BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Investigation into the Obligations of	)	
Incumbent Local Exchange Carriers to	)	**Docket No. I-00030099**
Unbundle Network Elements	)	

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DIRECT TESTIMONY

OF

MICHAEL D. PELCOVITS

ON BEHALF OF

MCI WORLDCOM NETWORK SERVICES, INC.

MCI STATEMENT 1.0

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I. INTRODUCTION

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

A. My name is Michael D. Pelcovits. I am a principal with the economic consulting firm of Microeconomic Consulting and Research Associates (MiCRA). My business address is 1155 Connecticut Avenue, N.W., Washington, D.C. 20036.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE AS THEY PERTAIN TO THIS PROCEEDING.

A. I received my Ph.D. in Economics from the Massachusetts Institute of Technology in 1976. After serving on the economics faculty of the University of Maryland and as a Senior Economist at the Civil Aeronautics Board, I have spent my entire career specializing in the economics of regulation and competition in the telecommunications industry.

From 1979 to 1981, I was a Senior Economist at the Federal Communications Commission, Office of Plans and Policy. From 1981 to 1988, I was a founding member and principal of the consulting firm Cornell, Pelcovits and Brenner. In 1988 I joined MCI Communications Corporation and remained with the Company following its merger with WorldCom, until 2002. I held positions of increased responsibility at MCI, and was appointed Vice President and Chief Economist of the corporation. In this position I was responsible for the economic analyses of policy and regulatory matters provided and presented by the Corporation before federal, state, foreign, and international government agencies, legislative bodies and courts.

I have written a number of professional publications on economic and regulatory issues. I have also appeared and spoken frequently before government bodies, regulatory, industry, and academic forums. I have also testified over thirty times before state regulatory commissions. The details of my background are included in my attached curriculum vitae, MDP-1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony is intended to provide an overall economic and policy framework for the issues raised by this case. My testimony also provides a detailed evaluation of the available evidence to determine whether Verizon has met its burden of proof in overcoming the presumption that impairment exists in certain markets throughout Pennsylvania without access to unbundled switching or transport.

First and foremost, with respect to the switching unbundled network element ("UNE"), I define the market that the Commission should use in evaluating whether competitive local exchange carriers ("CLECs") in Pennsylvania are impaired without access to unbundled switching for mass-market customers. My testimony concludes that the wire-center is the appropriate geographic market which should be used for analysis of impairment issues related to unbundled switching for mass-market customers. My testimony provides the full rationale for using the wire-center, and provides all supporting information for that conclusion.

1 Verizon has decided to file a "triggers" only case. That means that the
2 Commission needs to determine whether there are a certain number of qualifying
3 carriers provding service to mass market customers in the properly defined
4 market. As my testimony will show, identifying the carriers that qualify as
5 "triggers" companies is not merely a counting exercise, but involves the analysis
6 of several complex issues.
7 I will also discuss Verizon's testimony and evidence regarding unbundled
8 transport. Verizon's position on those issues is not always consistent with the
9 findings of the FCC in its Triennial Review Order, [1] and I will point out those
10 inconsistencies.
11 Finally, I will provide a detailed analysis of the data and information that
12 has been provided in this case through discovery and through Verizon's
13 testimony. To the extent that Verizon has not provided sufficient data or other
14 evidence to support its case, the Commission cannot make assumptions based on
15 incomplete data, and must reject Verizon's claim that the triggers have been met.

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[1] *Report and Order and Order on Remand and Further Notice of Proposed Rulemaking*, In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers (CC Docket No. 01-338); Implementation of the Local Competition Provisions of the Telecommunications Act of 1996 (CC Docket No. 96-989); Deployment of Wireline Services Offering Advanced Telecommunications Capability (CC Docket No. 98-147), FCC No. 03-36, (rel. Aug. 21, 2003) (hereinafter, "*Triennial Review Order*").

1 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

2 A. The FCC has made a national finding of impairment with respect to mass-market
3 switching.[2] The FCC's national impairment finding should not be overturned in
4 any market unless and until the Commission determines that all mass-market
5 customers in that market have a ***real and current choice*** among three carriers
6 who are providing local service via their own switching using the ILEC loop
7 plant.

8 Pursuant to the rules set forth by the FCC in the *Triennial Review Order*,
9 a carrier can only be considered as a triggering company for mass-market
10 switching if it meets specific requirements in the following four areas:
11 (1) corporate ownership; (2) active and continuing market participation;
12 (3) intermodal competition; and (4) scale and scope of market participation.
13 Applying these criteria rigorously in a properly defined market is essential to
14 ensuring that "[i]f the triggers are satisfied, the states need not undertake any
15 further inquiry, ***because no impairment should exist in that market***."[3]

16 The first issue this Commission must decide with respect to unbundled
17 switching is the definition of the market. Economic theory and practice, as well
18 as the FCC's guidance in its *Triennial Review Order*, all suggest that the wire
19 center is the most appropriate starting point for an analysis of whether CLECs are

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[2] *Triennial Review Order*, ¶ 459.

[3] *Id.*, ¶ 494 (emphasis added).

1 impaired without access to unbundled switching for mass-market customers. Use
2 of the wire center as the basic building block for analysis accomplishes the FCC's
3 goals of a granular analysis that maximizes accuracy of results, subject to the
4 constraints of practicality.[4] Moreover, a wire-center market definition makes
5 sense as the wire center is the place where the loop plant terminates and where the
6 incumbent local exchange carrier's ("ILEC's") local switch actually resides. The
7 wire-center boundaries accurately define the physical territory that at least some
8 competitors or potential competitors might no longer be able to serve should the
9 Commission find "no impairment" without access to unbundled local switching at
10 any specific switch or group of switches. As the testimonies of MCI will show,
11 the wire-center market definition is the most practical choice.

12 In contrast, a market definition based on a larger geographic area, such as
13 the Metropolitan Statistical Area ("MSA"), creates a significant risk that trigger or
14 potential deployment analyses based on such a market definition will result in a
15 finding of no impairment even where multiple, competitive supply does not exist
16 today and is unlikely to occur in the foreseeable future.

17 I urge the Commission to adopt the wire center as the starting point for all
18 subsequent impairment analyses. I also recommend that the Commission adopt a
19 product market definition that includes all local exchange service options that
20 provide service at a cost, quality and maturity equivalent to the ILEC's offerings.

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[4] *Id.*, ¶ 130.

1 In defining the market, it is important to look at the physical limitations of
2 competitors in moving to an unbundled loop strategy, which the testimonies of
3 Earle Jenkins and Mindy Chapman have done. To that end, it is important to look
4 at whether carriers who are identified as trigger companies are actually providing
5 service in a manner that demonstrates those carriers can provide service
6 equivalent to the ILEC offerings through an unbundled loop strategy. The
7 testimonies of Earle Jenkins and Mindy Chapman discuss the technical and
8 customer impact issues associated with an unbundled loop strategy, and why
9 certain companies should not be considered trigger companies. Based on all of
10 the testimony introduced by MCI in this case, I conclude that the product market
11 definition should explicitly exclude Commercial Mobile Radio Service
12 ("CMRS"), fixed wireless and cable telephony.
13 In addition, I recommend that the Commission conduct its trigger analysis
14 in a way that evaluates whether (1) a company that only serves business
15 customers should be treated as a trigger with respect to a market that is defined to
16 contain residential customers,[5] and (2) whether customer locations served over
17 integrated digital loop carrier ("IDLC") should be treated as being in a separate

[5] As I explain in detail later in this testimony and as explained in the testimonies of Earle Jenkins and Mindy Chapman, my suggestion is that the Commission should separate residential and small business markets as a subdivision of the broader mass market. Alternatively, if these two submarkets are not divided, then no CLEC should be counted towards the trigger unless it provides service to residential as well as business customers. The FCC has defined the mass market in light of the crossover between serving customers via voice-grade loops (which it calls DS0s) and serving them via high-capacity DS-1 loops. 47 C.F.R. § 51.519(d)(2)(iii)(B)(4).

1 submarket for which unbundled switching would continue to be available, even if
2 a finding of no impairment were otherwise justified for a given wire center.
3 The evidence in this case shows that Verizon has not met its burden of
4 proof with respect to unbundled switching for any wire center.
5 With respect to unbundled transport, Verizon has not met its burden to
6 support its claim that the trigger has been met on certain routes between wire
7 centers. Verizon basis its claim on evidence about CLEC collocations with fiber
8 optic facilities in various wires center pairs. This approach is clearly insufficient
9 under the FCC's requirements, because it provides no evidence that the CLEC in
10 question is actually providing transport service between the two wire centers, let
11 alone what level of transport the CLEC is providing.

12 **Q. HOW IS YOUR TESTIMONY ORGANIZED?**

13 A. After an introductory section (Section II) that puts the issues in this proceeding
14 into context, I discuss the issue of market definition (Section III). I explain why
15 the market must be defined properly from both geographic and product
16 dimensions. In the following section (Section IV), I present my analysis of the
17 trigger evidence provided by Verizon in its direct case. Section V reviews the
18 issue of post-trigger analysis. Section VI presents an analysis of the transport
19 trigger evidence produced by Verizon. I conclude the testimony in Section VII.

1

2 **II. IMPAIRMENT ANALYSIS – INTRODUCTION**

3

4 **A. <u>MASS MARKET UNBUNDLED SWITCHING</u>**

5 **Q. WHAT IS YOUR UNDERSTANDING OF THE FOCUS OF THIS**
6 **PROCEEDING?**

7 A. Although it found that CLECs are impaired on a national basis without unbundled
8 access to the ILECs' switching facilities, the FCC at the same time permitted the
9 ILECs to attempt to show on a market-by-market basis that the national
10 impairment findings have been overcome. Verizon has challenged the FCC's
11 national impairment findings in wide areas of the state.[6]

12 Unless and until the ILECs can demonstrate in a particular market that
13 CLECs are not impaired without access to unbundled switching for mass market
14 customers, the FCC's national impairment finding cannot be reversed. This
15 proceeding will therefore have important implications for the future of mass
16 market competition in Pennsylvania.

17 The Telecommunications Act of 1996 ("Act") and the *Triennial Review*
18 *Order* provide certain criteria for the Commission's determination, but it is up to
19 this Commission to interpret those rules and determine whether the ILECs have

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[6] See Verizon Petition to Initiate, Direct and Supplemental Testimony.

1 overcome the national impairment finding for mass market switching in particular
2 markets.

3 The *Triennial Review Order* affords the ILECs two routes to attempt to
4 make that showing. First, the ILECs can attempt to show that there is "actual
5 deployment" of mass market switching in a particular market. This actual
6 deployment must be by carriers who are "actively providing voice service to mass
7 market customers in the market."[7] The Commission must also determine whether
8 these companies are "currently offering and able to provide service, and are likely
9 to continue to do so."[8] If there is not sufficient actual deployment in a defined
10 market by carriers who meet the qualifying criteria to justify reversal of the
11 FCC's national finding, the ILECs can attempt to show that conditions are
12 appropriate for "potential deployment." Verizon has declined the opportunity to
13 present a potential deployment case in its direct testimony.

14 In this proceeding, the Commission will examine whether the actual
15 deployment test of the *Triennial Review Order* has been met. The actual
16 deployment test has become known as the "trigger" test. The *Triennial Review*
17 *Order* provides for two triggers—the "self-provisioning trigger" and the
18 "competitive wholesale facilities trigger." If either trigger is met in a particular

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[7] *Triennial Review Order*, ¶499.

[8] *Id.* at ¶500.

1 market, then the CLECs are not to be considered impaired without mass market
2 switching in that market.[9]
3 Therefore, the Commission has two critical tasks in this proceeding:
4 (1) identify the geographic and product markets in which it will conduct its
5 impairment analyses; and (2) determine whether Verizon has presented evidence
6 to prove that the self-provisioning trigger test is satisfied in any geographic
7 market such that non-impairment is demonstrated. In carrying out these tasks, the
8 Commission should be mindful of the intended role of a third task that Verizon
9 has *de facto* eliminated through its decision not to peruse a potential deployment
10 case. That is, the Commission should ensure that its selected market definition
11 would be appropriate for both trigger and potential deployment analyses and that
12 the manner in which the trigger analyses are conducted does not lead to a finding
13 of no impairment that cannot be justified without more detailed analysis of
14 economic and operational barriers to entry.

15 **Q. DO YOU HAVE ANY GENERAL, OVERALL GUIDANCE FOR THE**
16 **COMMISSION AS IT BEGINS ITS TRIGGER ANALYSIS?**

17 A. Yes. I provide specific guidance throughout this testimony, but the central
18 question upon which the Commission should focus is whether retail mass-market
19 customers in a market have a ***real and current*** choice between three carriers

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[9] Verizon has indicated that it does not intend to provide evidence regarding the competitive wholesale facilities trigger with regard to mass market unbundled switching, but is relying solely on the self-provisioning trigger.

1 providing local service via their own switching facilities using the ILEC loop
2 plant.[10] Only if the answer to that question is a very clear "yes" should the
3 Commission consider "pulling" the mass market switching self-provisioning
4 trigger.

5 **Q. WHY IS THIS CASE SO CRITICAL TO LOCAL COMPETITION?**

6 A. If the Commission eliminates unbundled switching when customers do not have
7 an actual ability to choose a competitor using the unbundled loop, then local
8 competition in the mass market will be irreparably harmed. The number of
9 competitors that are participating in this case is an indication of how critical this
10 issue is to local competition in Pennsylvania. It is therefore imperative that the
11 Commission put this case into context and recognize that it must evaluate whether
12 customers will be left in a worse situation without real alternatives to the
13 incumbent provider.

14 As this Commission is aware, the vast majority of local competition
15 provided to residential customers throughout Pennsylvania comes through the use
16 of the unbundled network element-platform ("UNE-P"). That is specifically
17 because of the barriers to entry that continue to exist in moving to an unbundled
18 loop service delivery method. MCI has switches in Pennsylvania, yet it is not
19 able to use those switches to serve residential and most small business customers
20 because of the problems that exist in seamlessly switching customers using

[10] As noted previously, the wholesale trigger does not play a role in this proceeding.

1 standalone unbundled loops. As discussed in more detail in the testimonies of
2 Earle Jenkins and Mindy Chapman, there are numerous technical and policy
3 issues that must be worked out before the entire industry can realistically move to
4 an unbundled loop world. MCI hopes that this proceeding eventually leads to a
5 time when MCI can begin serving mass markets customers through its own
6 switches, but that time does not exist now.

7 If the Commission determines that the triggers have been met and that
8 impairment does not exist without unbundled switching, it means that local
9 competition as it exists today will be thrown into disarray. A finding of no
10 impairment initiates a process of upheaval in the local exchange market for
11 virtually all parties involved: end-users, CLECs and even the ILECs, who will
12 suddenly be confronted with the challenge to cut-over mass-market volumes of
13 customers, a challenge for which they are ill prepared. If the Commission pulls
14 the trigger in a market prematurely, many customers would likely have no
15 realistic competitive choice to the monopoly ILEC's offering.

16 In contrast, if the Commission's trigger investigation fails to demonstrate
17 that customers have a real and current choice of three self-provisioning
18 competitive carriers using the ILEC loop plant, and that therefore the FCC's
19 impairment finding is not reversed within a market, the consequence is simply
20 that the investigation may proceed to the more detailed analysis of potential
21 deployment, as called for in the *Triennial Review Order*. This more detailed
22 analysis affords the Commission a better chance of being certain that a finding of

1 no impairment will truly be in the interest of Pennsylvania consumers, while at
2 the same time providing ample opportunity to find no impairment if none truly
3 exists. Hence, there is little downside—and a substantial upside—to a decision
4 that the triggers do not justify a finding of no impairment.

5 Although the ILECs claim that the only type of real competition is
6 facilities based competition, their own behavior in the long distance market does
7 not support that claim. The ILECs are *not* building their own nationwide long
8 distance networks; instead, they are relying on renting others' networks out of
9 region on competitive terms. Yet, in contrast to their advocacy concerning local
10 entry via UNE-P, the ILECs have vigorously argued before state and federal
11 regulators that their entry into the long-distance business will deliver significant
12 consumer benefits, even though they rely extensively on others' facilities.

13 CLECs should have the same opportunity to procure network inputs at
14 competitive prices. In stark contrast to the long-distance wholesale market, where
15 there are multiple carriers from which the ILECs can obtain capacity, CLECs
16 generally have no choice but to lease facilities from the former local monopolist
17 in each area. This is because, as the FCC has found on a national basis, CLECs
18 are economically and operationally impaired without access to the unbundled
19 elements that comprise UNE-P. In particular, with respect to mass market
20 switching, the FCC found that CLECs are impaired on a national basis based on
21 the ILECs' hot cut processs, and the FCC found a number of other impairments
22 that may be present and need to be examined on a market-by-market basis. As

MCI witnesses Mr. Jenkins and Ms. Chapman explain in detail, even if a competitor already has a switch in Pennsylvania, there are many layers of operational issues that may prevent the competitor from using that switch to serve mass-market customers in the same wire centers in which it is already offering service to large business customers – let alone extending service to mass-market customers in any other wire centers.

For all of the reasons stated in my testimony and the testimonies of Earle Jenkins and Mindy Chapman, I urge the Commission to conduct any trigger analyses in a manner that errs on the side of caution in protecting the interests of Pennsylvania consumers. Any decision to overturn the national finding of impairment for mass market switching should rest on incontrovertible evidence that competitive carriers will indeed be able to offer Pennsylvania's residential and small business customers with competitive choices, even without access to UNE switching.

1. State Impairment Decisions Must Be Meaningful within the Context of the *Triennial Review Order*'s National Impairment Findings Concerning Mass-Market Switching.

Q. PLEASE DISCUSS THE FCC'S NATIONAL IMPAIRMENT FINDINGS WITH RESPECT TO MASS MARKET SWITCHING.

A. The FCC found that on a national basis—in central offices big and small, in urban and rural areas—CLECs are impaired without unbundled access to mass market switching:

> on a national basis, [ ]competing carriers are impaired without access to unbundled local circuit switching for mass market customers.[11]

Q. WHICH END-USER CUSTOMERS DID THE FCC INCLUDE UNDER THE HEADING OF MASS-MARKET CUSTOMERS FOR PURPOSES OF ITS ANALYSIS OF UNBUNDLED SWITCHING?

A. The FCC has defined mass-market customers to include all residential customers as well as very small business customers.[12] The FCC did not identify a specific cutoff for the size of businesses considered to be part of the mass market.

Q. WHAT WAS THE BASIS FOR THE FCC'S NATIONAL FINDING OF IMPAIRMENT FOR MASS-MARKET SWITCHING?

A. The FCC explained that its national impairment finding is based on the ILECs' hot cut processes. The FCC found that the ILECs' hot cut processes on a national basis are insufficient to handle mass market volumes economically and without disruption to the customer:

> This finding is based on evidence in our record regarding the economic and operational barriers caused by the cut over process. These barriers include the associated non-recurring costs, the potential for disruption of service to the customer, and our conclusion, as demonstrated by our record, that incumbent LECs appear unable to handle the necessary volume of migrations to support competitive switching in the absence of unbundled switching. These hot cut barriers not only make it uneconomic for competitive LECs to self-deploy switches specifically to serve the mass market, but also hinder competitive carriers' ability to serve

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[11] *Triennial Review Order*, ¶ 459.

[12] *Id.*, ¶ 127.

> mass market customers using switches self-deployed to serve enterprise customers.[13]

Q. IF IMPAIRMENT RELATED TO THE HOT-CUT PROCESS VANISHED TOMORROW, WOULD THAT ELIMINATE ECONOMIC AND OPERATIONAL BARRIERS TO ENTRY FOR MASS-MARKET SWITCHING?

A. No. Even if the hot-cut process was perfected (without an increase in costs to potential competitors), there are many other operational and technical issues that a switch-based provider of local exchange service must overcome, as Mr. Jenkins and Ms. Chapman explain in their accompanying testimonies.

Q. DID THE FCC IDENTIFY ANY ISSUES OTHER THAN THOSE RELATED TO HOT CUTS THAT COULD LEAD TO A FINDING OF IMPAIRMENT FOR MASS-MARKET SWITCHING?

A. Yes. The FCC identified several additional operational and economic factors that could cause impairment, and specifically directed states to consider these factors in their deliberations, stating:

> ...we ask states to examine evidence of sources of impairment other than hot cuts, in the manner we describe below, as the record shows that requesting carriers may be impaired without access to unbundled incumbent LEC local circuit switching because of operational and economic factors other than those associated with hot cuts. Commenters have alleged that these barriers – which include poor incumbent LEC performance in fulfilling unbundling, collocation, and other statutory obligations, difficulties in performing customer migrations between competitive LECs, difficulties in performing customer migrations between competitive LECs, difficulties in performing collocation cross-connects between competing carriers, and the significant cost

[13] *Id.*

> disadvantages competitive carriers face in obtaining access to the loop and backhauling the circuit to their own switches – can be sufficient to hinder or prevent entry even if impairment caused by hot cuts were fully resolved. Although these factors *do not* form the basis of our national impairment finding, we recognize that the record evidence indicates that these factors may give rise to impairment in a given market, even setting aside the problems associated with hot cuts, and that they therefore will be relevant to state commissions' determinations with respect to unbundled local circuit switching.[14]

The Commission's deliberations should be informed by an awareness of the various sources of impairment that, allegedly, have been overcome by "triggering" carriers. The accompanying testimonies of Mindy Chapman and Earle Jenkins, along with my testimony, provide the necessary context for the Commission's review of claims of no impairment based on trigger analyses.

The Commission should take particular care to ensure that any carrier claimed as counting toward the retail or wholesale trigger has demonstrated through its actual marketplace participation its ability to overcome the economic and operational barriers to entry that the FCC has identified. A carrier whose mass-market operations are trivial in scale and scope is not a carrier that has demonstrated an ability to overcome these significant barriers. For example, if a company only has one or even one hundred lines in a particular wire center, it is difficult to conclude that the company has succeeded in overcoming all barriers to

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[14] *Id.*, ¶ 476.

1 entry that may exist in that wire center, and one must ask why the company has
2 not been able to expand its reach or customer base.

3 **2. The Commission's Tasks**

4 **Q. WHAT DECISIONS MUST THE COMMISSION MAKE IN THIS**
5 **PROCEEDING?**

6 A. Although the FCC made a national finding that CLECs are impaired without
7 unbundled access to ILEC local switching to serve mass-market customers,[15] it
8 delegated to this Commission the task of determining whether the national finding
9 of impairment is overcome in any areas within Pennsylvania. Specifically, the
10 FCC has "ask[ed] the states to assess impairment in the mass market on a market-
11 by-market basis."[16] The Commission must conduct a market-by-market
12 investigation into whether barriers to entry for mass-market switching "are likely
13 to make entry into a market uneconomic."[17]

14 **Q. PLEASE DESCRIBE THE PROCESS THE COMMISSION SHOULD**
15 **FOLLOW IN REACHING THESE DECISIONS.**

16 A. The first step in the analytical process, logically, is to define the markets in which
17 the Commission will consider evidence of impairment on a "market-by-market"
18 basis.[18] Once the Commission has defined the relevant markets, the FCC

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[15] *Id.*, ¶ 419.

[16] *Id.*, ¶¶ 476 and 493.

[17] *Id.*, ¶ 84.

[18] *Id.*, ¶ 495.

1 expected that it would then determine where competing carriers are not impaired
2 without access to unbundled switching in each market, using a triggers analysis
3 and then, if necessary, a potential deployment analysis.[19] I elaborate below on the
4 process that the Commission should follow in its "trigger" analyses, in light of
5 Verizon's decision not to pursue a potential deployment case in this proceeding.
6 Finally, if the Commission does determine that a finding of no impairment
7 is justified in one or more markets on the basis of a trigger analysis, it then may
8 consider evidence of exceptional circumstances that would merit a waiver of any
9 such finding.[20]
10
11 **Q. ARE THERE ADDITIONAL CONSIDERATIONS THAT THE**
12 **COMMISSION SHOULD BE AWARE OF WHEN DECIDING WHETHER**
13 **THE TRIGGERS HAVE BEEN MET?**
14
15 A. Yes. If the Commission prematurely reverses the FCC's national finding of
16 impairment in a market when, in fact, CLECs are impaired, such a decision would
17 do severe harm to the prospects for local exchange competition in Pennsylvania
18 and would therefore deprive mass-market consumers in Pennsylvania of the
19 benefits of such competition. Moreover, with the increasing prevalence of
20 bundling, any decision that impedes local exchange competition will have
21 spillover effects in the long-distance market. Long distance carriers that are

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[19] *Triennial Review Order*, ¶ 473.

[20] *Id.*, ¶503.

unable to offer a bundled local/long-distance product will find it difficult to survive in the marketplace. This could lead to an outcome where there are few or no alternatives to the ILEC for long distance and local service. Pennsylvania consumers could lose the benefits of the long-distance competition that they have enjoyed for many years. Furthermore, since customers now purchase bundles that include DSL service, the Commission should consider in its analysis the impairments that would hinder a CLEC's offering of DSL service in a UNE-L environment.

On the other hand, if the Commission upholds the FCC's national impairment finding when, in fact, CLECs are not impaired, there is a good chance that such an error would be self-correcting. If CLECs are not impaired without access to UNE switching, I would expect more CLECs to self-provision switching in the relatively near future. Thus, for any particular market definition, the number of self-provisioning carriers would increase until the three-carrier retail trigger is met. The incumbents would certainly bring this fact to the Commission's attention at the first available opportunity in one of the follow-on trigger reviews.

Because a false finding of no impairment would cause irrevocable harm, whereas a false finding of impairment has only temporary consequences, the cost to society of the former error is far greater than the cost of the latter error.

Q. WHAT DO YOU EXPECT WILL HAPPEN OVER TIME IN MARKETS FOR WHICH THE COMMISSION UPHOLDS THE FCC'S FINDING OF IMPAIRMENT THROUGHOUT PENNSYLVANIA?

A. To the extent that this Commission implements procedures to diminish existing barriers to entry and remove the factors that have led to impairment, it should lead to more and more carriers increasing the provision of service via unbundled loops. This will naturally create a body of evidence supporting a finding of no impairment in a growing number of markets. A determination that the evidence for a particular market does not yet overcome the national finding of continued impairment is always provisional in the sense that the Commission can always revisit the state of evidence in that market and make a finding of no impairment as soon the level of actual or potential facilities-based competition in that market justifies such a finding.

The ILECs will be aware that, if they work diligently with the Commission and other parties to reduce existing barriers such as the cost and operational difficulties associated with the hot cut process, including both hot cut procedures and costs, findings of no impairment will happen sooner rather than later. This creates appropriate incentives for the ILECs to be part of the solution, rather than part of the problem.

Q. YOU STATED ABOVE THAT GROWTH IN UNE-L BASED SERVICE WOULD NATURALLY PROVIDE GROWING EVIDENCE OF NO IMPAIRMENT AS EXISTING BARRIERS DIMINISH IN IMPORTANCE. IS IT POSSIBLE THAT UNDERPRICED ACCESS TO UNE-P LEAVES NO INCENTIVE FOR CLECS TO PROVIDE SERVICE VIA UNE-L?

A. No, there are several reasons to believe this is not the case. The CLECs are new entrants into a market that has been monopolized for a century or more. They have much to gain by limiting their dependence upon the incumbent. Eliminating dependence on ILEC facilities will allow the CLECs to better differentiate their services and improve their appeal to customers, without having to cut prices to the bone. Moreover, if the systems are in place to handle hot cuts and other interfaces between the CLEC and ILEC, the CLECs will have more control over the quality of service that they can offer their customers, and be able to offer redundancy to the ILECs' facilities. This factor has been a major factor in stimulating demand for the CLECs' transport services, and led to significant investment in facilities, even though leasing UNE transport was still available as an option.

III. MARKET DEFINITION

A. The Adopted Market Definition Should Permit Reasonable Conclusions About the Trigger Analysis and Consumer Choice

Q. PLEASE ELABORATE ON THE USE OF THE MARKET DEFINITION IN THE "TRIGGER" ANALYSES.

A. The separate markets defined by the Commission will first be used to identify market participants that may count toward satisfaction of self-provisioning and wholesale triggers. The *Triennial Review Order*'s trigger analysis is intended to provide "bright-line rules" that "can avoid the delays caused by protracted proceedings and can minimize administrative burdens."[21] The correct functioning of these "bright-line rules" depends crucially on the markets the Commission defines for use in "market-by-market" analysis.

In particular, for the trigger analysis to correctly serve its function, markets must be defined so that "[i]f the triggers are satisfied, the states need not undertake any further inquiry, **because no impairment should exist in that market**."[22] That is, markets must be defined so that if the triggers are satisfied and the Commission reaches a finding of no impairment for a market, customers

[21] *Id.*, ¶ 498.

[22] *Id.*, ¶ 494 (emphasis added).

in the market have real choice, and competitive carriers are not impaired in their ability to reach the customers in the defined market. Otherwise, the triggers could be satisfied when customers have no alternative choice of providers and indeed where competitors are impaired. The FCC made clear the importance of firms serving as actual alternatives when it explained that existing firms can only be counted toward satisfaction of a trigger if they are "currently offering and able to provide service, and likely to continue to do so."[23]

The triggers merely identify whether CLECs in a market are clearly not impaired without access to the local switching UNE. Failure to meet the triggers permits further analysis of potential deployment.

As a result, the role of market definition in the trigger analysis should be to identify the scope of telecommunications services and locations for which a market participant's switching capacity clearly shows the absence of impairment because customers already have real alternatives. Market definition should ensure that a qualifying market participant provides an acceptable alternative to qualifying service provided at a geographic location that actually serves the customers in the market. The new entrant's service must be an acceptable substitute, and the location at which service is offered must encompass the areas in which the customers require service. Successful entry into a different market, where the entrant's offering is not a close substitute for service provided with the

[23] *Id.*, ¶ 500.

1 incumbent's local switching or where the entrant is unable to provide service to
2 the customers, offers no such evidence of non-impairment. Only if the qualifying
3 participant has succeeded in overcoming operational and economic barriers to
4 entry into a properly defined market, which recognizes buyers' product and
5 location substitution possibilities, can the Commission be confident that the new
6 entrant offers evidence of no impairment in the provision of the specified service
7 at the specified location.

8 **Q. PLEASE EXPLAIN IN MORE DETAIL WHAT YOU MEAN WHEN YOU**
9 **STATE THAT THE MARKET DEFINITION SHOULD PERMIT THE**
10 **MOST UNAMBIGUOUS AND ACCURATE ANSWER TO THE**
11 **QUESTION OF WHETHER CLECS ARE IMPAIRED WITHOUT**
12 **ACCESS TO UNBUNDLED SWITCHING IN A PARTICULAR MARKET.**

13 A. The FCC has observed that "[i]t is fundamental to our general impairment
14 analysis to consider whether alternative facilities deployment shows a lack of
15 impairment in serving a particular market."[24] This means that the markets as
16 defined should be sufficiently uniform that evidence of actual facilities-based
17 competition in any part of a given market implies the ability to provide service to
18 all (or nearly all) customers in that market without access to unbundled switching.
19 Specifically, the T*riennial Review Order* calls for this Commission to
20 conduct its investigation "on the most accurate level possible, while still

[24] *Id.*, n. 1536.

preserving administrative practicality."[25] Accuracy is essential to carrying out the pro-competitive purposes of the Act. As I explained in more detail above, if markets are not defined correctly, the Commission could mistakenly find no impairment where, in fact, customers are left without competitive alternatives; or, a faulty market definition could lead the Commission to find impairment where none exists.

Q. HAS THE FCC ESTABLISHED ANY GUIDELINES OR PARAMETERS FOR THE MARKET DEFINITION TO BE USED IN A TRIGGER ANALYSIS?

A. Yes. The rules that the FCC adopted in its *Triennial Review Order* specify that:

> A state commission shall define the markets in which it will evaluate impairment by determining the relevant geographic area to include in each market. In defining markets, a state commission shall take into consideration the locations of mass market customers actually being served (if any) by competitors, the variation in factors affecting competitors' ability to serve each group of customers, and competitors' ability to target and serve specific markets profitably and efficiently using currently available technologies. A state commission shall not define the relevant geographic area as the entire state.[26]

The *Triennial Review Order* also presents examples of the factors that may vary geographically, such as "how the cost of serving customers varies according to the size of the wire center and the location of the wire center, and the variations in the capabilities of wire centers to provide adequate collocation space

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[25] *Id.*, ¶ 130.

[26] 47 C.F.R. § 51.319(d)(2)(i).

1 and handle large number of hot cuts."[27] Significantly, these criteria for market
2 definition are not limited to variations in potential profitability that might be
3 captured, at least in part, by grouping together wire centers that fall into the same
4 UNE and/or retail rate bands. Instead, consistent with the operational basis for
5 the FCC's national finding of impairment for mass-market switching, the FCC
6 suggests that the market consider variations in the ability of wire centers to handle
7 large numbers of hot cuts.

8 I interpret this language to reference the hot cut process referred to by
9 MCI's operational impairment witness, Mr. Jenkins, as the *"Mass Market Hot Cut*
10 *Process"* and not just the batch cut procedure that the FCC has directed state
11 commissions to develop in the nine-month impairment proceedings (referred to by
12 Mr. Jenkins as the *"Transition Batch Hot Cut Process").* The ongoing ability of
13 the ILECs to perform hot cuts as mass-market customers change carriers is critical
14 to the success of switch-based competition and must be considered at all phases of
15 the impairment analysis, beginning with market definition.

16 **Q. DOES ECONOMIC THEORY PROVIDE ANY GUIDANCE WITH**
17 **RESPECT TO MARKET DEFINITION?**

18 A. Yes. There is a body of economic analysis that applies to the question of defining
19 markets. Much of the economic literature on market definition has focused on
20 facilitating the assessment of market power in merger and antitrust proceedings.

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[27] *Triennial Review Order*, ¶ 496.

The FCC noted in its *Triennial Review Order* that the market power question is somewhat different from the impairment question before the Commission in this proceeding.[28] Nonetheless, the FCC also acknowledged that the market definition literature developed in the context of merger and antitrust analyses provides helpful guidance for market definition in the impairment context.[29] Hence, as I describe in more detail in a following section, I have taken this economic literature into account in developing my recommended market definition.

The essential economic criterion for whether a product belongs in a relevant market is whether the product can serve as an alternative to consumers in that market. Thus, for example, an apartment in the Pennypack neighborhood is not in the same geographic market as an apartment in the Shawmont neighborhood, because the Pennypack apartment does not serve as a meaningful alternative for consumers in Shawmont.

Q. WHAT CONCLUSIONS HAVE YOU REACHED BASED ON YOUR APPLICATION OF THE GUIDANCE IN THE *TRIENNIAL REVIEW ORDER* AND ECONOMIC THEORY CONCERNING MARKET DEFINITION?

A. I have concluded that criteria of "accuracy" as well as "practicality" argue for the Commission to begin its analysis with the presumption that wire centers establish the appropriate level of granularity.

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[28] *Id.*, ¶¶ 74 and 109.

[29] *Id.*, n. 439.

Wire centers are the most natural geographic boundaries for purposes of defining markets for several reasons. First, the costs of providing service vary widely from one wire center to another; it is not possible draw conclusions about one wire center from an analysis of another wire center. Second, expected revenues will not be the same from one wire center to another, because of the differences in the demographics of the customers served out of the two offices. Third, once a CLEC is serving some customers in a wire center, it will face relatively lower cost of serving other customers in the same wire center, compared to the cost of entering a new wire-center market. Fourth, it is administratively feasible to administer the requirements of the *Triennial Review Order* on a wire-center basis, because data on CLEC activity, including collocation, and other cost information is available on this basis. I will elaborate on the first two points below.

B. Market Definition Analysis Starts with a Specific Service or Product Offering in a Narrow Geographic Market and Then Expands the Relevant Market to Incorporate Substitutes.

Q. HOW DO ECONOMISTS TYPICALLY DEVELOP MARKET DEFINITIONS?

A. The process of defining a market invariably requires answering questions as to whether a particular product or location belongs in the market, or falls outside its boundaries. These questions are properly answered by starting with a single firm's product, offered at a specific location, and then expanding beyond this

point to see whether customers regard products from the expanded product set or geographic area as substitutes or alternatives for the original product.

Q. IS THIS APPROACH USED IN ANY OTHER REGULATORY CONTEXT?

A. Yes, the market definition approach I have just outlined is the same as the one used in the *Horizontal Merger Guidelines* ("HMG") of the U.S. Department of Justice ("DOJ") and the Federal Trade Commission ("FTC").[30] The HMG state that

> [a] market is defined as a product or group of products and a geographic area in which it is produced or sold such that a hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future producer or seller of those products in that area likely would impose at least a "small but significant and nontransitory" increase in price, assuming the terms of sale of all other products are held constant. *A relevant market is a group of products and a geographic area that is no bigger than necessary to satisfy this test.*[31]

The HMG approach "begin[s] with each product (narrowly defined) produced or sold by each merging firm" for the product dimension and "the location of each merging firm (or each plant of a multiplant firm)" for the geographic dimension.[32] This initial tentative market definition is expanded by

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[30] The full text of the *Horizontal Merger Guidelines* of the U.S. Department of Justice and Federal Trade Commission, issued April 2, 1992, and revised April 8, 1997, (hereinafter, "HMG") is available online at http://www.usdoj.gov/atr/public/guidelines/horiz_book/toc.html.

[31] HMG, Section 1.0, emphasis added.

[32] HMG, 1.11 *Product Market Definition General Standards*, and 1.21 *Geographic Market Definition General Standards*.

asking whether consumers regard other products or locations as close enough substitutes that a price increase in the narrowly defined tentative market definition would be met by consumers switching to other products or locations.

The notion of "close enough" substitutes is given precision by asking whether a "small but significant and nontransitory" price increase in the narrowly defined tentative market definition would be met by a strong enough substitution response by consumers to make the price increase unprofitable, if it were implemented by a hypothetical monopoly provider controlling all of the products and locations in the tentative narrow market definition. The tentative market definition is too narrow if it fails to incorporate substitutes that consumers regard as "close enough," as measured by consumers switching to a substitute in response to a price increase. If a tentative market definition is found to be too narrow, the definition is expanded to incorporate the next best products or locations that consumers regard as "close enough" substitutes, but stops as soon as the market definition is sufficiently expansive to meet the price increase test I cited above.

In short, the analysis of market definition under the HMG is essentially the same as the one that I have outlined.

Q. DOES THE HMG APPROACH TO MARKET DEFINITION WORK IN THE TRIGGER ANALYSIS?

A. Yes. The concept of market participants in the HMG provides a straightforward basis for linking the geographic market definition to the trigger analysis. The *Horizontal Merger Guidelines* state that:

> Participants include firms currently producing or selling the market's products in the market's geographic area. In addition, participants may include other firms depending on their likely supply responses to a "small but significant and nontransitory" price increase. A firm is viewed as a participant if, in response to a "small but significant and nontransitory" price increase, it likely would enter rapidly into production or sale of a market product in the market's area, without incurring significant sunk costs of entry and exit. Firms likely to make any of these supply responses are considered to be "uncommitted" entrants because their supply response would create new production or sale in the relevant market and because that production or sale could be quickly terminated without significant loss.[33]

In the context of impairment analysis, firms counted toward the trigger analysis should be participants in the geographic market. A CLEC serving a group of customers in a specific geographic area would only be counted as a participant in another geographic market if it were currently offering service in that market or would promptly extend service to that market in response to a "small but significant nontransitory" price increase.

This is one reason that it is important not to adopt too broad a geographic market definition. As the FCC has observed, "if competitors with their own

[33] *Id.*, Section 1.0, footnote omitted.

switches are only serving certain geographic areas, the state commission should consider establishing those areas to constitute separate markets."[34] Using market definitions that correspond to the geographies over which competitors are actually serving customers will ensure that the trigger analysis works as intended, identifying cases in which multiple, competitive supply within a single geographic area is already a reality, not just a possibility. It would be wrong as a matter of economic principles, and contrary to the purpose of the trigger analysis, to lump together multiple geographic areas, each of which has fewer than three competitive suppliers, and treat those as a single geographic market in which the trigger is met.

Defining markets in this manner does not require a finding of impairment in every geographic market that currently lacks multiple, competitive supply. As the HMG indicates in a footnote to the passage concerning market participants quoted above:

> Probable supply responses that require the entrant to incur significant sunk costs of entry and exit are not part of market measurement, but are included in the analysis of the significance of entry. See Section 3. Entrants that must commit substantial sunk costs are regarded as "committed" entrants because those sunk costs make entry irreversible in the short term without foregoing that investment; thus the likelihood of their entry must be evaluated with regard to their long-term profitability.[35]

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[34] *Triennial Review Order*, n. 1537.

[35] *Id.*, n. 7.

Q. AS YOU HAVE ALREADY NOTED, VERIZON HAS CHOSEN TO FOREGO A POTENTIAL DEPLOYMENT ANALYSIS IN THIS PROCEEDING. DOES ITS DECISION HAVE ANY SIGNIFICANCE FOR THE CHOICE OF MARKET DEFINITION?

A. The decision of Verizon to forego a potential deployment analysis raises the stakes with respect to the granularity of the market definition. A market definition that inappropriately lumps together geographic areas already served by switch-based competitors with areas that have little or no current competitive supply could lead to inappropriate findings of no impairment in substantial geographic areas that are not feasible for competitors to serve using their own switches. The Commission can address this risk by defining geographic markets that are suitably narrow and uniform. It can further minimize this risk by applying triggers in a reasoned manner, as I describe below.

C. The Geographic Market Definition Should Reflect the Customer Locations to which Competitors Now Provide Switching, Not the Physical Location or Potential Reach of Their Switches.

Q. HOW DOES THE FCC REQUIRE MARKETS TO BE DEFINED GEOGRAPHICALLY?

A. The FCC has noted that, "because we measure alternative 'switching' in a given market, not switches located in that market, the physical location of the switch is not necessarily relevant to defining the geographic market. For example, a switch

located in Rhode Island could satisfy the switching trigger in Massachusetts if it is serving customers in the relevant market in Massachusetts."[36]

Because a triggering switch need not be located in the defined geographic market, it also follows that the geographic market need not correspond to the physical area that a switch can serve. The analysis should instead be focused on where CLECs actually provide *switching* in lieu of the unbundled switching that the ILEC provides throughout specific wire-center boundaries. That is, it should be focused on the actual customer locations that CLECs serve using their own switches.

D. The Geographic Market Should Allow the Most Accurate Analysis Possible, Consistent with Administrative Practicality.

Q. HOW DO YOU RECOMMEND THE COMMISSION DETERMINE THE RELEVANT GEOGRAPHIC MARKETS?

A. As I mentioned above, the *Triennial Review Order* requires that the Commission conduct its impairment analyses "on the most accurate level possible, while still preserving administrative practicality."[37] Market definition at the most accurate level of granularity would be conducted on a customer-by-customer basis.

This is precisely the approach that the FCC specifies in defining the geographic markets for application of trigger analysis to enterprise loops, for which impairment analyses must be conducted on a "customer-by-customer

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[36] *Triennial Review Order*, n. 1536.

[37] *Id.*, ¶ 130.

1 location basis."[38] It takes only a moment's reflection to recognize that mass-
2 market consumers of qualifying telecommunications services also will not accept
3 any substitutes that do not deliver service to the customer's premises. Because
4 qualifying services provided to a location other than to a customer's own premises
5 will not generally be a satisfactory substitute, the "most accurate" level of
6 granularity would address switching capability for particular customer premises.
7 Although mass-market customers are tied to their locations just as tightly
8 as enterprise customers, the FCC observes that considerations of practicality will
9 not permit a customer-by-customer analysis, for at least some mass-market
10 investigations.[39] Fortunately, subject to certain important limitations I discuss
11 below, it is possible to analyze customer-specific locations in large numbers,
12 achieving administrative practicality with little or no loss of accuracy.

13 **Q. WHAT AGGREGATIONS OF CUSTOMER LOCATIONS MAKE SENSE**
14 **FOR AN IMPAIRMENT ANALYSIS OF MASS-MARKET SWITCHING?**

15 A. Recognizing the limited role that can be fulfilled by non-incumbent mass-market
16 loop facilities,[40] an impairment analysis for mass-market switching must identify
17 substitutes to the incumbent's local circuit switch "as a means of accessing the

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[38] *Id.*, ¶ 307.

[39] *Id.*, ¶ 309.

[40] *Id.*, ¶ 439.

1 local loop."[41] Wire centers are the centers of outward-radiating ILEC loop
2 facilities, and determine the point at which access to the incumbent's loops must
3 occur. Because impairment regarding the local switching UNE is so closely
4 related to access to the incumbent's loops, the wire center provides a natural unit
5 of analysis. *Insofar as an entrant in a particular wire center is not impaired in its*
6 *ability to expand service to all customers served by loops in that wire center*, it is
7 reasonable to aggregate customers and consider impairment issues at the wire-
8 center level. There are, however, exceptions to this rule based on operational and
9 technical impairment issues, as I explain below.

10 **Q. WHAT LIMITATIONS MUST BE IMPOSED ON THE AGGREGATION**
11 **OF CUSTOMER LOCATIONS TO THE WIRE-CENTER LEVEL?**

12 A. The crucial limitation is that a UNE-L CLEC's entry in a wire center must afford
13 that CLEC the opportunity to expand to serve any customer in that wire center.
14 The failure of this condition implies that aggregation of customers to the wire-
15 center level will introduce misleading evidence and lead the Commission to
16 mistaken conclusions about impairment. The nature of this requirement is
17 explained in the following quotation from a popular antitrust law text:

18 Competitors, supply substitution, and entry. (a) Expansion by
19 immediate competitors.] The demand for Alpha Company's
20 product is obviously affected by the ability of its direct competitors
21 to deliver the same product. But if the others are to limit Alpha's
22 actions, they must be able to expand their production when Alpha

[41] *Id.*, ¶ 429.

> increases its prices because consumers cannot turn to other suppliers if those suppliers are unable to expand their output.[42]

I will discuss below several specific conditions that can limit the ability of a CLEC in a particular wire center to serve certain customers in that wire center. I simply note here that aggregating customers to the level of the wire center presumes the absence of one overarching limitation on the CLEC's ability to expand. That overarching limitation is the possibility that there are operational barriers to the CLEC's expansion. If a CLEC that has entered a particular wire center cannot adequately expand its operations in that wire center, due to the presence of operational barriers such as the hot-cut limitation that is the basis for the national finding of impairment, or the presence of IDLC – both of which are discussed in the testimony of MCI witness Earle Jenkins - then it is not reasonable to aggregate customers and consider the question of impairment at the wire-center level.

Q. ARE THERE OTHER FACTORS THAT SUPPORT A MARKET DEFINITION AT THE WIRE-CENTER LEVEL?

A. Yes. The *Triennial Review Order* specifically requires state commissions "to define each geographic market on a granular level and direct[s] them to take into consideration the locations of customers actually being served by competitors, the variation in factors affecting competitors' ability to serve each group of customers

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[42] Phillip Areeda and Louis Kaplow, *Antitrust Analysis: Problems, Text, and Cases*, Fifth Edition, 1997, Aspen Publishers, p. 570, ¶ 342.

1 and competitors' ability to target and serve specific markets economically and
2 efficiently using currently available technologies."[43] Many of these factors vary
3 at the wire-center level.

4 In most cases, CLEC self-provisioning of local switching will require
5 collocation at each wire center the CLEC intends to serve. In those cases in
6 which all competitive facilities deployed are available to serve any loop in the
7 wire centers in which they offer service, *i.e.*, where there are no operational
8 barriers to such expansion throughout the wire center, trigger analysis can proceed
9 with the wire center as the geographic market definition with little or no loss of
10 accuracy.[44]

11 **Q. IS IT PRACTICAL TO CONDUCT IMPAIRMENT ANALYSIS AT THE**
12 **WIRE-CENTER LEVEL?**

13 A. Yes. For the analysis of triggers, the logical data to rely on initially—facilities in
14 place in the incumbent's wire centers, capabilities of competitors' facilities,
15 capacity available for expansion—are data that are available and most accurately
16 interpreted at the wire center level. ILEC tariff data needed for the impairment
17 analysis—UNE loop rates and retail rates—are also readily available on a wire-
18 center basis. Also, information on customer demographics can be obtained on a

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[43] *Triennial Review Order*, n. 1536.

[44] As I discuss further below, there is an important caveat to this discussion. It is necessary to distinguish between business and residential customers because of the prevalence of price discrimination, as well as other differences, between the two groups.

wire-center basis, either from the data collected for TELRIC cost models, universal service models or from public sources.

Q. HOW DOES VERIZON PROPOSE TO DEFINE GEOGRAPHIC MARKETS?

A. Verizon defines geographic markets based on Metropolitan Statistical Areas ("MSA"), but then allows that "the Commission may choose to define the market more narrowly, by differentiating among the pricing Density Cells within those MSAs."[45] Verizon presents several reasons supporting its first choice of the MSA as the correct geographic market: (1) MSAs reflect the reach of media, which permits CLECs to target markets throughout the MSA; (2) MSAs strike a reasonable balance because they do not impose undue administrative burdens on the Commission and the parties; and (3) MSAs take into consideration the locations actually being served by competitors. None of these arguments are very compelling in their own right, and furthermore, Verizon undercuts this entire line of argument when it presents the reasons supporting the narrower Density Zone market definition.

Most of the proposed triggering CLECs do not serve entire MSAs, or even large portions of an MSA. For example, RCN serves the following Philadelphia communities: Ridley Township, Sharon Hill, Eddystone, Norwood, Prospect

[45] Direct Testimony of Debra M. Berry and Carlo Michael Peduto, II, October 31, 2003 (hereafter Berry-Peduto), at 13.

1 Park, Collingdale, Colwyn, Glenolden, Ridley Park, Upper Darby, Tinicum,
2 Morton, Rutledge, Milbourne, Darby Borough, Darby Township, Clifton Heights,
3 East Lansdowne, and Lansdowne.[46] These areas account for a very small portion
4 of the Philadelphia MSA, as shown in the map attached as MDP-3, which shows
5 the fallacy of the first (MSAs are media markets) and third (the MSA is the
6 location served by competitors) reasons given by Verizon for choosing MSAs as
7 the geographic market.

8 The justification of using MSAs for administrative convenience collapses
9 completely when Verizon steps back to justify the Density Zones as an alternative
10 to MSAs. The Density Zones are aggregations of wire centers, rather than
11 geographic entities that conform to natural geographic boundaries. Any decision
12 made by this Commission on a density zone basis *would have to be administered*
13 *on a wire center basis*, which is how the UNE switching element is ordered and
14 provided. The only convenience to using Density Zones would be to make it
15 easier for Verizon to prove its case.

16 If the Commission conducted its trigger analyses under a market definition
17 that lumps together more than one wire center, it would need criteria to determine
18 whether competitive facilities satisfy the requirement of the trigger or not. The
19 analysis would be likely to result in error. The trigger analysis treats each
20 qualifying competitive carrier as evidence that barriers to entry have been

[46] http://www.rcn.com/corpinfo/PA/philadelphia.php, attached as MDP-2.

overcome and no impairment exists. In fact, in a collection of two wire centers, a competitive switching provider that is offering service to customers in one wire center does not show absence of impairment in the other wire center. The size of the market, potential revenues, cost characteristics and operational issues such as number of hot cuts required, IDLC present in the market, and collocation issues (as discussed more fully in the testimony of Earle Jenkins) are likely to vary by wire center, thereby affecting a competitor's ability to serve customers on a wire center by wire center basis.

A market definition that ignored these factors would fly in the face of the entire foundation of antitrust and regulatory economics. It is nonsensical to ignore the costs and entry barriers faced by CLECs wishing to expand service to new locations and define away these important cost differences by simply declaring a large group of customers to be in the same geographic market.

Q. VERIZON WITNESSES ARGUE THAT DEFINING THE MARKET ON AN OVERLY GRANULAR LEVEL WOULD COMPLETELY IGNORE AVAILABLE SCALE AND SCOPE ECONOMIES THAT THE CLEC WOULD ENJOY BY SERVING A WIDER MARKET. DOES THE EXISTENCE OF THESE SCALE ECONOMIES COMPEL A MORE EXPANSIVE MARKET DEFINITION THAN THE INDIVIDUAL WIRE CENTER?

A. No. Although there is no question that it is in the interest of the CLEC to spread the cost of large fixed investments over as broad a customer base as possible, the decision to deploy facilities to provide connectivity to the CLEC's network still is conducted on a very granular basis. As the manager of a CLEC, I may want to add as many customers as possible to lower the cost of my fixed investments, but

I gain nothing, and lose much, if the customers in a particular wire center produce negative net revenue. In deciding whether to obtain or construct collocation facilities in an individual wire center, the CLEC manager must consider the number of customers that reasonably can be expected to subscribe to the CLEC's services, the amount of revenue that will be produced by those customers, and must compare the anticipated revenue to the investments and operating expenses associated with adding those collocation facilities to the CLEC's network. If the wire center cannot contribute to the bottom line, it simply will not make sense for the CLEC to offer services to customers in the wire center.

E. Empirical Proof of the Difference in the Characteristics of Different Wire Centers

Q. EARLIER IN YOUR TESTIMONY YOU STATED THAT ONE OF THE REASONS TO DEFINE EACH WIRE CENTER AS A SEPARATE MARKET WAS THAT COSTS AND DEMAND CONDITIONS VARY ACROSS WIRE CENTERS. HAVE YOU ANALYZED THIS ISSUE WITH RESPECT TO THE WIRE CENTER MARKETS SERVED BY VERIZON IN PENNSYLVANIA?

A. Yes. I have examined the cost that a hypothetical CLEC would incur, and the potential revenue the CLEC would earn, if it entered the different wire center markets in Verizon territory of Pennsylvania. The purpose of this analysis is to show that the conditions affecting entry and competition vary significantly from wire center to wire center – even within the same MSA/Density Zone, and therefore it would be a mistake to aggregate dissimilar wire center areas into a single market.

In order to assess cost of entry using a UNE-L strategy, I used an analytical tool adapted from a model constructed by Dr. David Gabel on behalf of the National Regulatory Research Institute. Dr. Gabel's model, while quite detailed and comprehensive, did not consider several aspects of the cost problem facing the CLEC. The model has been extended to provide flexibility to consider a wide range of services, including services for small business, services for large enterprise customers, and ADSL services provided both to residential and business customers. The structure of the model also was modified to permit a very granular analysis of the individual cost components that contribute to the total per-line and total per-wire center costs faced by the CLEC. A number of different scenarios are considered, including virtual, cageless, and caged collocation options, and unbundled dedicated transport, special access, and EEL transport options. Among these options, the model chooses the least-cost combination of options, and compares the cost of providing a range of services with the revenues derived from customers for those services in order to calculate the net revenue available to a CLEC contemplating facilities-based entry into each wire center.

Q. WHAT CATEGORIES OF COSTS DID YOU CONSIDER?

A. The broad categories of cost I considered are loops, switches, the connection between the loop and the switch, collocation of the CLEC's facilities in the ILEC's wire center, the cost of digitization, concentration and aggregation, transport to the CLEC's switch, and the cost of cutting over the loops.

Q. WHAT ARE THE FACTORS THAT WOULD CAUSE VARIATION IN A CLEC'S COST OF SERVING DIFFERENT WIRE CENTER MARKETS USING THE UNE LOOP?

A. The most relevant measure of cost is the *average cost per line*. Many of the cost components described above are subject to significant economies of scale, meaning that average cost per line falls as more customers are served. Since the size of the available market, i.e. Verizon's customer base, will vary several-fold across wire centers, it is reasonable for a CLEC to expect that its own customer base also will vary across wire centers in a roughly parallel manner. This would result in the CLEC experiencing very different average costs from one market to another.

The cost of serving different wire centers will also vary because of the differences in transport cost, which vary based upon the distance between the wire center and the CLEC switch. Other sources of cost differences are: the variability in UNE loop rates, the potential economies from using facilities to serve other customers, e.g. enterprise customers, and type of loop equipment used in the wire center, e.g. IDLC vs. UDLC.

Q. WHAT CATEGORIES OF REVENUE DID YOU INCLUDE?

A. I used the current average local plus long distance revenue per household in each wire center. This estimate was obtained from the TNS Telecom database. I used current revenues as a proxy for anticipated revenues, even though I would expect revenues to decline substantially following the entry by UNE-L-based CLECs into the residential market. Nevertheless, because the purpose of my testimony is

to address market definition, I have limited my analysis to factors that differ from one wire center market to another, and for that purpose it is sufficient to consider current revenues.

The variation in revenues across wire centers is substantial and this will affect the potential profits that a CLEC could expect to earn from entering a wire center market with UNE loops. According to the data I obtained from TNS, the average revenue per household across all of Verizon's wire centers ranges from a low of $39.38 to a high of $58.15.

Q. PLEASE DESCRIBE THE RESULTS OF YOUR MODEL, AND THEIR RELEVANCE TO THE GEOGRAPHIC MARKET DEFINITION.

A. The "best case" net revenue per line is estimated for each wire center. I have extracted and organized the results by the MSA/Density Zone market defined by Verizon, which are reported in MDP-4. The analysis provides clear evidence that conditions are very different from one wire center market to another within the MSA/Density Zone "markets" defined by Verizon. For example, in Pittsburgh-DZ#2, the net revenue per line varies from negative $1.40 per month in wire center WKBGPAWK to negative $7.28 in wire center WSVWPAWE. In Philadelphia-DZ#1, net revenue per line varies from positive $1.80 in PHLAPABA to negative $4.64 in wire center PHLAPALO.

The purpose of this analysis is not to emphasize the level of net revenues. Many factors will affect the level of anticipated costs and revenues, and have important implications for the prospects of UNE-L-based entry. This is beyond

the scope of my testimony. What the analysis clearly shows, however, is that conditions vary significantly across the large geographic areas included with the individual markets proposed by Verizon, and that the wire center is the proper geographic market definition.

F. The Commission Must Define Product Market(s) as well as Geographic Markets.

Q. ARE THERE ANY OTHER ASPECTS TO THE MARKET DEFINITION THAT THE COMMISSION MUST DETERMINE IN THIS PROCEEDING?

A. Yes. The Commission must also determine the relevant product market(s), so that it can evaluate whether potential triggering companies are offering a product that substitutes for the ILEC's retail local exchange services and/or the retail local exchange services that a CLEC can offer to mass-market customers via UNE-P.

Q. HOW SHOULD THE COMMISSION IDENTIFY THE PRODUCT OR PRODUCTS INCLUDED IN THE RELEVANT MARKET?

A. The Commission should identify the product or products included in the market based on the *Triennial Review Order*'s discussion of qualifying services: in short, "those services that have been traditionally the exclusive or primary domain of the incumbent LECs."[47] Within the product market, the Commission should include any alternative to the ILEC's local voice service, including vertical features and access service, that is comparable in "cost, quality and maturity" to the ILEC's

[47] *Triennial Review Order*, ¶ 135.

own retail local exchange services.[48] This product definition includes traditional circuit-switched local exchange services provided by competitors that self-deploy switches (or use third-party switches) in conjunction with the incumbent's voice-grade UNE loops (what is sometimes described as a "UNE-L" entry strategy) and may include packet-switched local service or "intermodal" alternatives when such services meet the "cost, quality and maturity" requirements of the *Triennial Review Order*. I provide further discussion of intermodal alternatives below, where I describe the criteria necessary to determine whether a competitor should be considered as a potential triggering company.

Q. ARE THERE OTHER POTENTIALLY RELEVANT DISTINCTIONS RELATED TO THE PRODUCT MARKET OR MARKETS?

A. Yes. As one example, it may be necessary to subdivide the ILECs' customers into two different markets, residential and business, even though most of the same products are sold to these two classes of customers. There are at least two reasons for this. First, price discrimination can be enforced between the two market segments. Second, many CLECs appear to be specializing in providing UNE-L-based products to business customers and do not provide similar products to residential customers.

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[48] *Id.*, ¶ 97.

1 **Q. PLEASE EXPLAIN THE ROLE THAT PRICE DISCRIMINATION**
2 **PLAYS IN DEFINING MARKETS.**

3 A. Basic economic principles require a departure from the ordinary process of
4 market definition in the presence of price discrimination—"charging different
5 prices for the same product, for example."[49] If the characteristics of the product
6 and its buyers permit profitable price discrimination, then market definition must
7 recognize "particular use or uses by groups of buyers" and "particular locations of
8 buyers" that would be targeted for higher prices.[50]

9 This situation arises whenever the hypothetical monopolist in a tentatively
10 defined market "can identify and price differently to those buyers ('targeted
11 buyers') who would not defeat the targeted price increase by substituting to other
12 products." When this situation arises, the tentative market has been defined too
13 broadly, and must be divided to recognize "targeted buyers," whether identified
14 by location, by the nature of their use of the product, or by membership in an
15 identifiable group of buyers.[51]

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[49] HMG 1.12, *Product Market Definition in the Presence of Price Discrimination.*

[50] HMG 1.12, *Product Market Definition in the Presence of Price Discrimination,* and HMG 1.22, *Geographic Market Definition in the Presence of Price Discrimination.*

[51] The use of the term "targeted buyers" in the HMG is the inverse of the way in which the FCC uses the term "targeted customers." In the HMG, the targeted buyers are the ones who lack competitive options, whereas in the FCC's parlance, the targeted customers are the ones singled out for competitive supply. The fundamental logic of the HMG's discussion of price discrimination, however, aligns precisely with the FCC's identified concern about targeted customers.

Q. HOW DOES THE POSSIBILITY OF PRICE DISCRIMINATION AFFFECT THE MARKET DEFINITION YOU HAVE JUST DESCRIBED?

A. As I discussed above, market definition in the presence of price discrimination must treat as separate markets those groups of "targeted buyers" who cannot effectively avoid a "targeted price increase by substituting to other products."[52] The price difference between small business customers and residential customers receiving essentially identical service is a classic example of price discrimination.

The FCC specifically directs state commissions to recognize, for market definition purposes, that "competitors often are able to target particular sets of customers."[53] CLECs provisioning their own switches can, and do, target business customers, even to the exclusion of residential customers.

This targeting of switch-based service to business, rather than residential, customers occurs in part because the characteristics of business customers, even very small ones, are different from those of residential customers, suggesting differences in CLECs' abilities to serve these different groups of customers—a factor this Commission must consider in defining markets. Further, because of the longstanding ILEC practice of targeting business customers for higher rates than residential customers, CLECs can also target this group and price differently to residential and small business customers.

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[52] HMG 1.12 *Product Market Definition in the Presence of Price Discrimination.*

[53] *Triennial Review Order*, n. 1539, interpreting accompanying text at ¶ 495.

Q. WHAT DOES THE EVIDENCE ABOUT THE ACTIVITIES OF THE CLECS PROVE ABOUT THE DISTINCTION BETWEEN RESIDENTIAL AND BUSINESS CUSTOMERS?

A. Several CLECs are serving the business market by combining their own switching with UNE loops, and it is very likely that these companies are specializing in serving business customers that are very different from the residential or very small business customers. I have learned that MCI, which is one of the CLECs in this category, does not offer or provide local service to any residential customers via unbundled loops. To the extent that MCI does order unbundled loops from Verizon, it is almost exclusively for larger business customers and not for very small business customers. MCI offers UNE-L based services mostly to multi-product, multi-location customers and sells through agents, such as the PBX vendors that provide complete solutions to the customer. MCI always has to assign a dedicated install team to handle orders that involve UNE loops (as opposed to UNE-P) due to the problems associated with hot cuts. Such a dedicated install team in not even remotely realistic when dealing with residential customers or very small business customers. Whether the customer requires several DS0 or a DS1 loop depends upon a number of factors, including whether the customer's PBX can function with a digital loop.

The way the real world functions, therefore, stands in stark contrast to Verizon's position that:

> "at its simplest, this 'cutoff' should be between customers actually being served with one or more voice grade DS0 circuits and customers actually being served by DS1 loops...If a CLEC is currently serving a customer using DS0 loops—regardless of how many -- it has already made the

1 determination on its own that it is most economical to serve the customer
2 as a mass-market customer, rather than as a DS1 enterprise customers."[54]
3
4 Verizon is confusing the goods or services that are purchased in a particular
5 transaction with the proper definition of a market. This fallacy of economic logic
6 would imply that a household and a large restaurant both purchase food supplies
7 in the same market, because they both buy the same size ketchup bottles. And by
8 this reasoning, the restaurant supply company, which has "chosen" to provide the
9 restaurant with 16 ounce bottles of ketchup, would also be able to constrain the
10 prices that a supermarket would charge a typical shopper for the same bottle of
11 ketchup. For certain, this is not the way that antitrust authorities would define
12 markets in merger investigations or enforcement actions.
13 The way to avoid this fallacy is to look at the evidence and keep our
14 fingers off the trigger until there is clear evidence that the CLECs are actually
15 serving the residential market.

16 **Q. ARE YOU PROPOSING TO CHANGE THE FCC'S DEFINITION OF**
17 **MASS-MARKET CUSTOMERS?**

18 A. No. With respect to unbundled switching, the FCC has drawn a distinction
19 between customers that it is economically feasible for a CLEC to serve via a DS-1
20 arrangement (and therefore are unaffected by the hot-cut barrier to entry that is
21 the basis for the national finding of impairment) and customers that can only be

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[54] Berry-Peduto Direct Testimony, at 17.

served economically via voice-grade loops (which the *Triennial Review Order* describes as DS-0s). All of the latter customers logically fall into a broad category of mass-market customers that are affected by the national, hot-cut-based finding of impairment; hence, the Commission should consider in this proceeding whether CLECs are impaired without access to unbundled switching to serve any and all of these customers.

My point, however, is somewhat different. There are numerous other potential sources of impairment besides the hot-cut problem, many of which relate to economic issues. The economics of providing UNE-L based service to residential and small business customers may be quite different. A potential deployment analysis would reveal whether these differences matter, but without a potential deployment analysis, the Commission cannot tell whether actual deployment of UNE-L to serve small business customers (*i.e.*, trigger evidence) implies anything about the ability of CLECs to serve residential customers via that same entry strategy. The Commission should avoid any risk of basing a finding of no impairment on evidence that applies only to, *e.g.*, small business customers. The Commission, therefore, must be prepared either to treat residential and small business customers as falling into two separate submarkets of the mass market or, in the alternative, to require that a competitor must serve both residential and small business customers to be considered as a potential triggering company. I discuss these possibilities further in Section IV.B.4 below.

Q. IS THERE ANY OTHER INSTANCE IN WHICH THE COMMISSION MAY NEED TO MAKE FURTHER DISTINCTIONS AMONG MASS-MARKET CUSTOMERS OR CUSTOMER LOCATIONS?

A. Yes. The ILECs have claimed in prior UNE proceedings that they cannot unbundle IDLC loops (hence, CLECs using their own switches cannot serve mass-market customers via IDLC); however, the ILECs also admit that CLECs can serve mass-market customers over IDLC when they obtain UNE-P from Verizon. As the Commission is well aware, IDLC plays a large role in Verizon's plans for their networks, as represented in their alleged forward-looking network architectures and in Verizon's network modernization plans.[55] Hence, over time, the portion of the market that CLECs using their own switches cannot reach as efficiently as the ILEC (or, as CLECs can today, using UNE-P) will grow.

Q. IS THERE ANY ADDITIONAL COMPETITIVE SIGNIFICANCE TO THE ILECS' IDLC LOOP PLANT?

A. Yes. The *Triennial Review Order* determined that the ILEC is not required to unbundle its network to enable a competitive carrier to offer Digital Subscriber Line ("DSL") service on ILEC loops that are provisioned with Digital Loop Carrier ("DLC") equipment. This will place the CLEC at a competitive disadvantage relative to the ILECs, which in many cases have deployed DLC equipment capable of providing their own retail customers with DSL service.

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[55] See Verizon Pennsylvania, Inc. Petition and Plan for Alternative Form of Regulation Under Chapter 30, 2000 Biennial Update to Network Modernization Plan, Docket No. P-00930715 (hereinafter "Chapter 30 NMP")

1 Further, Verizon has generally and specifically, in Pennsylvania, refused
2 to provide DSL service to customers that purchase voice telephony services from
3 the CLECs.[56] Therefore, CLECs will be foreclosed from offering local service
4 from the set of customers that demand DSL service, but which can only be served
5 over the ILECs' DLC equipment. This group of customers is not in the same
6 market as other customers in the same wire center for whom this competitive
7 imbalance does not exist.

8 **Q. HOW SHOULD THE COMMISSION TAKE THESE POTENTIAL**
9 **PRODUCT MARKET DISTINCTIONS INTO ACCOUNT?**

10 A. The Commission should consider each of these potential product market
11 distinctions in its "trigger" or actual deployment analyses. I elaborate on the
12 approach that I recommend in the sections that follow.

[56] This issue was raised by MCI in the Chapter 30 NMP case where the ALJ required Verizon to provide DSL service to CLEC voice customers. However, Verizon excepted to that decision and a final decision has yet to be issued by the Commission.

IV. ANALYSIS OF TRIGGERS ON A MARKET-BY-MARKET BASIS

A. Introduction – Triggers

Q. ONCE THE COMMISSION HAS ESTABLISHED A MARKET DEFINITION, WHAT IS THE NEXT STEP IN THE ANALYSIS REQUIRED BY THE FCC?

A. The next step in the analysis is the review of evidence concerning so-called "triggers." There are both retail and wholesale triggers, although Verizon has indicated that it only intends to present evidence regarding the retail triggers for unbundled mass market switching.

Q. WHAT IS THE STATED PURPOSE OF THE TRIGGER ANALYSIS PRESCRIBED BY THE FCC?

A. The triggers are to be "a principal mechanism for use by states in evaluating whether requesting carriers are in fact not impaired in a particular market."[57] The FCC found that "presence of facilities-based competitors is the best indicator that requesting carriers are not impaired."[58]

However, it is important to remember that the FCC's national finding of impairment with respect to mass-market switching is based upon impairments

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[57] *Id.*, ¶ 498.

[58] *Id.*

1 related to the ILECs' hot cut processes. Therefore, the most reasonable
2 interpretation of the trigger test is that the triggers are intended to deal with the
3 unambiguous cases in which it is virtually certain that the national finding of
4 impairment does not apply to a particular geographic market because competitors
5 deploying their own switching facilities (or using third-party switching) have been
6 able to overcome existing barriers to entry in a manner that ensures that all, or
7 virtually all, of the customers in the market have meaningful alternatives to the
8 incumbent's local exchange services.

9 **Q. WHAT IS THE RETAIL TRIGGER?**

10 A. The self-provisioning, or "retail" trigger relates to the number of competitors that
11 are self-deploying switching to provide retail local exchange services to mass-
12 market customers located in each geographic market. The FCC requires that there
13 be at least three such competitors in a given geographic market to satisfy the retail
14 trigger and thereby justify a finding of no impairment in the geographic market.[59]

15 **Q. HOW CAN THE COMMISSION DETERMINE WHETHER THE**
16 **TRIGGERS HAVE BEEN MET IN A PARTICULAR MARKET?**

17 A. The Commission can apply the rules found in the *Triennial Review Order* in a
18 manner that comports with the pro-competitive goals of the Act and sound
19 economic principles. In the discussion that follows, I describe the rules presented

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[59] *Triennial Review Order*, ¶ 501.

in the *Triennial Review Order* and explain how the Commission can apply them in a meaningful way. To aid the Commission in reviewing evidence that purports to show that either the retail or wholesale trigger has been met in a particular market, I have also prepared a flowchart that summarizes the requisite analysis. This flowchart is attached as Attachment MDP-5 to my testimony.

B. FCC Rules for Identifying Relevant Competitors

Q. WHAT GUIDELINES HAS THE FCC PROVIDED CONCERNING THE COMPETITORS THAT CAN BE COUNTED TOWARD THE RETAIL TRIGGER?

A. In addition to the basic requirement that potential triggering companies must be "using or offering their own separate switches,"[60] the FCC has identified rules with respect to the following:

(1) Corporate ownership;

(2) Active and continuing market participation;

(3) Intermodal competition; and

(4) Scale and scope of market participation.

I discuss each of these rules, and other pertinent considerations, below.

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[60] *Triennial Review Order*, ¶ 499. This requirement appears as the first item on the flowchart in Attachment MDP-4.

1 **1. Corporate Ownership**

2 **Q. WHAT ARE THE FCC'S RULES WITH RESPECT TO CORPORATE**
3 **OWNERSHIP?**

4 A. The FCC has imposed two separate restrictions on corporate ownership. First, a
5 carrier can only count toward the trigger in a particular market if that carrier is
6 unaffiliated with the incumbent.[61] Second, to prevent "gaming," carriers affiliated
7 with one another, but not the incumbent, only count as a single carrier toward
8 satisfying the pertinent trigger.[62] These two requirements appear as the second
9 and third items on the flowchart in Attachment MDP-5.

10 **2. Active and Continuing Market Participation**

11 **Q. WHAT ARE THE FCC'S RULES WITH RESPECT TO A POTENTIAL**
12 **TRIGGERING CARRIER'S ACTIVE AND CONTINUING MARKET**
13 **PARTICIPATION?**

14 A. The FCC stresses that potential triggering carriers must be "actively providing
15 voice service to mass market customers in the market."[63] Similarly, paragraph
16 500 of the *Triennial Review Order* states that in conducting the trigger analysis,
17 state commissions must determine whether the identified trigger companies "are
18 currently offering and able to provide service, and are likely to continue to do so."
19 The state commission must also verify that the competitors in question have not

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[61] *Id.*, ¶ 499.

[62] *Id.* In both instances, the FCC relied on a definition of affiliation found in Section 3 of the Act (47 U.S.C. § 153(1)). *Id.*, n. 1550.

[63] *Id.*, ¶ 499.

filed a notice to terminate service in that market[64] or provided other evidence demonstrating that they no longer intend to be an active participant in that market. These requirements are reflected in the fourth item in the flowchart in Attachment MDP-5.

The clear intent of these rules is to ensure that any company counted toward a trigger is an active and continuing participant in the relevant market. To give these rules economic meaning, the Commission should require evidence that any company counted toward a trigger is actively soliciting new customers and has, in fact, added new customers *in that market* within the recent past (*e.g.*, the most recent month for which data are available).

3. Intermodal Competition

Q. WHAT ARE THE FCC'S RULES WITH RESPECT TO INTERMODAL COMPETITION?

A. The FCC requires states to consider whether intermodal alternatives are comparable in "cost, quality and maturity" to the incumbent's switched mass-market voice services before counting such alternatives toward the trigger in any market.[65] Based on these criteria, the FCC specifically indicated that it did not expect states to count commercial mobile radio service ("CMRS") carriers toward

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[64] *Id.*, n. 1556.

[65] *Id.*, n. 1549. *See also* ¶ 97.

either trigger.[66] Similarly, the FCC indicated that fixed wireless has "not proven to be viable or deployable on a mass market scale," implying that fixed wireless services do not meet the "comparable in cost, quality and maturity" standard for inclusion in the trigger analysis.[67] The FCC did, however, leave open the option of counting carriers that use packet switches or soft switches to provide voice services to mass market customers.[68]

To give economic meaning to these rules, I recommend that the Commission place the burden of proof on the ILECs to demonstrate that any intermodal alternative it proposes to count toward the triggers satisfies the "comparable in cost, quality and maturity" standard identified in footnote 1549 to the *Triennial Review Order*. I have therefore included as the fifth item in the Attachment MDP-5 flowchart an evaluation of the incumbent's showing as to the cost, quality and maturity of any intermodal providers proffered as potential triggering companies.

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[66] *Id.*, n. 1549. The FCC defines CMRS carriers as "any mobile service, as defined in section 3 of the Act, as amended, provided for profit and making interconnection services available to the public." *Id.*, n. 164, citing 47 U.S.C. § 332(d)(1). This definition includes, but is not limited to, traditional cellular carriers.

[67] *Id.*, ¶ 310.

[68] *Id.*, n. 1549.

1 **Q. SHOULD CABLE TELEPHONY PROVIDERS BE CONSIDERED**
2 **POTENTIAL MASS MARKET TRIGGERING COMPANIES?**

3 A. No. As the FCC acknowledged, cable telephony fails to serve the "crucial
4 function" of affording access to the incumbent's loops,[69] and therefore "provides
5 no evidence that competitors have successfully self-deployed switches as a means
6 to access the incumbents' local loops, and have overcome the difficulties inherent
7 in the hot cut process."[70] Cable telephony's strategy is to "bypass the incumbent
8 LECs' networks entirely."[71] This strategy is only available to a single firm in any
9 market because cable TV companies, due to "unique economic circumstances of
10 first-mover advantages and scope economies, have access to customers that other
11 competitive carriers lack."[72] As a result, neither cable telephony nor CMRS "can
12 be used as a means of accessing the incumbents' wireline voice-grade local loops.
13 Accordingly, neither technology provides probative evidence of an entrant's
14 ability to access the incumbent LEC's wireline voice-grade local loop and thereby
15 self-deploy local circuit switches."[73] Any competitive facilities that allow access
16 to some customer locations but not others clearly cannot be regarded as probative
17 evidence of no impairment concerning those customer locations that cannot be

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[69] *Id.*, ¶ 439.
[70] *Id.*, ¶ 440.
[71] *Id.*
[72] *Id.*, ¶ 310.
[73] *Id.*, ¶ 446.

1 reached by the competitive facilities. Cable telephony is at most an alternative to
2 the ILEC's local voice service for the specific customer locations served via the
3 cable company's facilities, which typically do not reach all of the ILEC's mass-
4 market customer locations.

5 For similar reasons, the FCC determined that the availability of cable
6 telephony does not eliminate impairment with respect to the ILEC's voice-grade
7 loop facilities.[74] Because cable telephony offers an alternative to the ILEC's
8 mass-market switching facilities only where it also offers an alternative to the
9 ILEC's loop facilities, it logically follows that cable telephony does not cure
10 impairment with respect to mass-market switching, either.

11 In addition, cable telephony does not unambiguously fulfill the "cost,
12 quality and maturity" criteria established by the FCC. Cable telephony services
13 (particularly the recent variants provided using Voice over Internet Protocol, or
14 VoIP, technology) are relatively new.[75] It is not yet clear whether most
15 consumers perceive such services to be comparable to local telephone service,
16 especially with respect to reliability issues such as E-911 and backup power in

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[74] *Id.*, ¶¶ 228, 229 and 245.

[75] Although Comcast provides service in the Pittsburgh area with conventional circuit-switched technology, it has begun trials of VOIP in Philadelphia. It is not possible to predict whether Comcast will eventually convert its Pittsburgh telephony service to VOIP.

emergencies.[76] Moreover, backup power is a concern for customers of conventional cable-telephone service, because the telephone equipment is not powered by the cable plant, but must depend upon AC or battery power.[77] Thus, I believe that a reasoned analysis disqualifies cable telephony from being considered as a "close enough" substitute for the ILEC's local voice services to be included in the product market for the mass-market switching impairment analysis.

Q. HAVE YOU FOUND EVIDENCE THAT THE CABLE COMPANIES THAT VERIZON HAS IDENTIFIED IN PENNSYLVANIA AS TRIGGER COMPANIES DO NOT PROVIDE SERVICE ACROSS ENTIRE GEOGRPAHIC MARKES?

A. Yes. Verizon has identified Comcast as a trigger company in all three density zones of the Pittsburgh MSA. I have attempted to determine where within the Pittsburgh area Comcast actually provides telephone service. To do this, I queried the Comcast web site with an entry for every zip code within Allegheny County, which is entirely within the Pittsburgh MSA, and contains wire centers in all three density zones. I determined that Comcast did not offer telephone service in large portions of the County, including areas from all three density zones. This

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[76] *See, for example,* Alan Breznick, "Backup Power Reemerges as Issue for Cable VoIP Service," *Cable Datacom News*, October 2003, a copy of which is attached hereto as Attachment MDP-6.

[77] Comcast reports that back-up battery will provide power in the event of a power failure, but only for eight to ten hours, depending upon the customer's usage of the telephone. See, http://www.comcast.com/Support/Corp1/FAQ/FaqDetail_1719.html, Attachment MDP-7.

is shown in the map, which I have attached as MDP-8. For example, Comcast does not provide telephone service in portions of downtown Pittsburgh, e.g. zip codes 15217, 15213, 15219, 15222, as well as in large portions of the North East portion of Allegheny County, e.g. zip codes 15006, 15084, 15065. It also appears that even when markets are defined as I recommend – on a wire center basis – that Comcast does not necessarily serve the entire wire center serving area.

4. Scale and Scope of Market Participation

Q. WHAT ARE THE FCC'S RULES WITH RESPECT TO THE SCALE AND SCOPE OF MARKET PARTICIPATION?

A. The FCC identified specific rules with respect to scale and scope of market participation for wholesale providers and more general guidance with respect to the scale and scope of such participation for retail competitors that self-deploy switching.

For a competitor to be counted toward the wholesale trigger in a given market, the carrier must "be operationally ready and willing to provide wholesale service to all competitive providers in the designated market."[78] The wholesale carrier need not, however, provide "the full panoply of services offered by incumbent LECs."[79]

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[78] *Triennial Review Order*, ¶ 499 (as amended by the FCC's *Errata* released on September 17, 2003).

[79] *Id.*

1 For retail providers, the FCC provides state commissions with the far more
2 general guidance that, "in circumstances where switch providers (or the resellers
3 that rely on them) are identified as currently serving, or capable of serving, only
4 part of the market, the state commission may choose to consider defining that
5 portion of the market as a separate market for purposes of its analysis."[80] In the
6 context of this Commission's investigation, the FCC's general guidance provides
7 for instances in which the Commission may choose to conduct its trigger analysis
8 on a more granular basis than the wire center or, in the alternative, provides
9 guidance as to whether a particular competitor should count toward the trigger in
10 a given wire-center market as defined by the Commission.

11 The Commission can achieve the same effect either by narrowing the
12 market definition in such a way that the potential triggering companies do in fact
13 offer services to all, or virtually all, customers within the defined market, or by
14 declining to count companies that do not offer services to all, or virtually all,
15 mass-market customers within the geographic market that the Commission
16 adopts. Either approach accomplishes the essential economic purpose of applying
17 triggers in a manner that ensures that all, or virtually all, customers within a given
18 market have significant alternatives.

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[80] *Id.*, n. 1552.

Q. WHY DO YOU SAY THAT TRIGGERS SHOULD BE APPLIED IN A WAY THAT ENSURES ALL, OR VIRTUALLY ALL, CUSTOMERS WITHIN A GIVEN MARKET HAVE SIGNIFICANT ALTERNATIVES?

A. First and foremost, such an approach is consistent with the pro-competitive goals of the Act and this Commission. To date, UNE-P has proven to be the most successful and widespread vehicle for providing mass-market customers with competitive alternatives to the incumbents' retail local exchange services. By its very nature, UNE-P allows competitors to offer alternatives to each and every customer that the ILEC serves. Eliminating access to unbundled switching is inherently anti-consumer unless the Commission can be very sure that *all* of the customers who can be served via UNE-P can also be served through some alternative form of competitive entry.

Q. IS IT YOUR TESTIMONY THAT THE ILEC MUST DEMONSTRATE THAT POTENTIAL TRIGGERING COMPANIES ARE CURRENTLY OFFERING RETAIL LOCAL EXCHANGE SERVICES TO EVERY SINGLE MASS-MARKET CUSTOMER IN A GIVEN WIRE CENTER?

A. No. The Commission should, however, require evidence that: (1) each company counted toward the retail trigger has a demonstrated capability of holding itself out to provide retail local exchange service to all, or virtually all, mass-market customers within that wire center; and (2) the volumes at which the potential triggering company is presently providing service demonstrate that it has overcome the hot cut barrier to entry that is the basis for the national finding of impairment and all of the other economic and operational barriers to entry that the FCC identified as appropriate topics for consideration in a potential deployment

analysis.[81] I have included these two evidentiary requirements as the sixth and seventh, respectively, on the flowchart in Attachment MDP-5.

Q. ARE THERE BROAD CATEGORIES OF POTENTIAL TRIGGERING COMPANIES THAT WOULD FAIL TO MEET YOUR PROPOSED STANDARD OF HAVING A DEMONSTRATED CAPABILITY OF HOLDING ITSELF OUT TO PROVIDE RETAIL LOCAL EXCHANGE SERVICE TO ALL, OR VIRTUALLY ALL, MASS-MARKET CUSTOMERS WITH THE WIRE CENTER (ITEM 6 ON THE FLOWCHART IN ATTAHCMENT MDP-5)?

A. Yes. As I mentioned in discussing product market distinctions, at least two broad categories come to mind:

(1) Companies that serve small business, but do not serve residential customers; and

(2) Companies that serve customers whose ILEC loop is provided over all-copper facilities, but do not serve customers whose ILEC loop is provided over fiber feeder and IDLC.

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[81] This means that the company in question must have demonstrated, by the sheer scale and scope of its participation in the market, that it has overcome the operational and technological issues associated with, *e.g.*, UNE-L, OSS, collocation, transport and EELs necessary for mass-market entry. If that is not unambiguously clear from the nature of the triggering company's operations, then a potential deployment analysis would be necessary to justify a finding of no impairment and no such finding should be made on the basis of the existence of the alleged trigger company in the relevant market. These operational and technological issues are discussed more fully in the testimonies of Earle Jenkins and Mindy Chapman.

Q. WHY DO YOU SAY THAT COMPANIES THAT DO NOT SERVE RESIDENTIAL CUSTOMERS IN A GIVEN GEOGRAPHIC MARKET SHOULD *NOT* BE CONSIDERED AS POTENTIAL "TRIGGERING" COMPETITORS?

A. As I have already explained, residential customers are not identical to small business customers, who in turn are not identical to the medium and larger businesses that the FCC has included in what it describes as the "enterprise market."

The FCC recognized the "swing" role of small business customers in the distinctions it drew between "mass market" and "enterprise market" customers, noting:

> Very small businesses typically purchase the same kinds of services as do residential customers, and are marketed to, and provided service and customer care, in a similar manner. Therefore, we will usually include very small businesses in the mass market for our analysis. We note, however, that there are some differences between very small businesses and residential customers. For example, very small businesses usually pay higher retail rates, and may be more likely to purchase additional services such as multiple lines, vertical features, data services, and yellow page listings. Therefore, we may include them with other enterprise customers, where it is appropriate in our analysis.[82]

This statement, in combination with the FCC's observations on the use of actual marketplace deployment as evidence that barriers to entry are surmountable, suggests that the Commission should allow the empirical evidence to dictate its view of whether residential and small business customers are in the

[82] *Triennial Review Order*, n. 432.

same market for purposes of the trigger analysis. If a carrier serves small business customers but not residential customers using its own switch, that very fact implies that there is a meaningful difference between small business and residential customers. If that pattern is repeated, so that multiple carriers serve small business customers but not residential customers using their own switches, the evidence for distinct customer class markets becomes even more compelling.

It would be a grave public policy error to base a finding of no impairment solely or largely on evidence of carriers self-deploying switching to serve small business customers, leaving Pennsylvania residential customers with no meaningful competitive alternative. The Commission should require evidence that both residential and small business customers have competitive choices before it decides to eliminate CLECs' access to unbundled switching in any geographic market. Thus, a company that is not actively providing residential service with its own switches (*i.e.*, one that is only providing business service) should not be counted as a trigger company for mass-market switching.

If the Commission does not apply the trigger analysis in this manner, then it must consider defining separate markets for residential and small business customers to avoid the public policy harm that I describe above. The small business submarket would include all business customers up to the identified boundary between mass-market and enterprise customers.

Q. YOU ALSO SUGGESTED THAT THE COMMISSION SHOULD CONSIDER WHETHER THE SWITCH-BASED COMPETITOR IS OFFERING SERVICE OVER BOTH ALL-COPPER AND IDLC LOOPS. WHY IS IT IMPORTANT FOR THE COMMISSION TO CONSIDER THE TYPES OF UNE LOOPS OVER WHICH POTENTIAL TRIGGERING COMPANIES ARE PROVIDING RETAIL LOCAL EXCHANGE SERVICE?

A. ILECs and CLECs have engaged in a long and contentious battle over the procedures and cost for providing stand-alone unbundled loops to customer locations that the ILEC serves via fiber feeder and IDLC. MCI raised this issue in Verizon's Chapter 30 NMP case. This issue is also discussed fully in the testimony of MCI witness Earle Jenkins. To date, there is no consensus on a cost-effective means for making such loops available. There is, however, no dispute that UNE-P can be provisioned over the same IDLC facilities that the ILEC uses to provide its own retail services. Unless a potential triggering company is providing switch-based services to mass-market customers over IDLC as well as all-copper loops, there is no actual marketplace evidence that the competitor has overcome barriers to entry for customer locations served via IDLC. Elimination of access to UNE switching under these circumstances would effectively deny competitive alternatives to the growing number of Pennsylvania customers served via IDLC.

Q. HOW DOES THE PRECEDING DISCUSSION RELATE TO THE FLOWCHART IN ATTACHMENT MDP-5?

A. I have identified two specific "screens" that should be considered during the analysis that occurs as part of Item 7 in the flowchart. The first "screen" asks

whether the potential triggering carrier serves both residential and small business customers. The second asks whether the potential triggering carrier serves customers over both all-copper and IDLC loops. The Commission should not consider the triggers to be satisfied unless all customer groups within the identified market can be reached by at least three retail or two wholesale providers that deploy their own switches.

Q. HAVE YOU BEEN ABLE TO DETERMINE HOW MANY OF VERIZON'S CUSTOMERS ARE BEING SERVED OVER IDLC LOOPS, OR WHETHER VERIZON IS CAPABLE OF PROVIDING UNBUNDLED LOOPS SERVED BY IDLC?

A. No. Verizon has refused to provide information on the percentage of customers in each wire center that are served over IDLC loops, and on the number of unbundled IDLC loops that it has provided to CLECs.[83] Therefore, it is impossible to tell whether any of the UNE-L-based CLECs listed by Verizon as trigger companies are in fact able to serve all customers within <u>any</u> geographic market. Until Verizon presents evidence that there are geographic markets where it does not rely on IDLC, or that the CLECs will be able to access customers served by IDLC, none of these UNE-L based CLECs should be counted as trigger companies, and Verizon's application should be rejected outright.

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[83] Objections To Joint Parties Interrogatories Addressed To Verizon Pennsylvania Inc. and Verizon North Inc. Set I. December 30, 2003. Attachment MDP-9.

1 C. **Verizon's Proposed Trigger Companies**

2 Q. **HAS VERIZON IDENTIFIED COMPANIES THAT IT BELIEVES**
3 **SATISFY THE TRIGGER CONDITIONS?**

4 A. Yes. Verizon claims that a total of 16 CLECs serve mass market customers with
5 their own switches in the state, although not all of these CLECs serve every
6 geographic market defined by Verizon (Exhibit 1 to Supplemental Direct
7 Testimony of Harold E. West III and Carlo Michael Peduto II, December 19,
8 2003). These companies are:

9 1) Adelphia Business Solutions (Telcov)
10 2) Allegiance Telecom
11 3) AT&T
12 4) Broadview Networks
13 5) Cavalier Telephone
14 6) Choice One
15 7) Comcast
16 8) Commonwealth Communications (CTSI)
17 9) D&E Systems/CEI
18 10) Fibernet
19 11) Full Service Computing
20 12) Penn Telecom
21 13) RCN
22 14) SBC Telecom
23 15) WorldCom (MCI)
24 16) XO Communications

25 Q. **DO YOU AGREE WITH VERIZON THAT THESE CLECS SHOULD BE**
26 **CONSIDERED AS TRIGGER COMPANIES?**

27 A. For the most part, I disagree with Verizon's characterization of these companies
28 as trigger companies. There are several reasons for this, which I will relate to my
29 earlier discussion of market definition and the other requirements that must be
30 met by trigger companies as summarized on the flowchart in Attachment MDP-5.
31 The three main reasons why many of these companies fail to satisfy trigger

requirements in <u>any</u> geographic market are: failure to be active and continuing market participants; failure to serve residential customers; failure to provide service that is comparable in quality and scope to the ILEC. Moreover, there is no evidence that any of these companies have overcome the operational barriers to entry or that they can serve customers that the ILEC serves using IDLC.

Q. WHICH COMPANIES DO NOT APPEAR TO BE ACTIVE AND CONTINUING MARKET PARTICIPANTS?

A. Fibernet and SBC Telecom provide service to so few customers in the entire state of Pennsylvania that it strains credulity to consider them as active and continuing participants in the market, regardless of how the market is defined for purposes of mass market switching. **[CLEC PROPRIETARY INFORMATION BEGINS]**

[CLEC PROPIETARY INFORMATION ENDS] It is conceivable that SBC has created a façade of providing service outside its region in order to satisfy obligations it agreed to as part of its merger with Ameritech. Certainly, this would not constitute evidence that impairment does not exist in the Pennsylvania market, if SBC's actions were not the result of profit-seeking behavior in a normal market setting. Verizon has not provided any information about either Fibernet or SBC Telecom that would indicate that they are active participants anywhere in Pennsylvania.

1 **Q. WHICH CLECS DO NOT SERVE RESIDENTIAL CUSTOMERS?**

2 A. Based on their responses to discovery requests, the following CLECs do not serve
3 residential customers anywhere in Pennsylvania using their own switching
4 facilities: **[CLEC PROPRIETARY INFORMATION BEGINS]**
5
6
7
8
9 **[CLEC PROPRIETARY INFORMATION ENDS]**

10 **Q. VERIZON CLAIMS THAT ALL BUT ONE OF THE TRIGGERING**
11 **CLECS HAS FILED A RESIDENTIAL TARIFF WITH THE PUC. DOES**
12 **THIS PROVE THAT THESE CARRIERS SHOULD BE COUNTED AS**
13 **TRIGGER COMPANIES IN THE RESIDENTIAL MARKET?**

14 A. No. The existence of a residential tariff says nothing about whether a CLEC is an
15 active participant in the residential market. Although a CLEC with a residential
16 tariff is required to provide service in response to a request for such service, if it
17 does not actively market and provide service to residential customers it does not
18 satisfy the trigger criteria. Indeed, the presence of business-only CLECs, many
19 with spare switching resources, is powerful evidence that they are impaired in
20 serving the residential market. These companies should really be counted as
21 negative trigger companies.

Q. WHICH ARE THE REMAINING CLECS THAT SERVE RESIDENTIAL CUSTOMERS IN ANY MANNER, USING THEIR OWN SWITCHES?

A. Only Broadview, Comcast, Cavalier, Commonwealth Communications, CEI, Full Service, Penn Telecom, and RCN appear to provide service to any residential customers. Two of these companies, Comcast and RCN, are cable companies, which for the reasons I described early should exclude them from counting as triggers. Six of the companies, Broadview, Cavalier, Commonwealth Communications, CEI, Full Service, and Penn Telecom, are UNE-L-based providers of switched local service. **[CLEC PROPRIETARY DATA BEGINS]**

[redacted]

[CLEC PROPRIETARY DATA ENDS].

Of the six UNE-L-based CLECs, three provide residential service on a very limited basis, and it would be premature to consider them as trigger companies in the residential market. Broadview, Full Service Computing, and Penn Telecom describe themselves as providing service to narrow niches in the residential market and do not serve the broader residential market. Broadview describes itself as a provider serving small and medium-sized businesses and

1 communication-intensive residential customers.[84] Penn Telecom reports that it
2 focuses on small to mid-sized business (5-500 lines), educational institutions, and
3 up-scale apartment/townhouse communities.[85] **[CLEC PROPRIETARY**
4 **INFORMATION BEGINS]**
5
6
7
8 **[CLEC**
9 **PROPRIETARY INFORMATION ENDS]**

10 **Q. WHICH CLECS DO YOU CONCLUDE ARE VALID TRIGGER**
11 **COMPANIES FOR MASS MARKET SWITCHING?**

12 A. The only CLECs that arguably constitute valid trigger companies in Pennsylvania
13 are: Cavalier, Commonwealth (CTSI), and CEI, although only within the
14 geographic markets (i.e. wire centers) that they actually serve. Furthermore, two
15
16

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84 http://www.broadviewnet.com/Press_News/PressRelease.asp?scenario=1&NewsID=10155. See Attachment MDP-10.

85 http://www.sec.gov/Archives/edgar/data/764765/000119312503081405/d10q.htm, at 10. See Attachment MDP-11.

of these CLECs do not appear to have ever "stretched" the operational systems to serve residential customers with UNE-L. **[CLEC PROPRIETARY INFORMATION BEGINS]**

[CLEC PROPRIETARY INFORMATION ENDS]

Q. HAVE YOU CONDUCTED ANY ADDITIONAL ANALYSIS OF THE TRIGGERS ON A MARKET-BY-MARKET BASIS?

A. Yes. I have examined each of the wire-center markets in Pennsylvania and looked at whether the trigger criterion is satisfied, even when all the CLECs serving the residential market are counted as trigger companies. (As I mentioned above, the CLECs that serve residential customers in any capacity are:

Broadview, Comcast, Cavalier, Commonwealth Communications, CEI, Full Service, Penn Telecom, and RCN.)

Q. ARE THERE ANY WIRE CENTER MARKETS WHERE THERE ARE THREE OR MORE CLECS PROVIDING SERVICE TO RESIDENTIAL CUSTOMERS USING THEIR OWN SWITCHES?

A. Yes. There are five wire centers where it is possible that there are three CLECs providing service to residential customers. These wire centers are: King of Prussia - KGPRPAKP, Paoli - PAOLPAPA, Market Street Philadelphia - PHLAPAMK, Regent – PHLAPARE, and Reading – RDNGPARE. In each of these wire centers, there are only three CLECs reported as offering service to the residential customer. **[CLEC PROPRIETARY INFORMATION BEGINS]** **[CLEC PROPRIETARY INFORMATION ENDS]** In order for the trigger test to be satisfied in any of these wire center markets, all of these CLECs must satisfy the trigger criteria.

It also is evident that the two cable companies, Comcast and RCN, should not be counted as trigger companies in these five wire center markets – even if cable companies are not excluded everywhere on the grounds that they do not provide comparable service to the ILEC. **[BEGIN CLEC PROPRIETARY INFORMATION]**

[END CLEC PROPRIETARY INFORMATION] Certainly, Comcast is not an active participant in these two Philadelphia wire center markets. This is evident from Comcast's website which does not offer telephone service in Philadelphia, and from Verizon's witnesses' own testimony, which characterizes Comcast's activities in Philadelphia as a "market trial."[86]

RCN is also not a trigger company in the three wire center markets where Verizon lists it as providing service. **[BEGIN CLEC PROPRIETARY INFORMATION]**

[END CLEC PROPRIETARY INFORMATION] RCN's web site does not list any community in that area as a place where they provide service, and when I checked several locations in King of Prussia and surrounding communities (zip codes:

[86] Direct Testimony of Berry and Peduto, October 31, 2003, at 24.

19406, 19405, 19403, 19087) on the RCN website, dial-up Internet was the only service listed as being available. [87]

Q. WHAT HAVE YOU FOUND REGARDING THE TRIGGERS IN THE OTHER WIRE CENTER MARKES IN PENNSYLVANIA?

A. In all other wire center markets, there are less than three CLECs providing service to residential customers. I have reached this conclusion even where I have stretched the definition of eligible CLEC to include the cable companies and also to include CLECs that offer residential service on a very limited basis. I have prepared a spreadsheet with this analysis, which is attached as MDP-12.

Q. HAVE YOU ALSO ANALYZED THE DATA FROM THE PERSPECTIVE OF VERIZON'S GEOGRAPHIC MARKET DEFINITION?

A. Yes. I have examined the data on a MSA/Density Zone basis and analyzed the geographic and customer coverage of all of the supposed trigger companies in these markets. With the exception of the Lebanon MSA, which has only one wire center, and the Pittsburgh/Density Zone 1 markets, there is no market, as defined by Verizon, where there are three CLECs of any sort serving all the wire centers in the market. When I restrict the count of CLECs in each wire center to those serving residential customers, I find that there are only two MSA/Density Zone areas with three CLECs in <u>any wire center Verizon-defined market.</u> And in four of these twelve markets, there is not even a second CLEC serving residential

[87] http://www.rcn.com/corpinfo/PA/lehighvalley.php, See Attachment MDP-2.

customers anywhere in the MSA/Density Zone area. I have prepared two tables showing these results and they are attached as MDP-13.

Based on the evidence provided in this case, I conclude that Verizon has failed to prove that three CLECs provide adequate coverage on either a geographic or customer-type basis in any of these MSA/Density Zone markets to satisfy the trigger conditions.

V. POST-TRIGGER ANALYSIS OF OPERATIONAL AND ECONOMIC CRITERIA

A. Markets Where Triggers Are Satisfied

Q. PLEASE EXPLAIN THE "EXCEPTIONAL CIRCUMSTANCES"[88] THAT MAY COME INTO CONSIDERATION IF THE TRIGGERS ARE MET?

A. If the Commission should deem that the triggers are satisfied in a particular market, the *Triennial Review Order* allows for the consideration of "exceptional circumstances" that still might prevent further entry. The FCC described these as follows:

> *Exceptional Sources of Impairment.* In exceptional circumstances, states may identify specific markets that facially satisfy the self-provisioning trigger, but in which some significant barrier to entry exists such that service to mass market customers is foreclosed even to carriers that self-provision switches. For example, if there is no collocation space available for additional competitive LEC equipment, further competitive entry may be impossible, irrespective of other economic or operational circumstances. Where the self-provisioning trigger has been satisfied and the state commission identifies an exceptional barrier to entry that prevents

[88] These exceptional circumstances are described in the *Triennial Review Order* at ¶ 503.

> further entry, the state commission may petition the Commission for a waiver of the application of the trigger, to last until the impairment to deployment identified by the state no longer exists.[89]

Q. HAVE YOU PERFORMED AN ANALYSIS OF "EXCEPTIONAL CIRCUMSTANCES" ON A MARKET-BY-MARKET BASIS?

A. Not at this point. As the evidence shows, Verizon has not met its burden of proof in showing that the triggers have been met in any market in Pennsylvania.

VI. TRANSPORT TRIGGERS

Q. WHAT DID THE FCC CONCLUDE WITH REGARD TO IMPAIRMENT FOR ACCESS TO DEDICATED TRANSPORT?

A. The FCC concluded that competing carriers are impaired on a national level without access to unbundled dedicated transport (DS1, DS3 (up to twelve DS3s per route), and dark fiber), stating that it finds "on a national level that requesting carriers are impaired without access to unbundled dark fiber transport facilities … [DS3 transport and DS1 transport]."[90] As a result, the FCC rules require that competing carriers have access to such unbundled transport everywhere unless a specific route has been found to lack impairment.

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[89] *Triennial Review Order*, ¶ 503.

[90] *Id.*, ¶ 359.

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

A. Yes. The FCC segregated dedicated transport by capacity levels before performing its impairment analysis stating that this would "be the most informative manner to review the economic barriers to entry that affect how a competing carrier is impaired without access to unbundled transport."[91] The FCC performed separate impairment analyses for OC(n) Transport, Dark Fiber Transport, DS3 Transport, and DS1 Transport.

Q. WHAT WAS THE FCC'S BASIS FOR FINDING THAT COMPETING CARRIERS ARE IMPAIRED WITHOUT ACCESS TO UNBUNDLED DEDICATED TRANSPORT AT THE DARK FIBER, DS3, AND DS1 CAPACITY LEVELS?

A. The FCC stated that its "impairment findings with respect to DS1, DS3, and dark fiber transport facilities recognize that competing carriers face substantial sunk costs and other barriers to self-deploy facilities and that competitive facilities are not available in a majority of locations, especially non-urban areas."[92] The FCC concluded that it would be extremely difficult to recover these costs and to be a viable competitor in the marketplace. Indeed, the FCC concluded that "[d]eploying transport facilities is an expensive and time-consuming process for competitors, requiring substantial fixed and sunk costs."[93] The FCC elaborated

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[91] *Id.*, ¶380.

[92] *Id.*, ¶360, citations omitted.

[93] *Id.*, ¶371 (citations omitted).

that the costs of self-deployment include collocation costs, fiber costs, costs to physically deploy the fiber, and costs to light the fiber.[94]

Q. DID THE FCC ACKNOWLEDGE OTHER NON-ECONOMIC COSTS OF CONSTRUCTING DEDICATED TRANSPORT?

A. Yes. The FCC also noted that CLECs can encounter delays in constructing dedicated transport due to having to obtain rights-of-way and other permits.[95]

Q. DID THE FCC FIND THAT THERE WAS ANY EVIDENCE OF NON-IMPAIRMENT FOR DEDICATED TRANSPORT AT THE DARK FIBER, DS3, AND DS1 LEVELS?

A. In making a national finding of impairment for transport, the FCC found that any evidence of non-impairment was minimal. For example, the FCC found that "alternative facilities are not available to competing carriers in a majority of areas."[96] Indeed, the FCC noted that, even relying on self-reported ILEC data, at most 13 percent of BOC wire centers have a single competing carrier collocated using non-ILEC transport facilities.[97]

Q. HOW MAY AN ILEC REBUT THE NATIONAL FINDING OF IMPAIRMENT FOR DEDICATED TRANPSORT?

A. To overcome this strong evidence of impairment at the national level, the FCC allowed the ILECs two main triggers to demonstrate non-impairment. On a route-specific basis, the ILEC can show that either (1) there are three or more CLECs

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[94] *Id.*

[95] *Id.*

[96] *Id.*, ¶387.

[97] *Id.*, n. 1198.

1 providing dedicated transport on their own facilities (self-provisioning trigger), or
2 (2) there are two or more CLECs offering wholesale dedicated transport
3 (wholesale trigger). The FCC delegated to the state commissions the authority to
4 determine whether either of these triggers has been met.

5 **A. <u>Self-Provisioning Triggers For High-Capacity Dedicated Transport</u>**

6

7 **Q. WHAT IS THE PURPOSE OF THE FCC'S SELF-PROVISIONING**
8 **TRIGGERS FOR TRANSPORT?**

9 A. The Self-Provisioning Triggers are intended to identify those transport routes
10 where there has already been sufficient deployment of competitively owned
11 facilities to demonstrate that competitors are not impaired without access to
12 unbundled transport on those routes, even if the competitors that own those
13 facilities do not make them available to other competitive providers.

14

15 **Q WHAT CAPACITY LEVELS ARE SUBJECT TO THE SELF-**
16 **PROVISIONING TRIGGERS?**

17 A. The Self-Provisioning Triggers apply to only DS3 and dark fiber transport. DS1
18 transport is not included under these triggers, because the FCC found there is
19 effectively no likelihood that a competitor could economically construct its own
20 DS1 facilities.[98]

21

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[98] *Id.*, ¶409.

Q. WHAT MUST AN ILEC DEMONSTRATE TO PROVE THAT THE SELF-PROVISIONING TRIGGER IS SATISFIED FOR DEDICATED TRANSPORT BETWEEN TWO WIRE CENTERS?

A. The ILEC must demonstrate, for each of the three qualifying competitive providers, that:

- It is not affiliated with any other qualifying provider or the ILEC
- Each self-provisioned facility along the defined route is operationally ready to provide transport into and out of the ILEC central office at the terminus of the route
- Each self-provisioned facility terminates in a collocation arrangement.

Q. FOR THE SELF-PROVISIONING TRIGGERS TO APPLY, MUST A CLEC SELF-PROVISION THE SPECIFIC CAPACITY LEVEL IN QUESTION?

A. Yes. The *TRO* contemplates that the Self-Provisioning Triggers apply when a CLEC self-provisions the particular capacity level in question. For example, a CLEC that self-provisions at the OCn level will not be capable of providing service at lower capacity levels in a given wire center if it has not deployed the appropriate electronics to demultiplex the traffic at that wire center. Similarly, as discussed in more detail below, the presence of self-provisioned DS3 transport will not automatically imply the presence of self-provisioned dark fiber, and vice versa.

Q. WHAT ARE THE KEY CRITERIA FOR THE SELF-PROVISIONING TRIGGERS THAT A STATE COMMISSION MUST APPLY TO ENSURE THAT AN ILEC HAS PROVIDED SUFFICIENT DATA TO DEMONSTRATE THE TRIGGER IS MET?

A. The first key criterion is to ensure that the ILEC has correctly determined the existence of transport routes in a manner consistent with the FCC's rules. The FCC defined a transport route as "a connection between wire center or switch 'A' and wire center or switch 'Z'."[99] The FCC elaborated that "even if, on the incumbent LEC's network, a transport circuit from 'A' to 'Z' passes through an intermediate wire center 'X,' the competing providers must *offer service connecting* wire centers 'A' and 'Z,' but do not have to mirror the network path of the incumbent LEC through wire center 'X'."[100] Thus, the FCC requires that transport service must actually be offered between the two wire centers in question. In addition, as discussed above, the specific type of transport offered – DS3 or dark fiber – must be determined.

Q. HAS VERIZON CORRECTLY DETERMINED THE EXISTENCE OF TRANSPORT ROUTES?

A. No. In its filing, Verizon performs a simple counting exercise, in which it merely identifies all of the collocation arrangements for a given CLEC, confirms that fiber optic facilities are present in the collocation arrangement, and then declares that transport routes "exist" between those collocation arrangements. This

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[99] *Id.*, ¶ 401.

[100] *Id.*

1 approach is clearly insufficient under the FCC's requirements, because it provides
2 no evidence that the CLEC in question is actually providing transport service
3 between the two wire centers, let alone what level of transport the CLEC is
4 providing.

5 In fact, CLECs often use collocation arrangements to aggregate unbundled
6 loops, so there is a high probability that the equipment and fiber optics associated
7 with a collocation arrangement is *not* being used to provide transport between two
8 wire centers. For example, a CLEC may have deployed in its wire center
9 collocation arrangement only digital loop carrier equipment that it uses to
10 concentrate voice-grade loops for routing to a CLEC switch. In this instance, the
11 fiber-optic facilities exiting the wire center would not be routed to another ILEC
12 wire center, and thus would not meet the FCC's definition of dedicated transport.
13 Alternatively, a CLEC may have installed a DSLAM in its wire center collocation
14 for the purpose of providing DSL services connecting customers to their Internet
15 service providers. Both of these examples demonstrate how a CLEC could have
16 equipment in its collocation connected to fiber-optic facilities, but does not use
17 the equipment to provide DS3 or dark fiber transport between ILEC wire centers.

18 Furthermore, depending upon the CLEC, competitors' network
19 architectures can be composed of multiple fiber rings, which have been completed
20 or acquired at different times, due to construction funding and capacity issues, or,
21 in some cases, business acquisitions. In these situations, a CLEC may serve two
22 ILEC central offices that are not on the same fiber ring. In fact, in almost all

cases, MCI's rings in Pennsylvania do not pass through more than one ILEC wire center. Although it is theoretically possible to connect central offices on different fiber rings, transport routes linking the two central offices are not automatically provisioned in this instance. Thus, it is incorrect to assume that all of a CLEC's fiber-based collocations in a general area have transport facilities connecting them.

Finally, even if Verizon were correct that all fiber leaving a collocation arrangement must be transport, it has failed to identify the capacity levels of the facilities deployed to provide service, nor has it provided any evidence that the CLEC is operationally ready to provide transport service at any level.

Q. WHAT ADDITIONAL EVIDENCE WOULD VERIZON HAVE TO PROVIDE TO SUPPORT ITS CLAIM THAT THESE WIRE CENTERS MEET THE SELF-PROVISIONING TRIGGER?

A. To validly support its trigger claim in this instance, Verizon must produce evidence that shows (i) that each collocation arrangement it cites is in fact being used as an endpoint for a transport route between two wire centers rather than for some other purpose, (ii) the specific capacity level (DS3 or dark fiber) at which the CLEC offers transport service between the two wire centers, and (iii) that the CLEC is "operationally ready" to provide a transport route at the specific capacity level between the two wire centers. As I will describe below, this requires evidence that the CLEC has the capability, based upon the equipment present in

the collocations and the CLEC's network, of *immediately* provisioning a circuit between the identified pair of ILEC wire centers.

Q. WHAT IS THE APPROPRIATE EVIDENCE THAT VERIZON SHOULD PROVIDE TO MEET THE FCC'S REQUIREMENT OF OPERATIONAL READINESS FOR THE SELF-PROVISIONING TRIGGERS?

A. The only effective and practical way of demonstrating that a CLEC is operationally ready under the Self-Provisioning Triggers is to produce evidence that the CLEC is actually providing service on the given transport route. This is consistent with the FCC's requirement that evidence be provided that CLECs *offer service* between two wire centers on a given transport route. While the existence of CLEC facilities (at the appropriate capacity level) is obviously a *prerequisite* to the provision of service, the mere existence of those facilities does not demonstrate they can actually be used to provide the service required to satisfy the trigger at the requisite capacity level. Nor does it demonstrate that the CLEC has performed the necessary engineering, provisioning, and administrative tasks to ensure that service can be provided.

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

A. No. The FCC emphasized that the triggers are separate and distinct. The purpose of the Self-Provisioning Trigger is to determine through actual experience whether similarly situated CLECs can feasibly overcome the nationally-identified

impairments and deploy their own facilities on a particular route. In contrast, the Wholesale Trigger examines whether a provider makes its facilities widely available to other carriers.

B. <u>Wholesale Triggers for Dedicated Transport</u>

Q. WHAT IS THE PURPOSE OF THE FCC'S WHOLESALE TRIGGERS FOR DEDICATED TRANSPORT?

A. The Wholesale Triggers provide an ILEC with the opportunity to demonstrate that there is no impairment for a specific route by identifying routes for which there are alternative providers offering wholesale transport services to CLECs. In addition to evidence provided under the self-provisioning trigger, the ILEC is also obliged to demonstrate that the alternative provider is actually offering wholesale service for the specific route at the claimed capacity level, which requires that carrier to equip its network to facilitate wholesale customers, and to develop the appropriate systems and procedures to manage a wholesale business.

Q. WHAT CAPACITY LEVELS ARE SUBJECT TO THE WHOLESALE TRIGGERS FOR HIGH CAPACITY TRANSPORT?

A. Dark fiber and transport at the DS1 and DS3 level are subject to the Wholesale Triggers. Each of these three services must be examined separately, and the determination of non-impairment must be service level specific. Thus, the presence of e.g., DS-1 wholesale service on a particular route does not imply the availability of DS-3 wholesale service on that same route.

Q. WHAT MUST AN ILEC DEMONSTRATE TO SATISFY THE WHOLESALE PROVISIONING TRIGGER FOR DEDICATED TRANSPORT?

A. Specifically, the trigger requires evidence that:

Two or more competing providers not affiliated with each other or with the ILEC are present on the route;

Each provider has deployed its own transport facilities "and is operationally ready to use those facilities to provide dedicated … transport along the particular route";

Each provider "is willing immediately to provide, on a widely available basis," dedicated transport to other carriers on that route;

Each provider's "facilities terminate in a collocation arrangement at each end of the transport route that is located at an incumbent LEC premises and in a similar arrangement at each end of the transport route that is not located at an incumbent LEC premises"; and

Requesting telecommunications carriers are able to obtain reasonable and nondiscriminatory access to the competing provider's facilities through a cross-connect to the competing provider's collocation arrangement at each end of the transport route;[101]

Q. FOR THE WHOLESALE TRIGGERS TO APPLY, MUST A CLEC OFFER AT WHOLESALE THE SPECIFIC CAPACITY LEVEL IN QUESTION?

A. Yes. The *TRO* contemplates that the Wholesale Triggers apply when a CLEC offers for wholesale the particular capacity level in question. For example, a CLEC that is a wholesale provider of transport at the OCn capacity level would

[101] *See* 47 C.F.R. § 51.319(e)(1)(ii) [DS1 transport], 51.319(e)(2)(i)(B) [DS3 transport], 51.319(e)(3)(i)(B) [dark fiber transport].

not necessarily offer DS1, DS3 or dark fiber functionality on a "widely available" wholesale basis. Such evidence must be specifically provided.

Q. IN ADDITION TO THE ISSUES RAISED IN THE SELF-DEPLOYMENT TRIGGER ANALYSIS, ARE THERE OTHER CRITERIA THE ILEC MUST ADDRESS IN ORDER TO SATISFY THE WHOLESALE TRIGGERS?

A. Yes. A significant issue is properly to identify the relevant wholesale providers of high-capacity transport. For example, many carriers may provide some wholesale services, but may not choose, or be in a position, to offer the specific transport services necessary to satisfy the Wholesale Triggers. For example, a carrier may offer wholesale long distance voice services, and may also have established collocation arrangements for the self-provision of a data service for a specific retail customer. The fact that a carrier may provide an unrelated service at wholesale is not relevant to the trigger analysis if the carrier is not offering the specific DS-1, DS-3, or dark fiber wholesale service on the specific route for which Verizon is attempting to satisfy the wholesale trigger. Thus, it is essential to know which specific types/levels of service (if any) the proposed wholesaler actually offers on which route.

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

A. To be widely available, service must be made available on a common carrier basis, for example, through a tariff or standard contract. The fact that a carrier

may have provided service to only one or a few other carriers on a route is not sufficient, unless it is also willing to provide comparable service to others. Moreover, a mere offer to negotiate an individualized contract does not constitute being widely available. In addition, each carrier identified as a wholesale provider must be able "immediately to provide" wholesale service.[102] Thus, if the carrier is required to construct facilities or OSS in order for the service to be made available, then the service is not widely available.

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

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

For a competitive wholesale market to be in place, there must be proper systems and processes for electronic ordering and provisioning from the alternative supplier. In addition, carriers must be able to obtain the service at nondiscriminatory rates and on nondiscriminatory intervals. Requesting carriers

[102] 47 C.F.R. § 51.319(e).

also must be able to order circuits to terminate in all qualified wholesale providers' collocation space.

Q. HOW DOES VERIZON IDENTIFY CLECS OFFERING WHOLESALE TRANSPORT?

A. Verizon uses four criteria: (1) the CLEC says on its website that it offers wholesale service, without limiting that claim to specific routes; (2) the CLEC sells service to Universal Access Inc., an aggregator of excess capacity from other carriers; (3) the CLEC has a competitive access transport (CATT) termination arrangement with Verizon, or; (40 the CLEC is listed in the New Paradigm CLEC Report 2003 as offering dedicated transport, unless the CLEC says its offering is limited to particular routes and the CLEC says it does not offer wholesale service.

Q. DOES VERIZON'S METHODOLOGY CORRECTLY IDENTIFY WHOLESALE PROVIDERS?

A. No. A general claim on a company's website that it provides wholesale service is not proof that it offers DS-1, DS-3 or dark fiber service at wholesale on a specific route. Similarly, it is unlikely that the CLECs report all information about each of their routes to New Paradigm, or, even if the CLECs do so, that the New Paradigm CLEC Report 2003 includes all route information. While information from these two sources may suggest that a particular CLEC offers some wholesale service somewhere, the ILEC has the burden of proof of demonstrating that the CLEC is offering wholesale dedicated transport service on the particular route for

which the ILEC wishes to claim the wholesale trigger is met. Generalized statements of wholesale availability are not sufficient. In fact, many CLECs' tariffs indicate that wholesale transport is offered on a facilities-available basis.[103] Thus, there is no guarantee that any CLEC is in fact offering wholesale service on the particular routes cited by Verizon, even if they do offer wholesale services somewhere.

Similarly, Verizon's reliance on sales to Universal Access, Inc. is not proof of the sale of wholesale service on the particular routes claimed by Verizon, because Verizon offers no proof that the CLECs sell DS-1, DS-3 or dark fiber transport rather than some other level of transport service to that entity. In any case, even if some of the CLECs do sell dedicated transport on these routes to Universal Access, Inc. – and Verizon offers no specific evidence that they do – Universal Access, Inc is the wholesale provider, not each CLEC. To count every CLEC that sells capacity to Universal Access, Inc. as a wholesale provider overstates the number of wholesale providers that are truly available on that route, if Universal Access, Inc. is the only entity from which a carrier could actually purchase the dedicated transport.

Finally, the presence of a CATT arrangement is no guarantee that the CLEC using that arrangement is a wholesaler. These arrangements, which allow

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[103] See, e.g., Cavalier Telephone Mid-Atlantic Competitive Access Provider Services Tariff, PA PUC No. 3, Original Sheet 12, Section 2.1.2.B

a company to extend fiber to a universally accessible distribution point within an ILEC central office, is technically similar to cageless collocation. However, merely because Verizon designed this arrangement for use by a wholesaler is no guarantee that wholesalers are the only carriers using the arrangement. Verizon has not described why only wholesalers could or would use this arrangement, and thus this cannot serve as proof that a company purchasing a CATT is therefore necessarily offering wholesale service.

Q. DOES VERIZON PROVIDE EVIDENCE THAT THE CLECS IT IDENTIFIES ARE PROVIDING DS-3 OR DS-1 LEVEL TRANSPORT ON THE SPECIFIED ROUTES?

A. No. Verizon's justification for claiming that a CLEC is providing DS-1 or DS-3 transport is to note that companies typically provision transport at the OCn level, and then add electronics to the fiber to offer DS-3 or DS-1 service, and that the necessary electronics for doing so are widely available. On this basis Verizon claims that any route on which the CLEC has placed fiber is providing DS-1 and/or DS-3 service.

This assumes too much. Verizon has offered no evidence that the specific routes on which it claims to meet the triggers are being provisioned over DS-1 or DS-3 transport. Even after examining the CLECs' responses to the Commission's and Verizon's own discovery requests, Verizon is able only to affirm that the CLECs are providing "OCn-level transport facilities *capable of* channelization to

DS1 or DS3 capacity services."[104] But the CLEC responses provide no further verification that DS-1 and DS-3 service is being provided. As it did in its initial testimony, Verizon merely assumes that, because all OCn-level fiber can be channelized to DS-1 and DS-3 transport, the CLECs are providing those types of transport. However, taking the CLEC responses at face value, almost all the CLEC collocations are being served by OCn-level fiber, not DS-1 or DS-3.

The mere fact that DS-1 or DS-3 service could be provided over these routes is irrelevant. The question that must be determined for meeting the triggers is whether or not such service is being provided on the specific routes, and Verizon has not met its burden of proof of demonstrating that such is the case.

Q. DOES VERIZON PROVIDE EVIDENCE THAT THE CLECS IT IDENTIFIES ARE PROVIDING DARK FIBER TRANSPORT ON THE SPECIFIED ROUTES?

A. No. Verizon assumes that the existence of fiber on a route necessarily implies the presence of dark fiber, because all fibers are placed with excess capacity in place. While it is true that no carrier would place only enough fiber capacity to serve its existing demand, it is not thereby true that the spare fiber capacity placed in the network would be offered at wholesale. That spare capacity may be reserved for some other service, or the CLEC may simply not want to provide that capacity on

[104] *See*, Supplemental Direct Testimony of Harold E. West and Carlo Michael Peduto at 14, emphasis added.

a wholesale basis. Without further evidence that the spare capacity that may be present on particular fiber routes is being sold as wholesale dark fiber, Verizon's assumption is nothing more than an assumption, and should be accorded no weight.

Q. DOES VERIZON PROPERLY EXCLUDE ALL INTERSTATE TRANSPORT ROUTES?

A. No. Verizon includes routes between several wire centers in the Philadelphia LATA and three offices in Delaware: Wilmington (WLMGDEWL); Newark (NWRKDENB); and Talleyville (TLVLDETV).[105] MCI understands that these interstate routes are not even offered as UNEs.[106] Since these routes are not offered as UNEs, the Commission need not address whether these routes meet the triggers.

In addition, Verizon claims that it is not seeking to have the Commission rule on the routes that connect these three Delaware wire centers. However, these routes are included in the list of wholesale DS-1, DS-3 and dark fiber transport routes which Verizon claims meet the triggers. Consistent with Verizon's representations in its testimony, the Commission should not rule on whether these

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[105] *See* Supplemental Direct Testimony of Harold E. West, III and Carlo Michael Peduto, II dated December 19, 2003, at Exhibit 6, Attachments A, B, C, and D.

[106] MCI attempted to confirm this understanding through an interrogatory in this proceeding, but Verizon refused to respond.

1 strictly intra-Delaware transport routes meet the Pennsylvania triggers for
2 dedicated transport.

3 **VII. SUMMARY AND CONCLUSION**

4 **Q. PLEASE BRIEFLY SUMMARIZE YOUR RECOMMENDATIONS.**

5 A. I recommend that the Commission adopt the wire center as a geographic market
6 definition for its trigger analyses.

7 CLECs may decide to offer local exchange service in a larger market area,
8 but whether individual customers will actually have a choice among competitive
9 carriers depends upon the economic characteristics of the wire center in which
10 each is located. That local exchange service can profitably be offered in one wire
11 center is not proof that the same service can be offered profitably in nearby wire
12 centers.

13 I also recommend that the Commission adopt a product market definition
14 that includes all local exchange service options that provide service at a cost,
15 quality and maturity equivalent to the ILEC's offerings. This product market
16 definition should explicitly exclude CMRS, fixed wireless and cable telephony.

17 I recommend that the Commission conduct its trigger analyses in a way
18 that (1) separates residential and small business customers into separate markets,
19 even at the wire-center level, or alternatively does not count CLECs that only
20 serve business customers as triggers with respect to a market defined to include
21 residential customers, and (2) determines that customer locations served over
22 IDLC should be treated as being in a separate submarket for which unbundled

1 switching would continue to be available, even if a finding of no impairment were
2 otherwise justified for a given wire center.
3 As I explained at the beginning of this testimony, the consequences of an
4 erroneous finding of non-impairment are serious and irreversible. The
5 consequences of an erroneous finding of impairment are minor and largely will be
6 self-correcting. Thus, I believe that the triggers must be applied in a way that
7 avoids harmful and irreversible findings of no impairment. At this time, the
8 evidence simply does not show that at least three "qualifying" CLECs have self-
9 deployed switching to serve mass-market customers in even a single wire-center
10 in Pennsylvania on a scope and scale that demonstrates those CLECs have
11 overcome existing economic and operational barriers to mass market entry.
12 Therefore, I believe the Commission must find that the FCC's finding of CLEC
13 impairment in the absence of access to unbundled switching should be sustained
14 throughout the entire state.

15 **Q. DOES THAT CONCLUDE YOUR TESTIMONY AT THIS TIME?**

16 A. Yes, it does.

Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-1

Curriculum Vitae of Michael D. Pelcovits

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Michael D. Pelcovits

MiCRA
1155 Connecticut Avenue, N.W., Suite 900
Washington, D.C. 20036
Phone: 202-467-2513
Fax: 202-296-1915
Email: mp@micradc.com

PROFESSIONAL EXPERIENCE

October 2002 – Present: Principal, MiCRA (Microeconomic Consulting & Research Associates, Inc.)

Recent Assignments:

- Developed a model demonstrating the cost faced by a competitive local exchange carrier entering local exchange markets. The model was submitted to the Federal Communications Commission in its Triennial Review of the 1996 Telecommunications Act
- Testified on intrastate access charges before the Connecticut Department of Public Utilities and the Pennsylvania Public Utility Commission
- Analyzed the market for termination of calling on mobile phones in the UK and Netherlands markets

1988 – September 2002: WorldCom Inc. (MCI Communications, prior to merger)

1998 - 2002*: Vice President and Chief Economist*

Major Responsibilities:

- Supervised professional staff of economists, engineers, and policy analysts, with full responsibility for departmental budget, personnel, and quality of output.
- Directed economic analysis of policy and regulatory matters before federal, state, foreign, and international government agencies, legislative bodies, and courts.
- Advocated corporate policy positions before domestic and foreign governmental bodies, spoke at industry forums, and participated in briefings and interviews with the press.
- Recruited and directed independent, outside consultants (academic and private sector) to testify in regulatory and antitrust proceedings.
- Advised senior corporate management on public policy issues.

Recent Activities:

- Developed successful economic case and presented testimony before Oftel (the UK telecommunications regulator) and the European Commission, on regulation of terminating interconnection rates on mobile carriers.
- Served as U.S. telecommunications carrier representative in the ongoing Working Group formed by the Ministry of Telecommunications in Japan studying incremental cost models and universal service policy.
- Directed economic analysis and testimony supporting the merger application of WorldCom and Sprint, including experts from five consulting firms and four universities.

1996 – 1998: Executive Director

- Directed the Company's strategy, advocacy, and representation on costing and pricing issues in formal proceedings implementing the Telecommunications Act of 1996.
- Responsible for development, management, and allocation of $10 million budget for outside consultants.

1992 – 1996: Director

- Supervised professional staff responsible for regulatory filings at the Federal Communications Commission on pricing, costing, and tariff issues.
- Represented MCI and long distance industry association at Congressional forums, committee staff meetings, and industry negotiations prior to passage of the Telecommunications Act of 1996.

1988 – 1992: Senior Policy Adviser

- Provided economic analysis of local and long distance telecommunications industries for regulatory and legal filings.
- Prepared economic analysis in support of advocacy on Capitol Hill. Prepared senior corporate management for testimony before Congressional Committees.

1982 – 1988: Vice President and Treasurer, Cornell, Pelcovits & Brenner Economists Inc.

- One of three managing principals who founded and directed an economic consulting firm, specializing in telecommunications, broadcasting, and antitrust economics. Client engagements included testifying over twenty times before state public utility commissions on pricing, costing, and competitive entry issues; analysis of cost and demand studies and their application to tariff design; and analysis of antitrust issues in transportation markets, among other projects.
- Served as Treasurer of the corporation managing the finances and supervising the accounting, tax, and benefits plans.

1981 – 1982: Senior Economist, Owen, Cornell, Greenhalgh & Myslinski Economists Inc.

- Provided economic consulting on telecommunications and environmental issues. Major client engagements included copyright issues for the Sony Corporation and water pollution issues for the American Iron and Steel Institute.

1979 – 1981: Senior Economist, Federal Communications Commission, Office of Plans and Policy

- Provided policy analysis of domestic and international common carrier and cable television issues.
- Presented recommendations to Office and Bureau Chiefs, Commissioner offices, and to Commissioners in open Commission meetings.

1978 – 1979: Industry Economist, Bureau of International Aviation, Civil Aeronautics Board

- Provided economic analysis of industry structure, international routes and fares for Board rulemakings and adjudication.
- Testified before administrative law judge in two cases recommending the opening of international airline markets to competition.

1976 – 1978: Assistant Professor, Department of Economics, University of Maryland, College Park

- Taught undergraduate and graduate courses in International Economics and Microeconomics.
- Conducted and supervised research in International Economics

1975 – 1976: Teaching Assistant, Department of Economics, M.I.T.

- Taught separate section in Principles of Economics and assisted in teaching Econometrics

1974 Instructor, Tufts University, Department of Economics

- Taught undergraduate course in Comparative Economic Systems

EDUCATION

Ph.D. (Economics), Massachusetts Institute of Technology, 1976
Dissertation title: "The Non-Equivalence of Tariffs and Quotas Under Uncertainty"

B.A. (Economics), *summa cum laude,* University of Rochester, 1972

AWARDS

National Science Foundation Graduate Fellowship, 1972 – 1975
Phi Beta Kappa, 1972
Isaac Sherman Graduate Fellowship, 1972 (University of Rochester)
John Dows Mairs Prize in Economics, 1971 (University of Rochester)

PUBLICATIONS

"The WorldCom-Sprint Merger" in John Kwoka, Jr. and Lawrence J. White, editors. The Antitrust Revolution, The Role of Economics, 4th Edition (Oxford University Press), 2003.

"Economics of the Internet," (with Vinton Cerf), in Gary Madden and Scott Savage, editors, The International Handbook On Emerging Telecommunications Networks (Edward Elgar), 2003.

"Application of Real Options Theory to TELRIC Models: Real Trouble or Red Herring" in James Alleman and Eli Noam, editors, The New Investment Theory of Real Options and its Implications for Telecommunications Economics, (The Netherlands, Kluwer Academic Publishers, 1999).

"The Promise of Internet Access over Cable TV: Should the government force open access requirements?" (with Richard Whitt), CCH Power and Telecom Law, Vol. 2, No. 7, November/December 1999.

"Toward Competition in Phone Service: A Legacy of Regulatory Failure," (with Nina W. Cornell and Steven R. Brenner), Regulation, July/August 1983.

"Access Charges, Costs, and Subsidies: The Effect of Long Distance Competition on Local Rates," (with Nina W. Cornell), in Eli Noam, editor, Telecommunications Regulation Today and Tomorrow, (New York: Harcourt Brace Jovanovich, 1983).

"The Equivalence of Quotas and Buffer Stocks as Alternative Stabilization Policies," Journal of International Economics, May 1979.

"Revised Estimates U.S. Tax Revenue (with Jagdish Bhagwati), in Bhagwati and Partington editors, Taxing the Brain Drain, (North Holland, 1976).

"Quotas Versus Tariffs," Journal of International Economics, November, 1976.

OTHER PROFESSIONAL ACTIVITIES

Speaker and Panelist (selected examples):

National Association of State Utility Consumer Advocates, "Telco Structural Separations, Costs & Benefits," June 19, 2001

LeBoeuf, Lamb, Greene & MacRae, "Telecom Restructuring: The Road to Profitability -- Is there a Map?" June 11, 2001

Columbia University, Graduate School of Business, Institute for Tele-Information, "European Lessons in Liberalization: The German Experience in Telecommunications & Internet Applications," February 16, 1999

Massachusetts Institute of Technology, "Economics of the Internet: Lessons from Regulation of Telephony," April 30, 1998

National Association of State Utility Consumer Advocates, "The Telecommunications Act Two Years Later," February 10, 1998

Columbia University, Graduate School of Business, Institute for Tele-Information, "From the Blueprint to Reality: A Look Into the Second Year of the Telecommunications Act of 1996," April 10, 1997

Federal Communications Commission, Federal State Joint Board on Separations, February 26, 1997

Alliance for Public Technology, "Technologies of Freedom: Linking the Home to the Highway," February 21, 1997

Federal Communications Commission, Federal-State Joint Board on Universal Service, June 5, 1996

Columbia University, Graduate School of Business, Institute for Tele-Information, "Telecommunications Act of 1996: The Morning After," February 6, 1996

New York Law School, Communications Media Center, "Universal Service in Context: A Multidisciplinary Perspective," December 6, 1995

Kansas University, "Stakeholders Symposium on Telecommunications," November 2, 1995

California Foundation of the Environment and the Economy, "Roundtable on Telecommunications Policy, October 27, 1994

Guest lecturer in graduate and undergraduate courses at:

New York University, Stern School of Business
Georgetown University, McDonnough School of Business
George Washington University
Johns Hopkins University
University of Maryland
American University

RECENT TESTIMONIES

State of Connecticut, Department of Public Utility Control, DPUC Investigation of Intrastate Access Charges, Docket No. 02-05-17.

State of Connecticut, Department of Public Utility Control, Application of Southern New England Telephone Company for Approval to Reclassify
Certain Private Line Services from Noncompetitive to Competitive Category, Docket No. 03-02-17.

Pennsylvania Public Utility Commission, AT&T Communications of Pennsylvania, Inc. v. Verizon North, Inc. Docket Number C-20027195.

COMMUNITY SERVICE

Melvin J. Berman Hebrew Academy, Rockville, Maryland

- President of the Board, 2002- present. Chaired board of directors, with responsibility for budget, fundraising, and educational policies of a private, Orthodox Jewish institution, with over 700 students, 100 faculty members, and a budget of $7 million.
- Chair of the Board of Education, 1998-2001. Chaired committee of lay leaders responsible for educational programs and policies.
- Co-chaired successful search committee for a new Headmaster, 2000-2001.
- Member of five-person Interim Oversight Committee, which, in the absence of a Headmaster, supervised and coordinated school principals, 2000-2001.
- Treasurer, 1985-1988. Prepared budget, chaired the Budget and Finance Committee, and oversaw work of the Comptroller.

Member, Economic Advisory Committee, Office of the Honorable Michael Subin, Member and Past Chair, Montgomery County Council, Rockville, Maryland

- A three-member committee of economists that meets periodically with Councilman Subin to provide informal discussion and recommendations on selected policy issues under consideration by the Council, such as cable television franchising.

Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-2

RCN Regional Coverage: Philadelphia, Lehigh Valley

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RCN in Philadelphia serves the communities of Folcroft, Ridley Township, Sharon Hill, Eddystone, Norwood, Prospect Park, Collingdale, Colwyn, Glenolden, Ridley Park, Upper Darby, Tinicum, Morton, Rutledge, Millbourne, Darby Borough, Darby Township, Clifton Heights, East Lansdowne, and Lansdowne. Use this Web page to discover local RCN news, events and contact information.

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04/12/03 and 04/13/03 - "The Adventures of Jimmy Neutron: Boy Genius" blasts into the RCN kiosk at the Macdade Mall on April 12 & 13, 2003 from 1:00-3:00pm.
More Info

Stay at Home - In the coming months, RCN representatives will be in the neighborhoods of Ridley Township and Collingdale Borough.
More Info

Motorola Recall - RCN Working With Motorola To Replace Some Defective DCT2000 Digital Set-Top Converter Boxes.
More Info

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WWE: Royal Rumble - $34.95
Live on Sunday, January 25 at 8pm ET/7pm CT/5 pm PT with a pre-show 30 minutes before the event!
Go to www.hboppv.com for more information on this live boxing event.

English FA Cup Tournament Third Round - Live on January 3 & 4 -

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Community Links

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to be sure you knew

Lehigh Valley Conv
Visitor Bureau - Thi
provides information

Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-3

Area served by RCN in the Philadelphia MSA
with inset of service area

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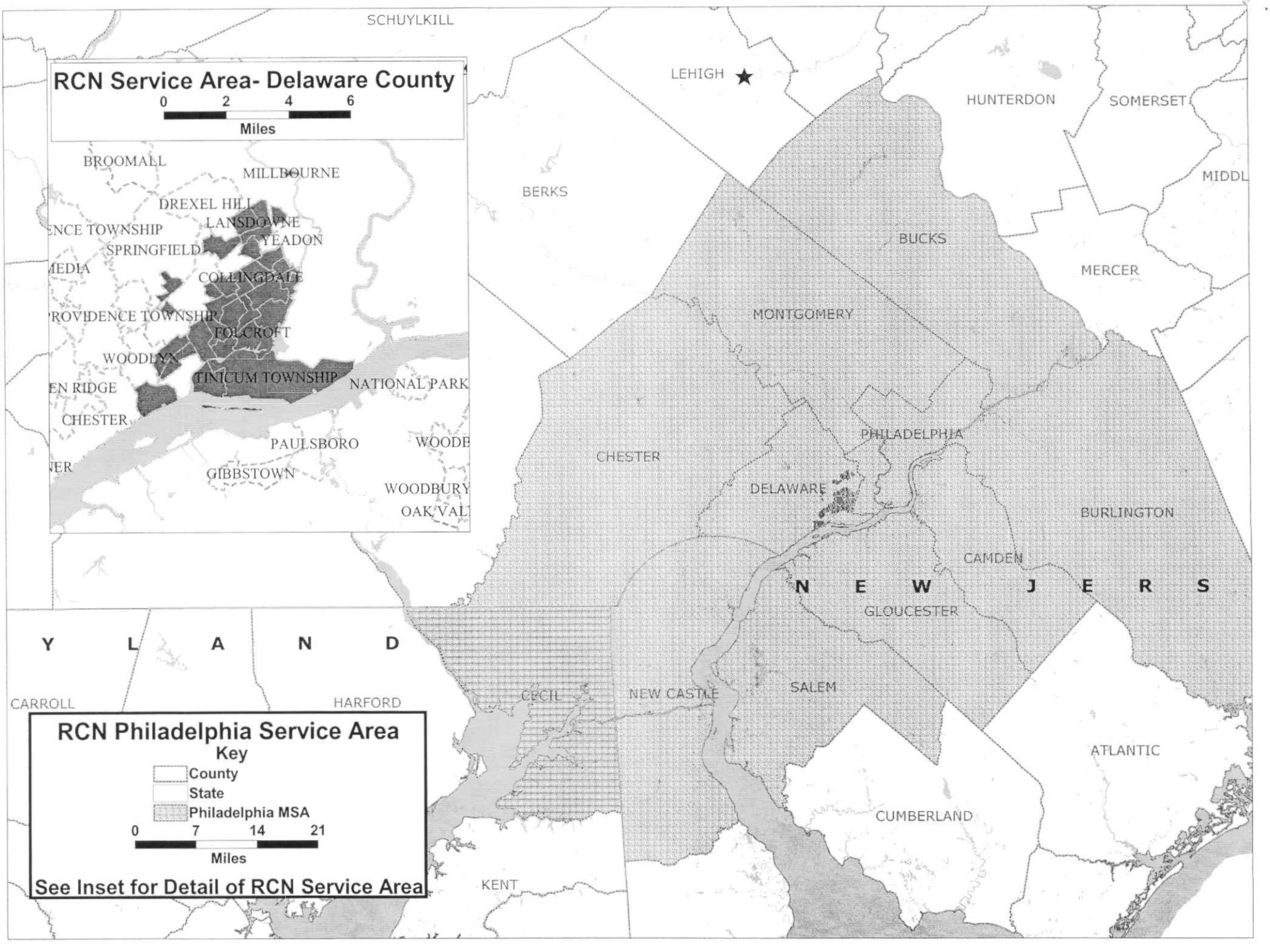
RCN Service Area- Delaware County
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Miles
BROOMALL
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DREXEL HILL
LANSDOWNE
YEADON
SPRINGFIELD
COLLINGDALE
FOLCROFT
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TINICUM TOWNSHIP
NATIONAL PARK
CHESTER
PAULSBORO
GIBBSTOWN
WOODBURY
SCHUYLKILL
LEHIGH
HUNTERDON
SOMERSET
BERKS
BUCKS
MERCER
MONTGOMERY
CHESTER
PHILADELPHIA
DELAWARE
BURLINGTON
CAMDEN
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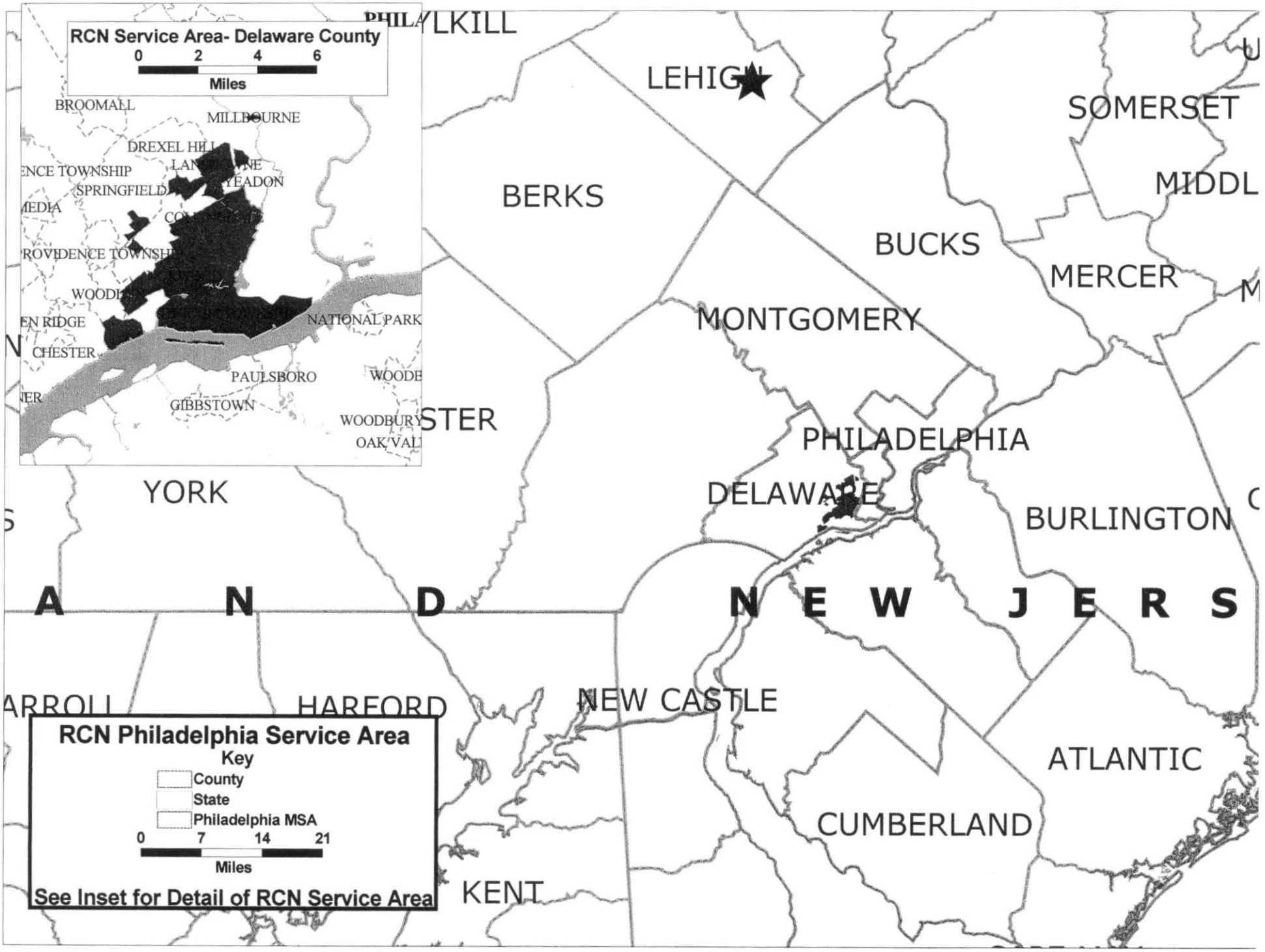
See Inset for Detail of RCN Service Area


RCN Service Area- Delaware County
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DREXEL HILL
SPRINGFIELD
NATIONAL PARK
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GIBBSTOWN
WOODBURY
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Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-4

Monthly Recurring Net Revenue Per Line

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Monthly Recurring Net Revenue Per Line

CLLI Code	State	Zone	MSA	Avg Cost per Line, Best Case
ALTWPAAL	PA	3	ABE	($7.83)
ALTWPAMT	PA	3	ABE	($7.80)
BHLHPABE	PA	3	ABE	($6.36)
CTSQPACT	PA	3	ABE	($10.87)
ESTNPAEA	PA	3	ABE	($7.01)
KHVLPAKU	PA	3	ABE	($4.95)
CPHLPACH	PA	3	HC	($5.85)
ENOLPAEN	PA	3	HC	($6.07)
FSCKPAFC	PA	3	HC	($9.91)
HRBGPAHA	PA	3	HC	($5.37)
MBRGPAME	PA	3	HC	($6.52)
NCLDPANC	PA	3	HC	($8.03)
PXTGPAPG	PA	3	HC	($8.00)
PXTNPAPA	PA	3	HC	($4.48)
SLTNPAST	PA	3	HC	($8.08)
EPBGPAEP	PA	3	L	($6.53)
LDVLPAES	PA	3	L	($6.82)
LNCSPALA	PA	3	L	($6.21)
WLSTPAWS	PA	3	L	($6.97)
LBNNPAES	PA	3	LB	($7.60)
PITBPAAL	PA	1	P	($3.92)
PITBPADT	PA	1	P	$0.09
PITBPANS	PA	1	P	($2.33)
PITBPAOK	PA	1	P	($2.42)
PITBPASQ	PA	1	P	($3.78)
BLLVPABE	PA	2	P	($5.99)
BRDDPABR	PA	2	P	($6.70)
CRAFPACR	PA	2	P	($6.35)
DRMTPADO	PA	2	P	($3.32)
HMSTPAHO	PA	2	P	($5.35)
MCRKPAMR	PA	2	P	($6.54)
MLVAPAMI	PA	2	P	($7.78)
PITBPACA	PA	2	P	($4.64)
PITBPAEL	PA	2	P	($1.84)
SHSAPASH	PA	2	P	($3.77)
WKBGPAWI	PA	2	P	($1.40)
WSVWPAW	PA	2	P	($7.28)

AMBRPAAM	PA	3	P	($10.89)
BADNPABA	PA	3	P	($9.69)
BGVLPABR	PA	3	P	($7.95)
BTPKPABP	PA	3	P	($4.27)
CARNPACA	PA	3	P	($8.10)
CLRTPACL	PA	3	P	($7.70)
CRPLPACO	PA	3	P	($7.67)
DRVLPADO	PA	3	P	($8.66)
ELZTPAET	PA	3	P	($8.77)
GLNSPAGL	PA	3	P	($6.01)
GNBGPAGR	PA	3	P	($8.39)
GPIAPAMT	PA	3	P	($14.93)
IRWNPAIR	PA	3	P	($7.80)
JNNTPAJE	PA	3	P	($9.71)
MCMRPAMC	PA	3	P	($5.53)
MCPTPAMK	PA	3	P	($8.37)
MONSPAMC	PA	3	P	($9.31)
MOVLPAMO	PA	3	P	($6.41)
NWKNPANK	PA	3	P	($7.56)
OKMTPAOA	PA	3	P	($8.89)
PEHLPAPH	PA	3	P	($6.19)
PLHSPAPH	PA	3	P	($7.19)
PYVLPAPE	PA	3	P	($5.13)
RBTPPART	PA	3	P	($6.96)
SPDLPASP	PA	3	P	($9.86)
SWKYPASE	PA	3	P	($10.51)
TRCKPATC	PA	3	P	($7.40)
WMFLPAWI	PA	3	P	($7.39)
PHLAPABA	PA	1	PCW	$1.80
PHLAPADE	PA	1	PCW	($1.65)
PHLAPALO	PA	1	PCW	($4.64)
PHLAPAMK	PA	1	PCW	($0.83)
PHLAPAPE	PA	1	PCW	($1.04)
PHLAPAPO	PA	1	PCW	$2.29
PHLAPARE	PA	1	PCW	($5.77)
PHLAPACH	PA	2	PCW	($0.01)
PHLAPADB	PA	2	PCW	($1.26)
PHLAPAEV	PA	2	PCW	($1.04)
PHLAPAEW	PA	2	PCW	($3.94)
PHLAPAGE	PA	2	PCW	$0.35
PHLAPAIV	PA	2	PCW	($4.52)
PHLAPAJE	PA	2	PCW	($5.21)
PHLAPAKR	PA	2	PCW	($3.64)
PHLAPAMY	PA	2	PCW	($5.45)
PHLAPAOR	PA	2	PCW	($4.02)
PHLAPAPI	PA	2	PCW	($4.77)
PHLAPASA	PA	2	PCW	($2.09)
PHLAPASH	PA	2	PCW	$1.75
PHLAPATR	PA	2	PCW	($0.84)
PHLAPAWV	PA	2	PCW	$0.30

AMBLPAAM	PA	3	PCW	($3.55)
ARMRPAAR	PA	3	PCW	($2.29)
BCYNPABC	PA	3	PCW	$0.04
BRSTPABR	PA	3	PCW	($7.96)
BRYMPABM	PA	3	PCW	($0.81)
BTHYPABH	PA	3	PCW	($2.91)
CGVLPACL	PA	3	PCW	($6.15)
CHESPACA	PA	3	PCW	($4.57)
CHESPACB	PA	3	PCW	($5.18)
CHTTPACT	PA	3	PCW	($4.45)
CHVLPACH	PA	3	PCW	($4.74)
CNSHPACN	PA	3	PCW	($5.96)
DWTWPADT	PA	3	PCW	($5.76)
DYTWPADB	PA	3	PCW	($5.82)
EDTNPAED	PA	3	PCW	($5.85)
EXTNPAEX	PA	3	PCW	($5.61)
GLLDPAGN	PA	3	PCW	($5.29)
HRLVPAHV	PA	3	PCW	($8.26)
HTBOPAHB	PA	3	PCW	($6.24)
JENKPAJK	PA	3	PCW	($4.09)
KGPRPAKP	PA	3	PCW	($5.39)
KNSQPAKS	PA	3	PCW	($6.52)
KRLNPAKL	PA	3	PCW	($4.97)
LANGPALA	PA	3	PCW	($4.99)
LARCPALM	PA	3	PCW	($3.91)
LNDLPALD	PA	3	PCW	($4.62)
LNLXPALN	PA	3	PCW	($6.96)
LNSDPALD	PA	3	PCW	($5.01)
MEDIPAME	PA	3	PCW	($5.23)
MRSLPAMV	PA	3	PCW	($7.27)
NRTWPANR	PA	3	PCW	($5.44)
NWLSPANW	PA	3	PCW	($4.18)
NWTWPANW	PA	3	PCW	($2.96)
PAOLPAPA	PA	3	PCW	($1.37)
PRFDPAPF	PA	3	PCW	($9.69)
PTTWPAPT	PA	3	PCW	($5.94)
PXVLPAPV	PA	3	PCW	($5.08)
RDPKPARP	PA	3	PCW	($11.13)
RYFRPARF	PA	3	PCW	($6.57)
SDTNPASD	PA	3	PCW	($6.85)
SPFDPASF	PA	3	PCW	($4.95)
TRPRPATR	PA	3	PCW	($5.55)
TULYPATU	PA	3	PCW	($4.68)
WAYNPAWY	PA	3	PCW	($0.34)
WCHSPAWC	PA	3	PCW	($1.86)
WGTNPAWI	PA	3	PCW	($4.60)
WLGRPAWC	PA	3	PCW	($5.22)
YRDLPAYL	PA	3	PCW	($2.06)
LRDLPALB	PA	3	R	($9.09)
RDNGPARE	PA	3	R	($8.93)

SHLNPASH	PA	3	R	($6.46)
SLWBPASL	PA	3	R	($6.94)
SNSPPASS	PA	3	R	($5.90)
BRCKPAES	PA	3	SWB	($7.65)
HZTNPAHZ	PA	3	SWB	($8.08)
KGTNPAES	PA	3	SWB	($7.58)
PTTNPAPI	PA	3	SWB	($7.91)
SCTNPASC	PA	3	SWB	($8.07)
TAYLPATA	PA	3	SWB	($8.75)
WLBRPAWE	PA	3	SWB	($8.65)
WYNGPAW'	PA	3	SWB	($8.70)

Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-5

CLEC Trigger Flowchart

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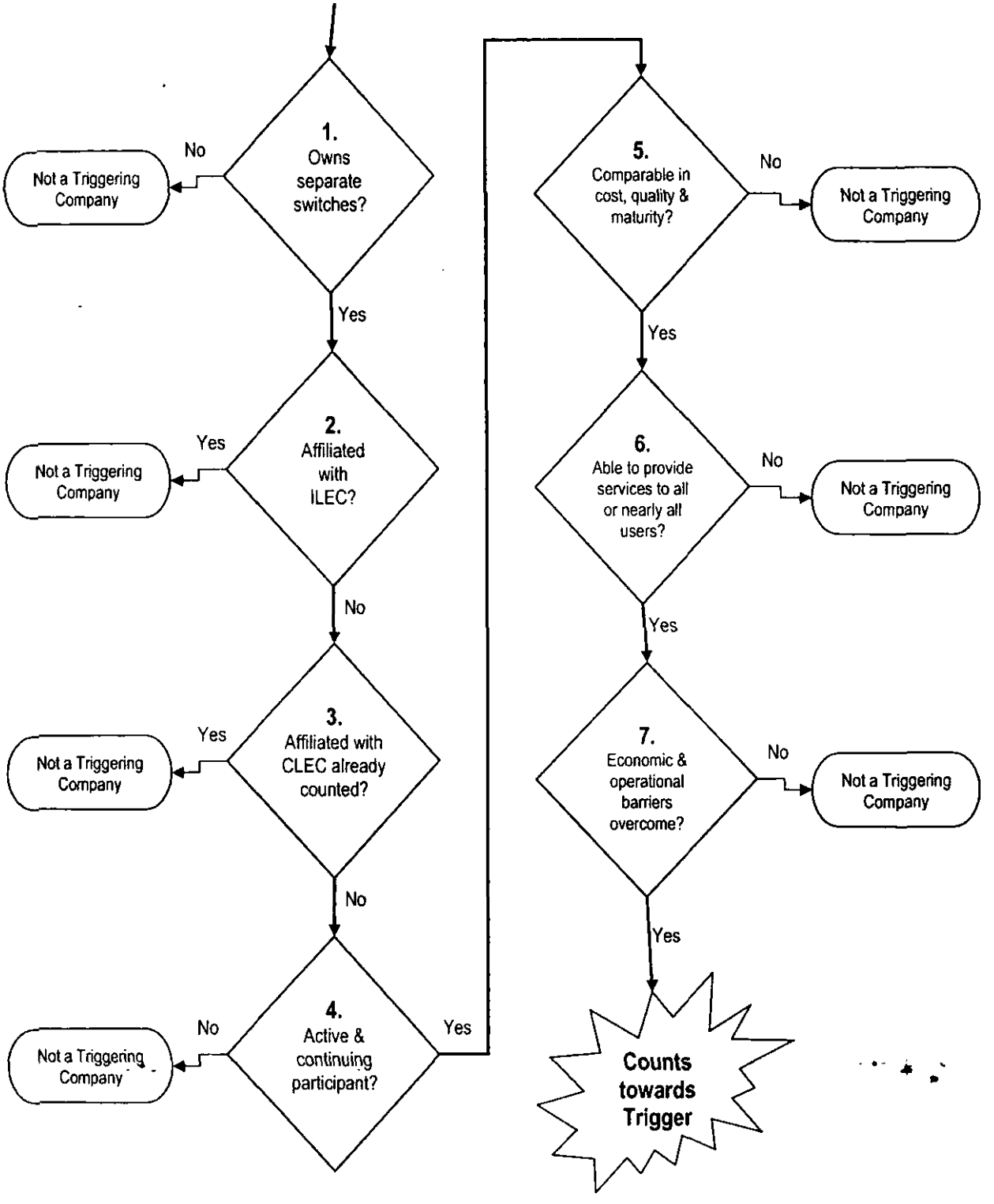
1. Owns separate switches?
No
Not a Triggering Company
Yes
2. Affiliated with ILEC?
Yes
Not a Triggering Company
No
3. Affiliated with CLEC already counted?
Yes
Not a Triggering Company
No
4. Active & continuing participant?
No
Not a Triggering Company
Yes
5. Comparable in cost, quality & maturity?
No
Not a Triggering Company
Yes
6. Able to provide services to all or nearly all users?
No
Not a Triggering Company
Yes
7. Economic & operational barriers overcome?
No
Not a Triggering Company
Yes
Counts towards Trigger

Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-6

Backup Power Reemerges as Issue for Cable VoIP Service
Alan Breznick for Cable Datacom News

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Core Networks

Cable Datacom News

OCTOBER 2003

Backup Power Reemerges As Issue for Cable VoIP Service

Northeast Power Outage and Hurricane Isabel Stir Concerns About Network Reliability

OCTOBER 2003

By Alan Breznick, Editor, *Cable Datacom News*

It looks like cable operators preparing to roll out voice-over-Internet-Protocol (VoIP) service over their broadband plant may need to beef up their plans for emergency power backup, thanks to the back-to-back punches of the massive U.S. Northeast blackout in August and Hurricane Isabel last month.

The national Network Reliability & Interoperability Council (NRIC)--a group of wireline phone, wireless phone, cable, satellite and Internet executives that advises the FCC on technical issues and develops voluntary "best practices" standards for its industries--is looking at tightening its emergency power recommendations for all telephone providers. At their last meeting in Washington, D.C. in mid-Sept., NRIC members discussed the need for enhanced power backup because consumers are increasingly relying on all their communications networks during emergencies.

"We need to think more diversely about customer communications, such as cable phone or cable data service," said Pam Stegora Axberg, a senior vice president of Qwest National Network who chairs the NRIC Steering Committee. That's "because during times of crisis, people are using multiple channels," she noted.

Axberg said NRIC members are also looking at setting a higher standard for the amount of backup power needed. While the council's best practices now call for a minimum of eight hours of backup power, that standard could climb to 12 hours or beyond because of the great length of the outages caused first by the blackout and then by the hurricane.

"Now we're wondering whether that (the current standard) is long enough," she said. "We've never seen a power outage last this long previously."

What this means is that cable operators may soon be expected to provide emergency power backup for their fledgling IP telephony services at all times, even when the electricity shuts down and the lights go out. That, in turn, could require MSOs to conduct more expensive upgrades of their HFC plant, which is something that they've resisted doing so far.

It also means that cable operators may be expected to provide backup phone power for much longer stretches of time than before. That would likely mean higher costs for them as well.

Although such leading cable phone players as Comcast and Cox Communications now provide "network powering" of customer premises telephony devices for their older circuit-switched services, MSOs have been balking at doing the same for IP telephony because of the high cost. Instead, many big cable operators have been touting the idea of using a less costly backup battery, which would keep the embedded multimedia terminal adapter (E-MTA) going for up to 10 hours in case of a power outage. And unlike network powering, which requires an upfront network investment before installing subscribers, the capital cost for a battery must only be incurred when a new customer is activated for service.

In the most prominent example, Cox plans to use backup batteries in its E-MTA units when it conducts a market trial of its new VoIP product in Roanoke, Virg. near the end of the year. Bill Dame, senior manager of network switch engineering for Cox, said the batteries will provide 10 hours of standby power and four hours worth of talk time.

"The batteries have come a long way in the last two years," said Dianna Mogelgaard, director of product development for Cox. She noted that the batteries have evolved from large lead varieties to much smaller yet more powerful lithium ion models.

Even with cheaper battery systems available, though, several major MSOs are not exactly rushing out to offer emergency power backup for their IP telephony deployments right away. Take Time Warner Cable, the cable pioneer in residential VoIP service. Although Time Warner launched commercial service in Portland, Maine last winter, now has more than 4,000 VoIP customers there and plans to introduce service in three other markets this fall, the cable operator is not yet employing a backup power solution.

"We're still talking to people," said a Time Warner spokesman. "It's still kind of early. We're still looking for the right solution."

Likewise, Cablevision Systems, which is readying a rollout of its OptimumVoice IP telephony service to more than 4 million homes in the New York metro area this fall, will not initially use back-up batteries. Instead, the company spokesman said, Cablevision is mulling over offering battery backup as an optional, add-on service by the end of next year.

Time Warner and Cablevision executives defend their companies' lackadaisical power backup approaches by arguing that consumers don't expect lifeline phone service from their cable provider, even when it's marketed as a primary-line service. Company officials insist that cable telephony customers are much more interested in other service aspects,

such as cheaper rates, unlimited dialing and the various calling features.

"Most of our customers have cell phones and powered cordless phones so it's not a priority item for them," the Cablevision spokesman said. To the point, during the East Coast blackout and the hurricane, many RBOC customers found themselves without phone service, not realizing that their cordless phones wouldn't work during a power outage.

In Cablevision's VoIP trial on western Long Island earlier this year, the company spokesman said, customers did not stress the need for emergency power backup. "It was not the pressing issue you might think," he said.

The Time Warner spokesman concurred. "The RBOCs seem to be trying to make a big issue out of it (powering)," he said. "But that's just not ringing true with our customers."

Cox officials say their cable customers aren't making a big deal about backup power either. But, based on their years of experience with circuit-switched service, they still think it's an important service reliability feature to provide right now.

"Our perception locally is that it does make a difference, at least in Roanoke," Dame said. "If you launch the service and lose the customer, you're never going to get him back."

Mogelgaard put it somewhat differently. "I think we're all seeing similar trends," she said. "But we want to start conservatively."

Fortunately for the MSOs, it doesn't appear that either the big Northeast power outage or Hurricane Isabel disrupted their nascent IP telephony operations too much. In Time Warner's case, for instance, both the power outage and the hurricane spared Portland so emergency backup did not become an issue there.

Nevertheless, Time Warner, Cablevision and other MSOs may ultimately have to follow Cox's lead. As cable operators transform themselves into phone companies, consumers may expect them to perform just like phone companies, no matter what technologies they use or other services they deliver.

"I would say that this is a new area for them (cable operators) to be thinking about," Axberg said. "They've never thought of themselves as a lifeline service before. But that's changing."

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Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-7

Comcast FAQ- "What if my electricity goes out?
Will I still be able to use my Comcast Digital Phone?"

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FAQ Answer

SEARCH

FAQ Search by Keyword: Search

YOUR FAQ ANSWER

FAQs > Product Information > Comcast Digital Phone

What if my electricity goes out? Will I still be able to use my Comcast Digital Phone?

Our network has a built-in emergency battery backup that will provide telephone service for most customers for eight to ten hours, but the length of backup time will depend on your actual talk time.

Did this information help to answer your question?

- Yes
- No

Submit

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Direct Testimony of Michael D. Pelcovits
PA PUC Docket No. I-00030099
January 9, 2004

Attachment MDP-8

Comcast Phone Service Availability by Zip Code
For the Pittsburgh Area

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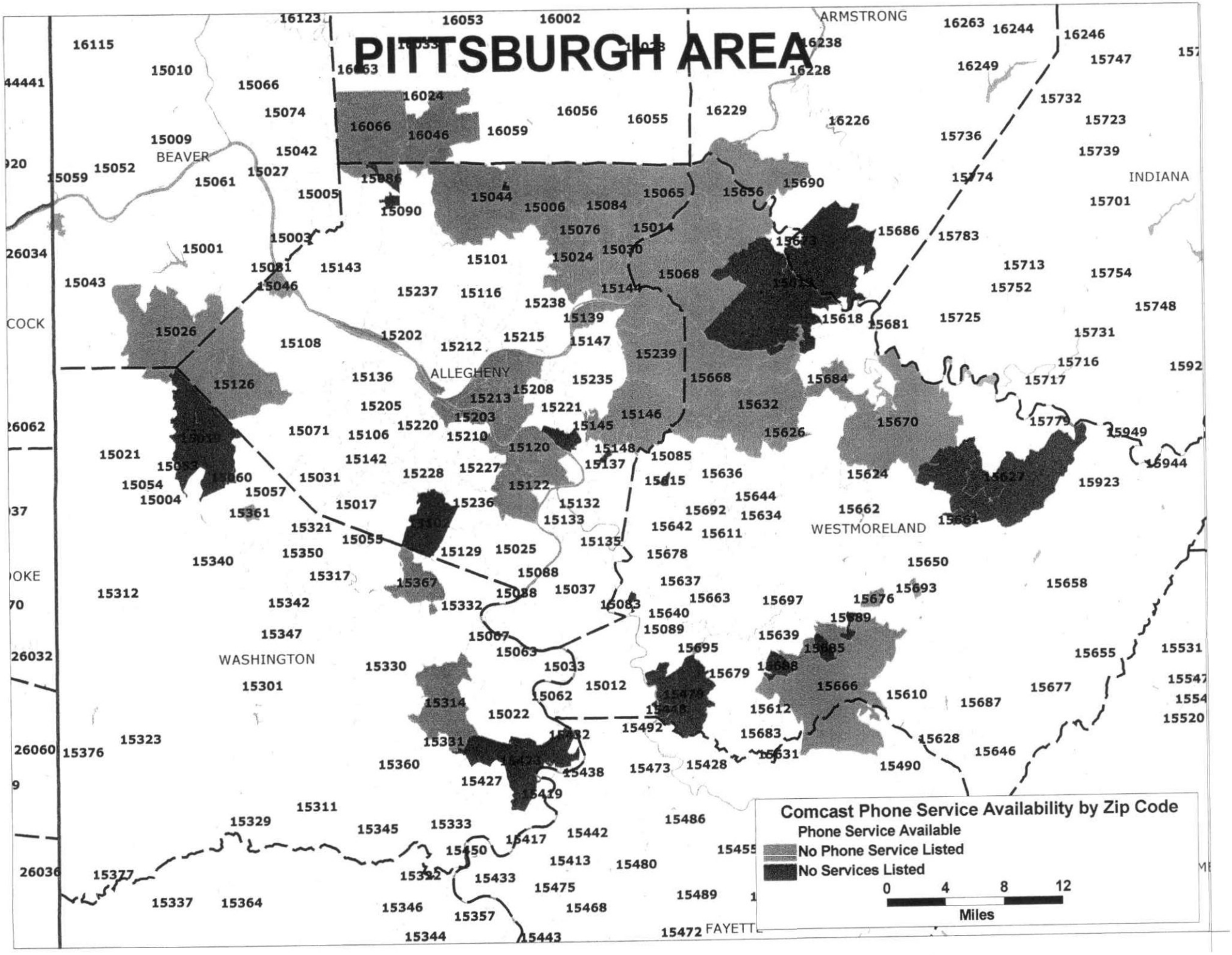
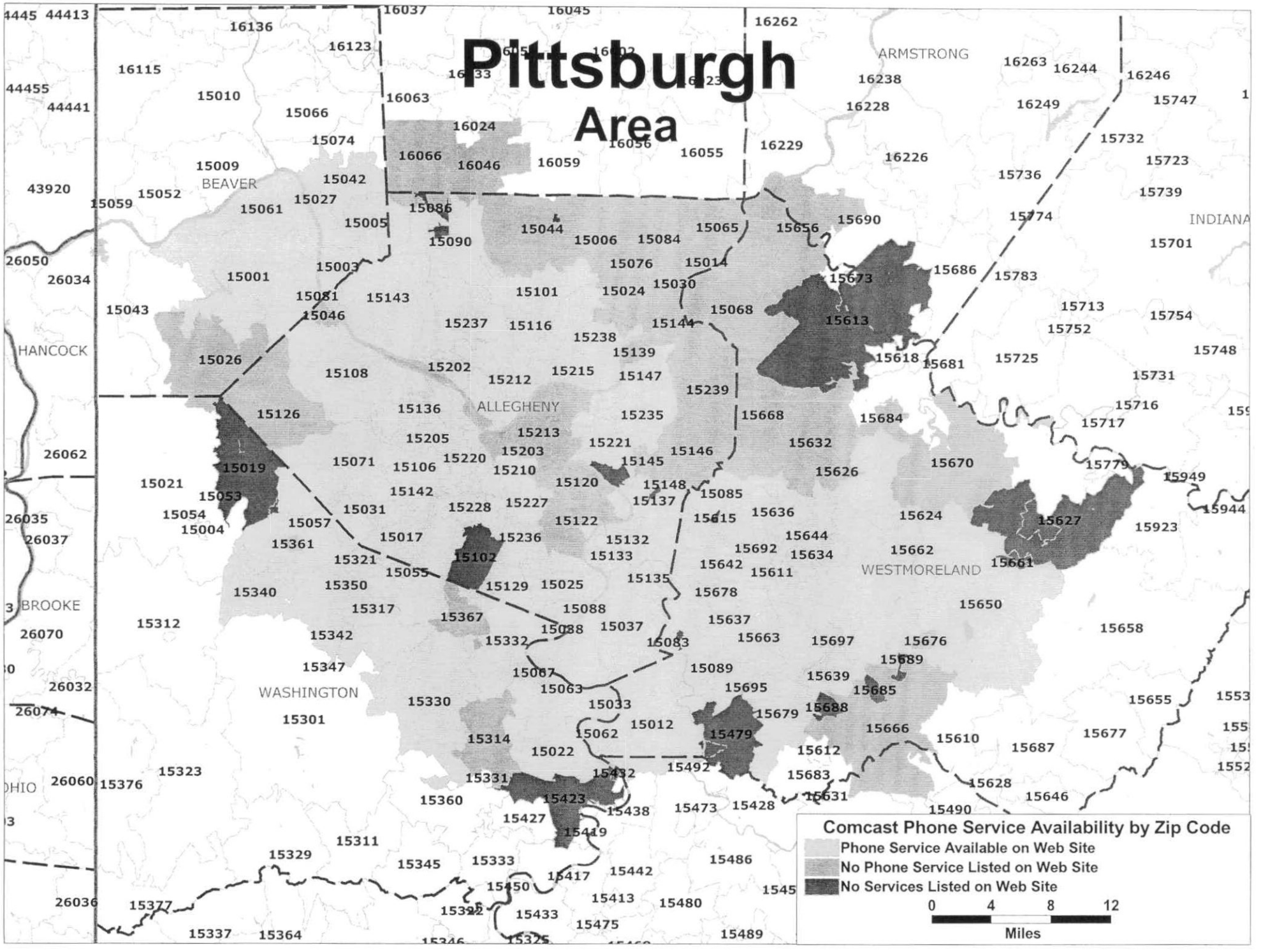
PITTSBURGH AREA




Pittsburgh
Area
ARMSTRONG
BEAVER
INDIANA
HANCOCK
ALLEGHENY
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Comcast Phone Service Availability by Zip Code
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No Services Listed on Web Site
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Miles