for  
5 competing in local telephone services. Therefore, in applying the impairment standard, it is  
6 useful to have a set of criteria against which to verify the appropriateness of candidate  
7 CLEC business plans. These include the following four criteria:

8 (1) Profit-maximizing behavior: A valid business model must be consistent with  
9 profit-maximizing behavior. For example, it would be unreasonable to expect a CLEC to  
10 voluntarily adopt a business strategy that requires it to cross-subsidize one group of  
11 customers with another.

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

21 (3) Reasonable business case for CLEC: There is no unique business case that is  
22 efficient or that is consistent with the TA96. The business case that is used to test  
23 impairment ought to be adoptable by a wide-class of CLECs, including both potential and

1 actual competitors in local services. Additionally, it must be consistent with a conservative  
2 assessment of entry economics. For example, the target market share implied by the business  
3 plan must be consistent with entry by multiple CLECs.

4 (4) Verifiable: If the data and assumptions underlying the business case are not  
5 verifiable than an accurate assessment of entry economics cannot be made. This means that  
6 all assumptions must be clearly explained and documented, and the best available granular  
7 data on local competition ought to be used. A business case that relies solely on speculative  
8 business models that have not been seen operating at commercial scale should be rejected. In  
9 particular, the Commission should view with skepticism claims by any carrier that a  
10 profitable business case exists for UNE-L based entry if that carrier is not itself actively  
11 pursuing that entry strategy. Further, publicly available data should be preferred over  
12 proprietary data, although it may be necessary to use verifiable proprietary data since all  
13 relevant information may not be public.

14 **C. Market Definition Under the Impairment Analysis.**

15 **Q. HOW DO ECONOMISTS DEFINE A MARKET?**

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

1 customer classes (*e.g.*, local telephone services sold to residential customers vs. enterprise  
2 customers); and with respect to the geographic area where the service is offered (*e.g.*, to  
3 every customer location in a LATA or to only a subset of locations).

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

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

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

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

1 deal on local phone service and then bring it to her home or business.<sup>14</sup> Thus, according to  
2 the customer perspective, CLEC competition is impaired if, without UNEs, any subset of  
3 customers in the ILEC's serving territory is unlikely to be served by multiple efficient  
4 CLECs.

5 **Q. HOW DOES THE CONCEPT OF THE "GEOGRAPHIC AREA" FACTOR INTO**  
6 **THE IMPAIRMENT ANALYSIS FOR UNBUNDLED MASS MARKET LOCAL**  
7 **SWITCHING?**

8 A. The focus of all the unbundling analyses, whether under a trigger or potential deployment  
9 test, is on competitive entry in a particular geographic area in the absence of unbundled  
10 switching. The TRO made a national finding of impairment with respect to mass market  
11 local switching. Any challenge to that national finding must be made with reference to  
12 specific geographic areas. Recognizing that state commissions are in a superior position to  
13 gather and assess the data and information necessary to define the geographic areas to be  
14 used for making impairment findings, the FCC delegated the assignment of defining those  
15 areas to the states.<sup>15</sup>

16 Defining the market to encompass a relatively large geographic area (*i.e.*, multiple  
17 wire centers), is clearly more consistent with the CLEC entry perspective and with the  
18 TRO's injunction to consider an area sufficiently large to take account of available scale and  
19 scope economies. However, it complicates application of the triggers because it becomes

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<sup>14</sup> Unlike milk or a pair of shoes, a customer cannot travel to another store to benefit from increased choice, better customer service, or a lower price. If CLEC service is not available to that customer from the wire center that serves that customer, the customer does not have the option of purchasing from that CLEC.

1 necessary to qualify CLECs in order to determine whether they should count toward meeting  
2 the trigger threshold. It is clearly not appropriate to define the geographic market relatively  
3 broadly and then simply count *any* CLEC that served at least a single DS0 line from a  
4 CLEC-owned switch as a potential trigger firm. Such an approach, if adopted, could result in  
5 impairment findings that are clearly inconsistent with the TRO's impairment standard (*i.e.*,  
6 inferring a lack of entry barriers to additional CLEC entry throughout the defined market  
7 when such barriers are likely to exist) and with the Act (*i.e.*, of promoting the transition to  
8 effective, efficient competition). For example, such an approach would find "no impairment"  
9 for all of the wire centers in the defined market even if there were only three CLECs all  
10 located in a single wire center, each serving a single DS0 line for one business customer.  
11 Whereas this "actual" evidence of extremely limited competition suggests that substantial  
12 entry barriers do exist, the regulatory conclusion would be the opposite. The point is not  
13 whether such an example fits the actual evidence, but rather to clarify why it is important to  
14 objectively consider the *actual* evidence of competition in order to apply the triggers in an  
15 economically rational way.

16 **Q. PLEASE COMMENT ON VERIZON'S RECOMMENDATION REGARDING THE**  
17 **PROPER DEFINITION OF THE GEOGRAPHIC MARKET FOR ASSESSING**  
18 **IMPAIRMENT.**

19 A. In Rhode Island, Verizon affiants Ms. O'Brien and Mr. White recommend to the

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(continued...)

<sup>15</sup> TRO, ¶¶ 493 & 495 and n. 1537.

1 Commission that the three density zones used to classify wire centers be adopted as the  
2 relevant geographic areas for defining impairment. They argue that they adopt this  
3 recommendation to be "conservative" since the TRO requires the defined market to be  
4 "smaller than a state" and yet large enough to allow a CLEC to take advantage of available  
5 scale and scope economies. In other states, Verizon has recommended that Commissions  
6 adopt Metropolitan Statistical Areas (MSAs) as the relevant geographic market area. This  
7 approach is not adopted in Rhode Island because the entire state is included in a single  
8 MSA.<sup>16</sup>

9 In either case, the recommendation is to define the geographic area relatively  
10 broadly, to include a large number of wire centers. The principal economic basis for this is  
11 to coincide more closely with the scope of actual CLEC entry which is unlikely to be  
12 economically viable on the basis of one or a few wire centers. While I agree with this point,  
13 Verizon's analysis is incomplete in several respects.

14 First, the analysis of the market focuses correctly on the types of services sold, the  
15 types of customers who purchase the services, and the geographic area in which the services  
16 are sold. The analysis appropriately focuses on the extent to which products offered by  
17 competing firms are "substitutes" when defining a market. However, care must be taken so  
18 that the market definition exercise as applied in the context of assessing impairment is not  
19 mistakenly equated to an implicit market power test like the one specified in the Department

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<sup>16</sup> The Providence-New Bedford-Fall River MSA also includes part of Bristol County in Massachusetts.

1 of Justice's Horizontal Merger Guidelines (HMG).<sup>17</sup> The focus of this proceeding is on  
2 determining which UNEs CLECs need for additional entry to be economically viable – not  
3 on controlling Verizon's market power. While the goal of the Act and the TRO in promoting  
4 and facilitating efficient competition will help control Verizon's market power, that is not  
5 the only benefit of expanded competition and is not the focus of this proceeding. Being clear  
6 on this point will prevent confusion over what constitutes actual competition for Verizon.<sup>18</sup>

7 Second, the market definition perspective adopted by Verizon focuses solely on  
8 CLEC entry decisions, ignoring the important customer-perspective. Because end-users are  
9 served from particular wire centers and an end-user is unlikely to move his home or business  
10 solely to take advantage of an alternative offering for local telephone service, telephone  
11 services offered in different wire centers are not close substitutes. Failing to take the  
12 customer perspective into account can result in mis-classifying CLECs as qualifying as  
13 trigger firms that only offer service to a particular sub-class of customers (*e.g.*, only business  
14 customers, or those located in only a sub-part of the geographic market).

15 Third, even looking only from the perspective of CLEC entry decisions, Verizon's  
16 arguments are incomplete and hence not probative. To take advantage of scale and scope  
17 economies, the wire center is certainly too small – but so is the density zone and, in some  
18 states, the MSA. Although some costs may be incurred at the MSA level (*e.g.*, certain types

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<sup>17</sup> See *Horizontal Merger Guidelines*, issued by U.S. Department of Justice and Federal Trade Commission, April 2, 1992, revised April 8, 1997.

<sup>18</sup> That is, price competition from a CLEC in an adjacent geographic area that impacts Verizon's pricing decisions *may* (and it is not clear whether this is, in fact, the case) limit Verizon's ability to price above cost; however, unless the CLEC is offering service in the wire centers serving a customer a customer cannot choose to select service from that CLEC.

1 of advertising costs), other costs are incurred at a more local level (*e.g.*, wire-center-specific  
2 collocation costs) or larger scale (*e.g.*, switching costs, back-office billing and customer  
3 support, or other advertising costs). Choosing the MSA or the density zone as the relevant  
4 market is not "conservative," because it still requires accounting for shared costs that are  
5 incurred over a still wider area and still encompasses areas that are not homogenous or  
6 uniform with respect to entry economics. Therefore, entry into only a part of these relatively  
7 large geographic areas does not allow one to conclude that entry is feasible throughout the  
8 defined market.

9 Furthermore, although MSAs are defined to correspond to geographic areas that have  
10 a high degree of economic integration this does not mean they constitute a practical choice  
11 for assessing impairment. I have already explained that customers cannot be expected to  
12 move their serving wire center in order to switch to a CLEC's service. Moreover, MSAs do  
13 not naturally correspond to telecommunication service markets and so do not offer the  
14 practical advantages of a definition based on the wire center or LATA.

15 While it is not inconsistent with the TRO to define the geographic area to be larger  
16 than the wire center, it *is* inconsistent to adopt a larger market definition and then trivialize  
17 the trigger analysis by failing to adequately classify CLECs as to whether they should be  
18 counted as trigger firms.

19 As I explain further below, the wire center data presented by Verizon demonstrate  
20 that whether the market is defined to be the density zone or the MSA makes no difference in  
21 the final analysis: actual competition in Rhode Island under either definition is inadequate to  
22 satisfy the trigger test.

1        **D.     Role and Application of the Triggers.**

2        **Q.     PLEASE EXPLAIN THE ECONOMIC ROLE OF THE FCC'S "TRIGGER" TESTS.**

3        A.     The economic role of the "trigger" test is to reduce unnecessary analysis when evidence of  
4        *actual* competition is sufficient to demonstrate that further detailed analysis of local  
5        competitive conditions could not reasonably result in a finding of impairment. When  
6        properly applied, triggers will allow the Commission to reach precisely the same conclusion  
7        it would have reached if it had conducted a detailed analysis of the entry economics of  
8        CLECs relying on non-ILEC switching. The "trigger" aspect of the impairment analysis and  
9        the "potential use" aspect of the analysis are *not* two different impairment tests. Rather, they  
10       are two different methods of answering the same question: whether competitors would be  
11       impaired in their ability to serve customers in the relevant market without access to  
12       unbundled switching (or some other UNE).

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

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

3 A. For unbundled mass market switching, the TRO identifies two trigger threshold standards.  
4 First, the "self-provisioning" trigger asks whether there are "three or more unaffiliated  
5 competing carriers each is serving mass market customers in a particular market with the use  
6 of their own switches."<sup>19</sup> Second, the "competitive wholesale facilities trigger" asks whether  
7 "two or more competing carriers, not affiliated with each other or the incumbent LEC, offer  
8 wholesale switching service for that market using their own switch."<sup>20</sup>

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

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

16 Because there is no evidence of any substantial wholesale competition for unbundled  
17 switching (which, in itself, is indicative that entry barriers are likely to exist), there is no  
18 need for this Commission to consider the wholesale trigger test, and further discussion here  
19 will focus solely on the self-provisioning trigger test.

20 **Q. WHY DOES THE TRIGGER TEST FOCUS ON ACTUAL RATHER THAN**

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<sup>19</sup> See TRO ¶ 501.

1           **POTENTIAL COMPETITION?**

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

7           I say "in principle" because the trigger analysis depends on using a proper definition  
8           of the market and properly classifying CLECs into the markets in which they "actually"  
9           compete, rather than merely "potentially" compete. If the market is defined overly broadly,  
10          then CLECs who are at most potential competitors may be mischaracterized as actual  
11          competitors. To consider what a CLEC *might* do, it is necessary to analyze economic entry  
12          barriers and the CLEC's business case.

13          The trigger test rests on the economically reasonable presumption of profit  
14          maximizing behavior. If a firm is actually doing something, then we can generally infer that  
15          the firm expected the action to be profitable.<sup>21</sup> If a firm is actually competing in a market  
16          using its own facilities, then at least that firm was able to overcome the barriers to entry. If  
17          multiple firms are able to overcome these barriers, then it suggests that there are multiple

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(continued...)

<sup>20</sup> See TRO ¶ 504.

1 business plans<sup>22</sup> that offered a reasonable expectation of overcoming whatever barriers to  
2 entry exist. This is important because the test for whether UNEs are needed is not whether a  
3 particular CLEC needs them, but whether additional efficient CLEC competition (entry)  
4 would be impaired without UNEs. The trigger test infers that entry barriers do not exist  
5 based on the observation of on-going competition from multiple CLECs in the relevant  
6 market.

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

14 The "potential" competition includes CLECs that are currently operating in an

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(continued...)

<sup>21</sup> 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 on UNE-P were used to satisfy a trigger test that resulted in them no longer being able to compete effectively.

<sup>22</sup> 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.

1 "adjacent" market,<sup>23</sup> which may consider whether it would be economically viable to modify  
2 its current business operations to enter additional markets (*e.g.*, a CLEC operating in one  
3 part of a LATA, expanding into another part; or a CLEC serving one niche class of  
4 customers and broadening its service to cover a wider class). The analysis of potential  
5 competition requires a careful assessment of entry economics as explained earlier.

6 In contrast, consideration of "actual" competition through the trigger analysis must  
7 be limited to consideration of the current scale and scope of competition. Predictions about  
8 the ability of CLECs to expand their current operations are not relevant to the trigger  
9 analysis because such predictions necessarily take one to a more comprehensive analysis of  
10 entry economics. Using predictions about potential competition when applying the triggers  
11 predictably increases the likelihood of making an incorrect determination. That is, the  
12 analysis of potential competition is inherently uncertain but can be made less so by  
13 conducting a detailed analysis of relevant factors (*i.e.*, economics and operational barriers to  
14 entry in light of CLEC business cases).

15 **E. Classifying CLECs in Order to Apply the Triggers.**

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

17 A. To apply the triggers test, it is necessary to classify CLECs appropriately in order to  
18 determine whether they should be included as counting toward the trigger threshold. As  
19 noted earlier, the focus ought to be on actual competition currently in the market as narrowly

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<sup>23</sup> As noted earlier, markets are defined with respect to service, customer, and geographic scope. An "adjacent" market is one that is close to a market in which a firm already operates. The market may be "close" in a geographic, customer, or service sense, but determining whether markets are adjacent must be done on a case-by-case basis, with due consideration given to the economics of the business case.

1 defined. Therefore, only CLECs that are presently offering basic telephone service to mass  
2 market customers without unbundled switching and as more than an incidental element of  
3 the CLEC's business plan should be counted towards meeting the trigger.

4 It is important to remember that the goal of this proceeding is to make economically  
5 rational regulatory determinations, not to satisfy the triggers by being overly inclusive or lax  
6 in how the market is defined. If the conditions for taking the regulatory short-cut offered by  
7 the triggers are not met unambiguously, then a more complicated analysis is warranted and,  
8 if requested by the ILEC, should be pursued under the "potential use" test for impairment  
9 outlined by the FCC. In this case, Verizon already has indicated that it does not plan to  
10 present a potential deployment case and therefore this Commission may confirm the TRO's  
11 national finding of impairment upon completion of the trigger analysis.

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

15 A. Yes. There are a number of circumstances in which a CLEC might erroneously be counted  
16 towards meeting the trigger test that should be avoided. For the reasons that I just discussed,  
17 an appropriate classification of CLECs for applying the unbundled trigger ought to *exclude*  
18 the following:

19 (1) CLECs that do not offer service via non-ILEC switching over a significant share  
20 of the geographic area analyzed. If CLECs are currently operating in only a geographically-  
21 localized subset of areas (*e.g.*, a few wire centers), it may be reasonable to investigate  
22 whether they may be able to economically expand to serve customers throughout the market  
23 area, but that would require an analysis of potential competition which is only considered if

1 the triggers are not met. If any presumption is to be made at the stage of applying the trigger  
2 test, without further analysis, the natural presumption is that there are economic barriers to  
3 further expansion.

4 (2) CLECs that offer potential "intermodal" competition. That is, CLECs using non-  
5 wireline telephone local networks. These may include cable television providers that  
6 sometimes also offer cable telephony services; CLECs offering broadband DSL that may  
7 also offer voice-over-DSL; wireless ISPs (WISPs) that may offer bundled telephone  
8 services; or others.<sup>24</sup> The very fact that these are referred to as "intermodal" competitors  
9 highlights the need to carefully consider the extent to which these offer effective substitutes  
10 for the basic telephone service provided by the ILEC and the relevance of such intermodal  
11 business models to sustain additional CLEC entry. Verizon has presented no evidence that  
12 the cable CLEC it identifies is providing service that is indeed comparable in cost and  
13 quality to the services provided by Verizon or that the cable CLEC represent an entry mode  
14 that others can emulate.

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

20 (4) CLECs that serve only a restricted niche of mass market customers in the defined

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<sup>24</sup> Depending on the locale, potential sources of inter-modal competition may include municipal utilities (with HFC plant), wireless ISPs, or others.

1 market using non-ILEC switching. This includes a CLEC serving a very limited sub-class of  
2 customers (*e.g.*, only college students or those located in a subset of wire centers in the  
3 geographic area) or with very limited capacity; a CLEC that is only experimenting with  
4 UNE-L and cannot yet be counted as an "actual" competitor; and, a CLEC that is principally  
5 an enterprise service provider but may provide some residential service as part of its  
6 enterprise offer (*e.g.*, to connect the homes of senior management to the enterprise  
7 customers network). To determine whether a CLEC ought to be excluded, it would be useful  
8 to have a threshold for the number of lines and the share of CLEC lines that must be served  
9 via non-ILEC switching to apply this exclusion principle.<sup>25</sup>

10 (5) CLECs for which their appropriate classification is unclear.<sup>26</sup> If the data presented  
11 does not allow for an adequate classification of the CLEC than it should not be counted  
12 towards the trigger. This is wholly appropriate since it means that additional information is  
13 needed in order to assess the economics of local competition. Failing to satisfy the trigger  
14 will result in further investigation and data collection to clarify these ambiguities.

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<sup>25</sup> *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 case of enterprise-serving CLEC with large number of lines for which mass market service is purely incidental.

<sup>26</sup> This includes CLECs for which it is not possible to verify that they are currently offering service. A CLEC that offered service in the past but is now retrenching or adding only minimal numbers of customers or has been merged into another CLEC does not count because this very fact suggests that their business plan was not economically viable. Additionally, if the ILEC's trigger case is premised on insufficiently granular data, then it needs to be rejected. The burden of proof that actual competition already exists is appropriately placed on the ILEC.

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

4 A. As already explained, the role of the trigger analysis is to provide a short-cut mechanism to  
5 determine whether CLEC entry would be impaired without access to a UNE. The economic  
6 logic of the triggers approach rests on the ability to reliably infer from counts of actual  
7 CLEC activity that there are no substantial barriers to entry that would impair an efficient  
8 CLEC from entering if UNEs were not available. There are many reasons why a firm might  
9 be providing mass market services to a small number of customers at a loss that is not  
10 associated only with the early stages of entry but which explain why that firm and others  
11 using a similar business model would not find it profitable to substantially expand service.  
12 There are also situations in which a firm might be able to profitably serve a niche, *e.g.*, a  
13 small sub-set or market segment that is uniquely situated, but not to serve the mass market  
14 generally. If any of the reasons apply, then the inference that there are "no barriers to entry"  
15 does not apply and the justification for the trigger analysis fails. While it is possible that the  
16 firm is serving only a small number of mass-market customers because it is in the early  
17 stages of entry, making this determination means conducting additional analysis beyond  
18 what the trigger test allows. If the impairment analysis cannot be completed objectively  
19 without making determinations regarding whether CLECs currently serving only a restricted  
20 niche of mass market customers could profitably expand their service to the entire range of  
21 residential and small business customers in the mass market, then we must move to the  
22 "potential use" aspect of the impairment analysis, if further analysis is requested. The  
23 triggers are by their very nature restricted to a determination of whether actual market entry

1 behavior to date is adequate to demonstrate that no barriers to entry prevent CLECs from  
2 serving the mass market in general without access to unbundled switching and UNE-P.

3 **Q. CAN YOU CITE EXAMPLES WHERE A CLEC MIGHT BE SERVING A SMALL**  
4 **NUMBER OF MASS MARKET LINES BUT WHERE FURTHER EXPANSION**  
5 **REMAINS UNECONOMIC?**

6 A. I cited a number of these above already.

7 First, a firm may be testing the market by offering a few lines. Firms often test-  
8 market before committing to entry to learn about entry-economics before undertaking  
9 investments that may be largely sunk once entry has occurred. If the firm is in the "testing"  
10 stage, it cannot properly be regarded as having "entered" the market and its behavior does  
11 not provide reliable, objective evidence of a lack of entry barriers.

12 Second, a firm may be induced to provide a feature or complementary good at a loss  
13 in order to capture an important sale. For example, a CLEC might provide service to the  
14 homes of senior executives of a major enterprise account. In this case, the DS-0 lines served  
15 are mischaracterized as "mass market" lines and should be attributed to the CLEC's  
16 enterprise business. Again, the fact that these lines might be provided at a loss suggests that  
17 entry barriers to serving the mass market do exist – the exact opposite conclusion that would  
18 be supported if a CLEC offering such lines were included towards meeting the trigger.

19 Third, a firm with only very limited capacity to expand mass market service or with  
20 a business plan focusing on a limited subclass of customers should be excluded. The  
21 observation that there is a niche strategy with very limited capacity that may have a role in  
22 the market, does not tell us about the economics of mass market entry which is the focus of  
23 the impairment standard for unbundled switching for the mass market. Even if the trigger is

1 met, if there is inadequate collocation space or some other capacity constraint that restricts  
2 further facilities-based entry, then a finding of impairment is warranted. Additionally, if the  
3 CLEC is focused narrowly on some subclass of customers, it is necessary to determine  
4 whether it is economic for such a CLEC to expand service beyond its narrow customer  
5 niche.

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

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

16 In addition, as the TRO notes (TRO ¶98), counting intermodal carriers towards  
17 meeting the triggers is problematic because it is generally not reasonable to assume that  
18 other CLECs could use the same approach to provisioning local telephone service. For  
19 example, spectrum licensing restrictions or television franchise restrictions might limit  
20 opportunities for other CLECs to enter the market without UNEs. Moreover, such providers  
21 do not offer their facilities to other carriers on a wholesale basis. Thus they offer no  
22 evidence that the business plans of efficient CLECs using other business plans would not be  
23 impaired without access to UNEs.

1           Furthermore, in the case of cable television providers that offer telephony services, it  
2 is quite costly for them to expand service using their facilities beyond the footprint of their  
3 current coverage area (*i.e.*, it involves installing new coaxial cable plant). Unless the market  
4 definition adopted by the Commission coincides with the footprint of the cable telephony  
5 service provider, it is not reasonable to count their presence in the market towards meeting  
6 the trigger threshold because it is not reasonable to conclude that they or another carrier  
7 adopting their business plan could expand to offer service throughout the defined market. To  
8 my knowledge no cable company has entered *any* local market in Rhode Island or in any  
9 other state to provide telephone service where it does not already have a cable backbone.  
10 Thus, the presence of a cable telephony provider cannot be used to make any inference  
11 about the ability of a prospective entrant - other than another cable television provider with  
12 an appropriately upgraded digital network within the relevant geographic market – to enter  
13 the market.

14           Finally, an offering of basic telephone service implies a number of features and  
15 regulatory responsibilities that establish a high threshold for a would-be competitor to meet.  
16 These include external powering so that the phone will keep working even when power fails,  
17 a high level of reliability and service quality, and interconnection with emergency services  
18 (911). The fact that most cable providers do not yet offer telephony services, and when they  
19 do, do not choose to market it as a substitute for basic telephone service is indicative that  
20 these are not yet close substitutes for mass market, basic telephone service. Cable telephony  
21 services are still too new and immature to conclude that they offer equivalent quality of  
22 service to fixed line basic telephone services. Indeed, nationally there are less than three  
23 million cable telephony subscribers. Furthermore, Verizon has come forward with no

1 evidence that the cable firm Verizon counts toward the trigger is comparable in cost, quality  
2 and maturity with its services.

3 Therefore, in light of the newness of cable telephony offerings, the limited  
4 availability of data to demonstrate how substitutable the services are, and the difficulties  
5 faced by other CLECs in adopting a similar business strategy or even of a cable carrier  
6 expanding its geographic coverage beyond its current footprint, it seems clear that cable  
7 CLECs should not be counted toward meeting the trigger test threshold.

8 **Q. IS IT SUFFICIENT TO COUNT THE NUMBER OF QUALIFYING CLECS IN THE**  
9 **MARKET TO SATISFY THE TRIGGER?**

10 A. No. The impairment test is intended to address whether additional entry is economically  
11 viable without UNEs. For example, if collocation space in the ILEC's central office has been  
12 exhausted by the CLECs currently located there, then additional entry is not feasible unless  
13 additional collocation space is provided (TRO ¶503). In this case, the triggers are not  
14 satisfied even though the count of qualifying CLECs may exceed the threshold.

15 The lack of additional collocation space is one sort of "exceptional" factor that might  
16 be used to explain why impairment exists in a particular case. There may be others. For  
17 example, if an existing CLEC that utilizes its own switching in certain wire centers and  
18 UNE-P in the remainder of the geographic market would cease offering UNE-L-based  
19 services if its access to UNE-P were denied, then its collocation presence in those specific  
20 wire centers could not be included in a trigger test analysis. What is important is that the  
21 process remains responsive to empirical data that illuminate local entry economics, not that  
22 the trigger test be applied blindly.

23 **Q. ARE THERE PROBLEMS WITH RELYING ON EVIDENCE OF CURRENT**

1           **COMPETITION TO INFER WHETHER ENTRY BARRIERS ARE**  
2           **SUBSTANTIAL?**

3    A.    Yes. The goal of the impairment analysis is to learn about the economics of additional or  
4    future CLEC entry. CLECs that are competing in the market today made their entry  
5    decisions in the past. If conditions have changed since those entry decisions were made, then  
6    the reliance on actual competition may be biased.

7           Unfortunately, conditions have changed substantially and largely for the worse. The  
8    economic/industry environment in which many of the surviving CLECs made their capacity  
9    investments and entry decisions was fundamentally different than it is today. CLECs  
10   invested in facilities with the expectation of much more rapid demand growth than now  
11   seems likely. Moreover, the high rate of bankruptcy among CLECs in recent years testifies  
12   to the extent to which CLECs may have under-estimated the challenges of competing in  
13   local telephone markets against an entrenched monopolist, in the face of tightening capital  
14   markets and technical and demand uncertainty. Even the largest CLECs that continue to  
15   operate in the mass market are pursuing different business models than they originally used  
16   to justify entry.

17           Furthermore, the actual competition we observe was predicated on the assumption  
18   that UNEs would remain available and UNE-P was a viable option for competing. Until the  
19   TRO, a CLEC's choice of whether to enter via facilities or via UNEs and which class of  
20   customers to serve using which type of facility were not used to determine ILEC obligations  
21   to provide UNEs. Many of the CLECs that may be currently using their own facilities to  
22   serve some mass market customers have relied on UNEs in the past or continue to use UNEs  
23   to serve customers that cannot be economically served using the CLEC's facilities. The

1 success of these CLECs provides a demonstration of the value of UNE-P competition. The  
2 trigger test, unless applied pursuant to the criteria I have explained here, would  
3 inappropriately count such a CLEC as evidence for why UNEs are not needed, instead of  
4 more appropriately as a poster-child for why UNEs are needed.

5 **Q. WHAT ARE THE IMPLICATIONS FOR REGULATORY UNCERTAINTY?**

6 A. Regulatory uncertainty increases the costs for everybody. ILECs and CLECs are both  
7 harmed when regulatory policy changes in arbitrary or unexpected ways. The current  
8 proceedings, by their very nature, raise regulatory uncertainty because they raise the  
9 possibility of significant changes in local telephone industry economics. Unbundled  
10 switching to support UNE-P competition has been an important element in the evolving  
11 local competition landscape. ILECs and CLECs have made substantial investments putting  
12 in place the necessary operational and business systems to support UNE-P competition.  
13 Progress in supporting UNE-L competition has been much less successful.

14 Now, Commissions across the country are being asked to determine if UNE-P should  
15 remain viable. Any Commission that reverses the national finding of impairment will  
16 increase regulatory uncertainty. Certainly, changes in regulatory policy to accommodate  
17 changing conditions are necessary but such changes do entail risks. The continued success  
18 of CLEC competition is at risk if a finding of no impairment is made prematurely.

19  
20 **V. EVIDENCE OF ACTUAL COMPETITION FAILS TO SATISFY TRIGGER TEST IN RHODE ISLAND**  
21 **FOR UNBUNDLED SWITCHING USED TO SERVE MASS MARKET CUSTOMERS.**

22 **Q. DOES THE EVIDENCE OF ACTUAL COMPETITION SATISFY THE SELF-**  
23 **PROVISIONING TRIGGER TEST FOR UNBUNDLED SWITCHING USED TO**

1           **SERVE MASS MARKET CUSTOMERS?**

2    A.    No. Verizon has recommended that the Commission adopt density zones as the relevant  
3           geographic areas for assessing impairment in Rhode Island with respect to unbundled  
4           switching used to serve mass market customers. Ms. O'Brien and Mr. White present  
5           evidence they argue demonstrates that the self-provisioning trigger threshold has been  
6           exceeded in Density Zone 1 and 2 in the Providence-New Bedford-Fall River MSA . They  
7           do not present any evidence related to wire centers in Density Zone 3.

8                    When properly evaluated, the evidence Ms. O'Brien and Mr. White present on CLEC  
9           competition by wire center demonstrates that the self-provisioning trigger tests fail in both  
10          Density Zone 1 and 2 (and, of course, presumptively, in Zone 3 for which no evidence of  
11          CLEC competition is presented).

12   **Q.    PLEASE EXPLAIN WHY THE TRIGGER TEST FAILS IN ZONE 1 AND ZONE 2?**

13    A.    The trigger test fails in Zone 1 and 2 because there are not three or more properly qualified  
14          CLECs currently providing mass market service throughout either zone. First, the total  
15          number of lines served by all of the CLECs collectively using their own switching in Zone 1  
16          and 2 is less than <<**BEGIN PROPRIETARY XXXX END PROPRIETARY**>> percent,  
17          respectively.<sup>27</sup> The share of mass market customers served is even lower since Verizon's  
18          classifies all DS0 lines as "mass market," regardless if the customer is an enterprise account

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<sup>27</sup> According to AT&T-VZ-1-1, in Density Zone 1 and 2 there are <<**BEGIN PROPRIETARY XXXXX END PROPRIETARY**>> and <<**BEGIN PROPRIETARY XXXXXX END PROPRIETARY**>> switched access lines served by Verizon. (These totals are based on reclassifying wire centers to coincide with the density classification used in Ms. O'Brien and Mr. White Testimony, Proprietary Attachment 2). To compute the total number of lines served, the CLEC lines served (as reported in Ms. O'Brien and Mr. White Testimony, Proprietary Attachment 2) are added to the total lines served by Verizon, excluding the lines attributed to Cox.

1 or if the customer location is served by multiple DS0 circuits.

2 Each non-cable CLEC serves a tiny fraction of the overall mass market lines in the  
3 two density zones as evidenced in the following tables<sup>28</sup>:

4 **DZ 1 CLEC Totals <<BEGIN PROPRIETARY**

XXXXXXXX	XXXXXX	XXXXXXXX
XXXXXXX	XXXXXX	XXXXXXXX
XXXXXXX	XXXXXX	XXXXXXXX

5 **END PROPRIETARY>>**

6 **DZ2 CLEC Totals <<BEGIN PROPRIETARY**

XXXXXXXX	XXXXXX	XXXXXXXXXX
XXXXXXXXXX	XXXXXX	XXXXXXXXXX

7 **END PROPRIETARY>>**

8 It would be a cruel affront to the competition-enabling purpose of the TA 96 if such

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<sup>28</sup> These numbers are taken from Attachment 2 to the testimony of Ms. O'Brien and Mr. White.

1 de minimus activity were taken as meaningful evidence that economic and operational  
2 barriers to entry had been demonstrated to be surmountable.

3 Moreover, the data cited by Verizon demonstrates that the competition that exists is  
4 geographically localized in particular wire centers. Not surprisingly, when CLECs do offer  
5 facilities-based competition, this is concentrated in the most dense wire centers in Rhode  
6 Island. For example, <<BEGIN PROPRIETARY XXX END PROPRIETARY>> of the  
7 CLEC lines cited by Verizon are in Zone 1 which accounts for only <<BEGIN  
8 PROPRIETARY XXX END PROPRIETARY>> of the total mass market lines in the  
9 State.<sup>29</sup> In Zone 2, over <<BEGIN PROPRIETARY XX END PROPRIETARY>> of the  
10 mass market lines are served from wire centers that have fewer than three CLECs even if  
11 one accepts the classification of CLECs offered by Verizon.<sup>30</sup>

12 Second, Verizon's trigger analysis includes Cox Communications. Indeed, Cox  
13 accounts for <<BEGIN PROPRIETARY XX END PROPRIETARY>> of all of the DS0  
14 lines that Verizon claims are served by CLECs in Zone 1 and Zone 2. Cox Rhode Island  
15 Telcom is a subsidiary of Cox Communications, a national cable provider.<sup>31</sup> As I have

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<sup>29</sup> Verizon reports <<BEGIN PROPRIETARY XXX END PROPRIETARY>> UNE-L lines served by CLECs (excluding Cox) in Zone 1 (see Ms. O'Brien and Mr. White Testimony, Proprietary Attachment 2). These can be added to the total switched DS0 lines served in Rhode Island to get a total of <<BEGIN PROPRIETARY XXXXX END PROPRIETARY>> lines in Zone 1 and <<BEGIN PROPRIETARY XXXXX END PROPRIETARY>> lines in the state (see Verizon Response to ATT-VZ 1-1(a-g)).

<sup>30</sup> This excludes Cox Communications. If one includes Cox, the percentage of mass market lines in wire centers with three or fewer CLECs is <<BEGIN PROPRIETARY XXX END PROPRIETARY>>. That means for Zone 2 that <<BEGIN PROPRIETARY XXX END PROPRIETARY>> of the wire centers have fewer than three wireline CLECs.

<sup>31</sup> Cox Communication, Inc.'s website touts the various "brands" of Cox products including analog cable, digital cable, digital telephone, high-speed internet, and Cox business service brands. <<<http://phx.corporate-ir.net/phoenix.zhtml?c=76341&p=irol-homeProfile>>>. In a press release, Cox styled itself as "[a] full-service provider of telecommunications products. . .offer[ing] an array of services, including Cox Cable; local and long distance

(continued...)

1 already explained, intermodal competitors should not be counted toward meeting the trigger  
2 threshold in Rhode Island. Certainly, consumers who live within the footprint of the serving  
3 areas covered by Cox benefit from the expanded service offerings from Cox, and Cox's  
4 offerings are relevant to an overall assessment of the extent of telecommunications service  
5 competition. However, the strategy employed by Cox is *not* generally available to other  
6 CLECs and evidence that Cox is offering telephony service does *not* indicate whether  
7 CLECs face entry barriers when seeking to compete for mass market customers in Rhode  
8 Island without access to unbundled switching. That Verizon's evidence depends so heavily  
9 on the presence of Cox Communications is more suggestive of a market with substantial  
10 entry barriers than the converse as argued by Verizon.

11 Third, among the other CLECs cited by Verizon are carriers that do not offer any  
12 service to residential consumers using non-ILEC switching. This group includes <<BEGIN  
13 PROPRIETARYXX<sup>32</sup>XXXXXXXX<sup>33</sup>  
14 END PROPRIETARY>>. That leaves only <<BEGIN PROPRIETARY XXXXXXXX

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(continued...)

telephone services under the Cox Digital Telephone brand; high-speed Internet access under the brands Cox@Home, Road Runner and Cox Express; advanced digital video programming services under the Cox Digital Cable brand; and commercial voice and data services via Cox Business Services.” <<[http://www.cox.com/pressroom/JenniferJohns\\_promo.asp](http://www.cox.com/pressroom/JenniferJohns_promo.asp)>>. The FCC has found that Cox Rhode Island Telcom is a subsidiary of Cox Communications, Inc. <<[http://216.239.51.104/search?q=cache:YPwnExkrYcJ:hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-234712A1.pdf+%22cox+rhode+island+telcom%22+%22cox+communications%22&hl=en&ie=UTF-8](http://216.239.51.104/search?q=cache:YPwnExkrYcJ:hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-234712A1.pdf+%22cox+rhode+island+telcom%22+%22cox+communications%22&hl=en&ie=UTF-8)>>. Verizon also discusses Cox cable telephony and other Cox cable services in its testimony. See O’Brien and White at 18. Thus, the broad range of service offerings by Cox demonstrate that it is clearly not a representative CLEC.

<sup>32</sup> See CLEC Responses PUC-CLEC 1-2(j), (k), & (l).

<sup>33</sup> See CLEC response to PUC-CLEC 1-2(j).

1 **END PROPRIETARY>>** as a potentially valid qualifying CLEC, and even <<**BEGIN**  
2 **PROPRIETARY XXXXXX END PROPRIETARY>>** provides mass market service in  
3 only a handful of the wire centers in Zone 2.

4 The reason CLECs that fail to provide service to residential customers should not be  
5 counted toward meeting the mass market triggers is because this choice provides objective,  
6 empirical evidence that providing residential service via CLEC-switching is impaired. Just  
7 as there are differences in the economics of serving enterprise and mass market customers,  
8 there are also differences in the economics of serving small business and residential mass  
9 market customers. Just because both types of mass market customers may purchase one or a  
10 few DS-0 lines does not mean that the economics of providing service to both classes of  
11 customers are identical. For example, retail rates and usage patterns are different and the  
12 costs of providing service are different. This is relevant in assessing impairment because a  
13 showing that an efficient CLEC is or could potentially provide service economically to small  
14 business customers does not therefore mean that it would be economic to provide service to  
15 residential customers.

16 Therefore, once carriers are properly classified, there is not a single wire center in  
17 which there are "three or more" unaffiliated CLECs providing service to mass market  
18 customers using their own switches. Hence, it does not matter how the market is defined, the  
19 self-provisioning trigger test fails in Rhode Island.

20 **Q. BASED ON THE ABOVE, WHAT SHOULD BE THE COMMISSION'S**  
21 **DETERMINATION REGARDING CLEC IMPAIRMENT WITH RESPECT TO**  
22 **UNBUNDLED SWITCHING USED TO SERVE MASS MARKET CUSTOMERS?**

23 A. The Commission should confirm the FCC's national finding of impairment with respect to

1 unbundled switching used to provide service to mass market customers in Rhode Island. As  
2 I have explained above, the self-provisioning trigger test fails in every wire center in Rhode  
3 Island so there is clearly insufficient actual competition currently serving mass market  
4 customers using CLEC-owned switching to justify rebutting the national impairment  
5 finding. Moreover, because Verizon has elected not to pursue an examination of potential  
6 competition, completion of the trigger analysis should terminate these proceedings.

7 **VI. CONCLUSIONS**

8 **Q. WHAT ARE YOUR PRINCIPLE RECOMMENDATIONS TO THE COMMISSION?**

9 A. The goal of my direct testimony is to assist the Commission in interpreting the TRO and in  
10 adopting an appropriate economic framework for implementation of the impairment  
11 standard defined therein and to evaluate the trigger analysis presented by Verizon in the  
12 testimony of Ms. O'Brien and Mr. White.

13 The goal of this proceeding is to implement the Act's unbundling provisions so as to  
14 promote the transition to efficient and sustainable competition in local telephone services.  
15 The goal of this proceeding is *not* to grant regulatory relief to Verizon unless it can be  
16 shown unambiguously that CLECs would not be impaired when seeking to serve mass  
17 market customers in Rhode Island without unbundled switching. Adopting a consistent  
18 economic framework for applying the TRO's impairment standard will ensure that the  
19 trigger tests serve their proper function of determining whether CLECs confront entry  
20 barriers when seeking to compete for mass market customers using CLEC-owned switching.

21 It is now over six years since the TA96 became law, and substantial progress has  
22 been made in transitioning local markets towards competition, but much more is yet to be  
23 done. The CLEC competition that is currently expanding throughout the state depends

1 critically on the availability of UNEs. The evidence of actual competition presented by  
2 Verizon in its trigger case demonstrates that such facilities-based competition as exists  
3 remains focused on a niche class of customers (*i.e.*, business customers, but not residential  
4 consumers located in only a subset of wire centers within each density zone).

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

11 The current proceeding offers a valuable opportunity to take stock of the progress in  
12 local telephone competition across Rhode Island. When this competition is sufficiently  
13 mature, it will be appropriate to roll back the mandatory unbundling rules. However, that  
14 time is not today. In confirming the TRO's finding of impairment for unbundled switching,  
15 this Commission will help promote the continued transition to efficient local competition  
16 and will best serve the interests of consumers in Rhode Island.

17 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

18 A. Yes.

**WILLIAM HERNDON LEHR**

*Contact information:*

<b>Home/Office</b>	<b>Alternate Office</b>
94 Hubbard Street Concord, MA 01742 Tel: 978-287-0709 Cellular: 978-618-3775 Fax: 978-287-5467 Email: <a href="mailto:wlehr@brimstoneassociates.com">wlehr@brimstoneassociates.com</a>	Massachusetts Institute of Technology 1 Amherst Street (E40-222) Cambridge, MA 02139 Tel: 617-258-0630 Fax: 617-253-7326

**Biographical Description**

Dr. William Lehr is an economist and industry consultant. He is a research associate in the Center for Technology, Policy and Industrial Development at the Massachusetts Institute of Technology and associate director of the MIT Research Program on Internet & Telecoms Convergence (ITC, <http://itc.mit.edu/>). Previously, Dr. Lehr was an associate research scholar and assistant professor on the faculty of Columbia University's Graduate School of Business. His fields of specialization and research include industrial organization, political economy, and regulation, especially as these apply to information technology industries. He teaches courses on the economics, business strategy, and public policy issues facing telecommunications, Internet, and eCommerce companies. He has published articles on such topics as the impact of the Internet on the structure of the communications infrastructure industries, telecommunications regulation, and the pricing of Internet services. He is currently engaged in research on the convergence of the Internet and wireless services, and the implications for corporate strategy and public policy.

In addition to his academic research, Dr. Lehr provides litigation, economic, and business strategy consulting services for firms in the information technology industries. Dr. Lehr has advised information technology companies on strategic marketing, pricing, financial planning, and competitive strategy; and government agencies in the United States and abroad on telecommunications policy matters. Dr. Lehr has prepared expert witness testimony for both private litigation and for regulatory proceedings before the FCC and numerous state commissions.

Dr. Lehr holds a PhD in Economics from Stanford (1992), an MBA from the Wharton Graduate School (1985), and MSE (1984), BS (1979) and BA (1979) degrees from the University of Pennsylvania.

**WILLIAM HERNDON LEHR**  
**Curriculum Vitae**

**EDUCATION**

**Ph.D.**, Economics, Stanford University, 1992.

**M.B.A.**, with distinction, The Wharton School, University of Pennsylvania, 1984.

**M.S.E.**, Chemical Engineering, University of Pennsylvania, 1984.

**B.S.**, Chemical Engineering, *cum laude*, University of Pennsylvania, 1979.

**B.A.**, European History, *magna cum laude*, University of Pennsylvania, 1979.

Academic Honors: Graduate Student Research Award, Telecommunications Policy Research Conference, 1991; Lynde and Harry Bradley Foundation Fellowship, 1990; Stanford Fellowship, 1987

**PROFESSIONAL EXPERIENCE**

MIT Internet Telecoms Convergence Consortium, Center for Technology, Policy and Industrial Development, Massachusetts Institute of Technology (Cambridge, MA), Research Associate, January 1997-present, Associate Director, August 1999-present.

Graduate School of Business, Columbia University (New York, NY), Associate Research Scholar of Finance and Economics, 1997-2002; Assistant Professor of Finance and Economics, July 1991 to December 1996.

RAND Corporation (Santa Monica, CA), Graduate Student Intern, Summer 1990.

Economic Analysis Group, Ltd. (Washington, DC), Senior Consultant, 1985-1987.

M.C.I. Telecommunications (Washington, DC), Manager of Financial Analysis, 1985; Senior Financial Analyst, 1984.

Office of Management and Budget, National Security Division (Washington, DC), Graduate Student Intern, Summer 1983.

Putnam, Hayes and Bartlett (Cambridge, MA), Research Associate 1980-1982.

**TEACHING EXPERIENCE**

Internet Pricing and Quality of Service

Internet Commerce

Internet Economics 101

Internet Telephony Tutorial

Internet Commerce Video Course

Economics of Telecommunications Pricing  
Economics and Strategy in Media Industries  
Economics of Strategic Management  
Managerial Economics  
Theory of the Firm (teaching assistant for Paul Milgrom)

## **PAPERS and PUBLICATIONS**

"Coordinating User and Device Behavior in Wireless Grids," with Lee McKnight and James Howison, draft paper, Syracuse University, October 2003.

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