VERIZON PENNSYLVANIA INC.
STATEMENT NO. 1.2

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INVESTIGATION INTO THE
OBLIGATION OF INCUMBENT LOCAL
EXCHANGE CARRIERS TO UNBUNDLE
NETWORK ELEMENTS

DOCKET NO. I-00030099

VERIZON PENNSYLVANIA INC.
AND
VERIZON NORTH INC.

STATEMENT NO. 1.2

(REBUTTAL TESTIMONY)

WITNESSES: Harold E. West, III
Carlo Michael Peduto, II

DATED: January 20, 2004

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Rebuttal Testimony of Harold E. West, III
and Carlo Michael Peduto, II
on behalf of Verizon Pennsylvania Inc. and Verizon North Inc.
Pa PUC Docket No. I-00030099
January 20, 2004

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I. INTRODUCTION

Q. PLEASE IDENTIFY THE MEMBERS OF THIS PANEL AND STATE ON WHOSE BEHALF THIS TESTIMONY IS SUBMITTED.

A. The members of this panel are Carlo Michael Peduto, II and Harold E. West, III. This testimony is submitted on behalf of Verizon Pennsylvania Inc. ("Verizon PA") and Verizon North Inc. ("Verizon North") (collectively "Verizon").

Q. IS THIS THE SAME MR. PEDUTO WHO SUBMITTED DIRECT TESTIMONY STATEMENT 1.0 ON OCTOBER 31, 2003 AND SUPPLEMENTAL DIRECT TESTIMONY STATEMENT 1.1. ON DECEMBER 19, 2003 ON BEHALF OF VERIZON?

A. Yes.

Q. IS THIS THE SAME MR. WEST WHO ADOPTED THE DIRECT TESTIMONY STATEMENT 1.0 SUBMITTED BY DEBRA M. BERRY ON OCTOBER 31, 2003 AND WHO SUBMITTED SUPPLEMENTAL DIRECT TESTIMONY STATEMENT 1.1. ON DECEMBER 19, 2003 ON BEHALF OF VERIZON?

A. Yes.

1 **II. PURPOSE OF TESTIMONY**

2 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

3 A. The purpose of this testimony is to rebut the testimony submitted by various other
4 parties to this proceeding and to further support Verizon's triggers case regarding
5 mass market switching, dedicated transport and high capacity loops.

6

7 In this proceeding, Verizon seeks the elimination of unbundled mass market
8 switching in the Philadelphia-Camden-Wilmington, Allentown-Bethlehem-Easton,
9 Reading, Lancaster, Scranton-Wilkes-Barre and Pittsburgh MSAs, and within the
10 Harrisburg-Carlisle-Lebanon Combined Statistical Area (which consists of the
11 Harrisburg-Carlisle and Lebanon MSAs) under the self-provisioning trigger of the
12 FCC's *TRO*. As we stated in our October 31, 2003 direct and December 19, 2003
13 supplemental direct testimony, Verizon does not intend to present a "potential
14 deployment" case in this nine-month proceeding. Whether the self-provisioning
15 trigger is satisfied turns exclusively on whether there are three or more unaffiliated
16 competing carriers serving the market with their own switches. As we have
17 demonstrated in our direct testimony, (i) there are a substantial number of CLECs
18 using their own switching to serve mass market customers within the Philadelphia-
19 Camden-Wilmington, Allentown-Bethlehem-Easton, Reading, Lancaster, Scranton-
20 Wilkes-Barre and Pittsburgh MSAs, and within the Harrisburg-Carlisle and Lebanon
21 MSAs, (ii) as a result, those market areas satisfy the FCC's self-provisioning

1 switching trigger, and (iii) the Commission must therefore find that CLECs are not
2 impaired without unbundled circuit switching for mass market customers in these
3 market areas.
4
5 In this testimony, we respond to the CLECs' broad allegations of economic and
6 operational barriers to competitive entry that, according to the CLECs, support the
7 continued availability of unbundled mass market circuit switching, dedicated
8 transport and enterprise loops. As explained in our direct testimony and as we
9 elaborate below, allegations of economic and operational barriers have no place in
10 this case, which addresses ***only*** the application of the FCC's mandatory and
11 objective triggers. Because allegations of economic and operational barriers to
12 entry have no bearing on Verizon's satisfaction of the triggers for these network
13 elements, this testimony does not attempt to address the substance of these
14 irrelevant CLEC arguments. (And Verizon is filing a motion to strike testimony
15 on operational and economic impairment issues as beyond the scope of Verizon's
16 triggers case. *See* Verizon's Motion to Strike Irrelevant CLEC Testimony).
17 Verizon's decision not to engage in debates that are irrelevant to the application
18 of the FCC's triggers in this case should not, however, be interpreted as
19 agreement with or acquiescence in the CLEC contentions.
20

1 Second, this testimony addresses issues raised by the CLECs concerning the
2 application of the mass market switching trigger, including the appropriate cutoff
3 point for differentiating between "mass market" and "DS1 enterprise" customers
4 within the relevant geographic market. As explained further below, the
5 distinction between mass market customers and DS1 enterprise customers should
6 be based on how those customers are *actually* being served, as several of the other
7 parties concede, not on an arbitrary cutover point based on the number of analog
8 lines used by the CLEC. We also address the various attempts by the CLECs to
9 read limitations and qualifications into the FCC's self-deployment trigger for
10 mass market switching that simply do not exist, in a misguided attempt to exclude
11 certain carriers identified by Verizon in our direct testimony that are clearly and
12 unequivocally serving the mass market with competitive alternatives to Verizon's
13 unbundled local switching.
14
15 This testimony also addresses the various claims regarding dedicated transport,
16 and demonstrates that Verizon's testimony along with the numerous CLEC
17 admissions regarding their own networks overwhelmingly prove that the transport
18 triggers are satisfied on the routes identified in Verizon's direct and supplemental
19 direct testimony. We also demonstrate that the CLEC witnesses' testimony on
20 transport is founded on hypothetical or generalized complaints about Verizon's
21 methodology and evidence that do not withstand scrutiny and on unsupportable
22 interpretations of the FCC's Order. Nevertheless, the CLECs' testimony, though

1 glaringly deficient on hard facts, largely confirms the evidence Verizon submitted
2 in support of its transport case, *i.e.* that the transport routes listed in Exhibits 3, 4,
3 5 and 6 of Verizon's supplemental testimony satisfy the FCC's triggers. Most
4 notably, in their rebuttal testimony, many carriers do not even bother to dispute
5 Verizon's evidence -- *even about their own transport networks, business*
6 *strategies, and products.* And those few carriers that do have specific complaints
7 about Verizon's evidence have relatively few.
8
9 In addition, we address the CLECs' response to our testimony regarding high
10 capacity loops, and demonstrate that the CLEC witnesses rely on irrelevant
11 arguments and fabricate additional standards of proof that simply are not required
12 under the *TRO.* Verizon's testimony and the CLECs' admissions in discovery
13 demonstrate that the triggers are satisfied with respect to high capacity loops at
14 the customer locations identified by Verizon.
15
16 Finally, we address why the Commission should not adopt a transition period in
17 this nine-month proceeding where it finds that the triggers for dedicated transport
18 and high capacity loops have been met. The FCC has indicated that the
19 interconnection agreement negotiation/arbitration provisions of Sections 251 and
20 252 of the Act provide the appropriate transition mechanism to address routes and
21 customer locations where a triggers analysis indicates there is no impairment.
22

III. THE SCOPE OF THIS PROCEEDING

Q. PLEASE EXPLAIN THE *TRO'S* MANDATORY "TRIGGERS" ANALYSIS.

A. As we discussed in our direct testimony, and as Verizon discusses in greater detail in its January 20, 2004 motion to strike, the *TRO* establishes mandatory triggers for determining impairment for all of the network elements -- including mass market switching, dedicated transport and high capacity loops -- that are at issue in the nine-month proceedings.

Briefly, for switching, under the "self-provisioning trigger," a state "*must* find 'no impairment' when three or more unaffiliated competing carriers are serving mass market customers in a particular market with the use of their own switches." *TRO* ¶ 501 (emphasis added). Under the "competitive wholesale trigger," states *must* find no impairment where there are two or more unaffiliated CLECs that offer wholesale switching service to other carriers in a particular market using their own switches. *TRO* ¶ 504. It is only after the Commission has determined that neither trigger is met in a market that it may – if the ILEC continues to request mass market switching relief – conduct an analysis of the "potential" for CLECs to deploy their own switches in the relevant geographic market, given economic and operational conditions in that market. *TRO* ¶ 506.

Similarly, for unbundled dark fiber, DS1, and DS3 dedicated transport facilities the FCC authorized the state commissions to determine the specific routes that meet one or both of two objective triggers – which show that CLECs are already providing non-ILEC transport facilities, either to themselves (self-provisioning trigger) or to other carriers (wholesale trigger). If a state commission finds that either trigger is met for a route, the state commission "must make a finding of non-impairment," and "the incumbent LEC will no longer be required to unbundle that transport along that route[.]" *TRO* ¶¶ 400, 411; *see also TRO* ¶ 405.

Likewise for unbundled dark fiber, DS1, and DS3 hi-cap loop facilities serving the enterprise market, the FCC authorized the state commissions to determine the specific customer locations that meet one of two objective triggers — which show that CLECs are already providing non-ILEC hi-cap loop facilities, either to themselves (self-provisioning trigger) or to other carriers (wholesale trigger). If a state commission finds that either trigger is met for a specific loop capacity at a specific customer location, the state commission must make a finding of non-impairment, and the ILEC will no longer be required to unbundle that loop capacity to that customer location. *TRO* ¶ 328; *see also* 47 C.F.R. §51.319(a)(4)-(6).

Q. IS VERIZON OFFERING ANY EVIDENCE OF "POTENTIAL DEPLOYMENT" IN THIS CASE?

A. No. As Verizon has stated from the outset, it does not intend to present evidence of "potential deployment" in this case. Therefore, CLEC claims about economic and operational impairment factors that might affect a "potential deployment" analysis are not relevant to this case. Instead, we rely exclusively on our satisfaction of the self-provisioning trigger, which looks only to *actual* CLEC deployment of mass market switching, and on the self-provisioning and wholesale triggers for transport and loops. While the CLECs recognize this in their testimony, they continue to raise potential deployment arguments especially with respect to mass market switching. The application of the triggers, however, is not subject to this type of discretion, and irrelevant testimony should not be permitted to color the Commission's application of the objective triggers.

Q. **THE CLECS RAISE VARIOUS ALLEGED ECONOMIC AND OPERATIONAL BARRIERS TO COMPETITIVE ENTRY INTO THE MASS MARKET, SUCH AS ISSUES REGARDING THE CUTTING OVER OF LOOPS TO A CLEC'S SWITCH, AVAILABILITY AND COST OF COLLOCATION SPACE, FUNCTIONALITY OF VERIZON'S OPERATIONS SUPPORT SYSTEMS ("OSS"), DEPLOYMENT OF IDLC, AND COSTS TO CLECS OF DEPLOYING THEIR OWN SWITCHES. ARE THESE CLAIMS RELEVANT TO THE TRIGGERS RELIED ON BY VERIZON IN THIS PROCEEDING?**

A. No. As noted above, Verizon seeks the elimination of unbundled access to mass-market circuit switching in the Philadelphia-Camden-Wilmington, Allentown-Bethlehem-Easton, Reading, Lancaster, Scranton-Wilkes-Barre and Pittsburgh MSAs, and within the Harrisburg-Carlisle-Lebanon Combined Statistical Area

1 (which consists of the Harrisburg-Carlisle and Lebanon MSAs) based on its
2 satisfaction of the *TRO*'s self-provisioning trigger. In our Direct Testimony, based
3 on Verizon's internal data, and in our Supplemental Direct Testimony and in this
4 testimony, based on CLEC discovery response, we identified 13 unaffiliated CLECs
5 serving mass market customers in the Philadelphia-Camden-Wilmington MSA; 9
6 serving mass market customers in the Pittsburgh MSA; 5 serving mass market
7 customers in the Harrisburg-Carlisle MSA; 4 serving mass market customers in the
8 Lebanon MSA; 5 serving mass market customers in the Reading MSA; 7 serving
9 mass market customers in the Allentown-Bethlehem-Easton MSA; 5 serving mass
10 market customers in the Scranton-Wilkes-Barre MSA; and 4 serving mass market
11 customers in the Lancaster MSA – all using their own switching. This means that,
12 regardless of the arguments the CLECs might offer to avoid this result, the FCC's
13 objective triggers are satisfied. Verizon has also demonstrated satisfaction of the
14 objective triggers with regard to specific dedicated transport routes and specific
15 customer locations for high capacity loops.
16
17 Thus, the CLECs' allegations of operational or economic impairment do not
18 undercut – indeed, are not relevant to – this showing. The *TRO* unequivocally
19 "require[s] state commissions to find 'no impairment' in a particular market when
20 either [the self-provisioning trigger or the competitive wholesale facilities] trigger is
21 satisfied." *TRO* ¶ 498.

1 Q. ARE THESE FACTORS RELEVANT AS "EXCEPTIONAL SOURCES OF
2 IMPAIRMENT" THAT WOULD JUSTIFY THE FILING OF A PETITION TO THE
3 FCC FOR A "WAIVER" OF THE MANDATORY FINDING OF NO IMPAIRMENT?

4 A. No, they are not. The FCC permits a state to petition the FCC for waiver of the
5 mandatory triggers where there is such an exceptional source of impairment that
6 "service to mass market customers is foreclosed even to carriers that self-provision
7 switches." *TRO* at ¶ 503. None of the witnesses claimed that these operational and
8 economic issues were exceptional sources of impairment, and no witness claims to
9 put forward such evidence. In any event, the claims of operational and economic
10 problems are the same type of arguments that the CLECs made before the FCC in
11 the *TRO* proceeding, and which the FCC directly considered in the *TRO* when it
12 established the triggers in the first place. As the FCC clearly indicated, "we believe
13 the existence of three self-provisioners of switching demonstrates adequately the
14 technical and economic feasibility of an entrant serving the mass market with its
15 own switch, and indicates that existing barriers to entry are not insurmountable."
16 *TRO* ¶ 316. The "exceptional sources of impairment" cannot include the same type
17 of economic and operational considerations that the FCC already considered in
18 establishing the triggers. Otherwise, the trigger analysis would collapse into a
19 potential deployment case.

IV. MASS MARKET SWITCHING

A. THE DISTINCTION BETWEEN MASS MARKET AND DS1 ENTERPRISE CUSTOMERS

Q. IS THERE CONSENSUS AMONG THE PARTIES AS TO THE CUT-OFF POINT BETWEEN MASS MARKET CUSTOMERS AND DS1 ENTERPRISE CUSTOMERS?

A. No, there is not. For example, Sprint proposed a cost model using weighted average UNE prices across the state and a calculation of its own equipment costs for installing a channel bank at a customer premises, amortized over nine years, to establish a proposed a crossover point at 15 DS0s at a single customer premises. (Sprint Dunbar Direct at 24). AT&T's witnesses Kirchberger and Nurse agree with Verizon's analysis of the appropriate crossover, but offer as a second-best alternative that the cut-off be established at no fewer than 14 to 16 lines. (Kirchberger/Nurse Direct at 64-70) The Pennsylvania Carriers' Coalition ("PCC") witnesses Schwenke, Malfara, and Dulin, on the other hand, argue that the determination of whether a customer is mass market or enterprise must be made on a "customer by customer" basis (PCC Statement 1.0 at 36), but do not draw the line at the number of analog lines serve the customer. Rather, they propose to define mass market customers as those with $10,000 or less in annual "TBR" (total billed local and intraLATA toll revenue) for customers that do not require CPE upgrades to utilize a DS1 facility, and $25,000 or less in annual TBR for those customers that do. (PCC Statement 1.0 at 36-38) (Tellingly, the PCC offers no insight into how such a cutoff

could be implemented in practice.) MCI, on the other hand, appears to opt for the FCC's 4-line cutover, although it provides no evidence whatsoever to support it. (Pelcovits Direct at 52). The other parties have either agreed with Verizon's approach or have offered no opinion.

This variation in methodologies, assumptions and proposed cutoff points clearly shows the lack of consensus among the parties in setting a fixed per line cutoff point. As a result, the Commission should ignore proposals to set a "one-size-fits-all" cutoff point and look at how the CLECs are actually serving their customers. If customers are being served using analog voice grade lines rather than DS1 circuits, they should be treated as mass-market customers for purposes of applying the *TRO*, not as DS1 enterprise customers. Verizon's proposal does not speculate on what might theoretically make economic sense for a CLEC, or why a particular customer may want to be served in a particular manner, but rather relies on actual market realities and actual economic decisions made by CLECs to serve customers as mass market customers using analog voice grade loops.

Indeed, a fixed crossover point based on a pre-determined number of analog lines, based on some calculation of average costs, would ignore the actual economic choices made by the CLECs and their customers. As we explained in our direct testimony, the Commission should establish that mass market customers are those

customers that are actually being served with one or more voice grade DS0 circuits, while enterprise customers should be those customers actually being served by DS1 or higher capacity loops. *It is the objective behavior of the CLEC* in the marketplace that should drive the determination of whether or not it "makes economic sense" for that CLEC to serve particular customers over DS1 loops, rather than multiple voice grade DS0 lines. This objective test is far more reliable, and grounded in realities of the marketplace, than an arbitrary "cutoff" at a particular number of lines regardless of whether the customer is actually being served as a DS1 enterprise customer or an analog mass market customer. The mathematical calculations proposed by Sprint and AT&T (in the alternative) rely on a theoretical determination of whether it might make sense to serve a customer using multiple analog voice grade loops rather than a DS1 circuit, not whether a CLEC or its customer has actually determined that it makes economic sense to use a DS1 circuit in any particular case. For example, Sprint witness Dunbar claims that, based on a cost model using Sprint's own average costs (not necessarily the costs of other carriers), "purchasing individual loops is more cost effective than purchasing single DS-1" whenever there are "15 DS-0s at a customer's location." (Sprint Dunbar Direct at 24). However, if this were true, then a rational CLEC would never use more than 15 analog voice grade loops to serve a single customer – yet they do in Pennsylvania. *See* Rebuttal Attachment 1, which shows the Verizon Line Count Study broken down by the number of lines at a particular customer location. Obviously, Sprint's "one-size-fits-all"

1 methodology does not capture the economic decisions made by CLECs in the
2 field.

3 Q. DO ANY OF THE PARTIES AGREE WITH VERIZON'S PROPOSAL TO TREAT
4 CUSTOMERS AS MASS MARKET OR ENTERPRISE BASED ON THE WAY
5 THEY ARE ACTUALLY SERVED?

6 A. Yes. The CLEC Coalition's witness Gillan (at 22) agrees with Verizon's proposal,
7 and AT&T witnesses Kirchberger and Nurse concede that Verizon's proposal to
8 count all DS0 customers as mass market customers is warranted and supported by
9 the evidence. (Kirchberger/Nurse at 67).

10

11 However, while Kirchberger and Nurse concede that multi-line analog customers
12 should be treated as mass market customers, regardless of how many lines are
13 used to serve them, they contradict themselves by claiming that mass market
14 customers with more than 10 lines do not count for the purposes of the triggers.
15 (Kirchberger/Nurse Direct at 50-51). AT&T cannot have it both ways. Either the
16 customers are mass market or they are not, and if they are, they count toward the
17 self-deployment trigger and relieve Verizon of its obligation to provide unbundled
18 switching to serve *all* mass market customers. The FCC specifically clarified this
19 point in response to criticism from the dissenting Commissioners:

20
21 If, on the other hand, a state finds based on the record that a cut-off of
22 more than four lines is appropriate, more multi-line customers will be
23 treated as mass market customers. . . . [A]s Commissioner Abernathy
24 points out, "dozens of CLECs serve mass market customers of such size

> using their own switches." *Commissioner Abernathy Statement* at 8, n. 27. Such widespread deployment of competitive switches would be considered under our mass market triggers. In such markets, then, it is more likely that there will be a finding of no impairment for the *entire market*. . . .

TRO ¶ 497 n. 1546 (emphasis added).

Q. MANY OF THE CLECS CLAIM THAT THE COMMISSION SHOULD FURTHER PARSE THE PRODUCT MARKET TO FIND THAT A CLEC MUST SERVE BOTH RESIDENTIAL AND BUSINESS MASS MARKET CUSTOMERS WITH ITS OWN SWITCH TO COUNT TOWARD THE SELF-PROVISIONING TRIGGER. WHAT IS YOUR REACTION?

A. There is no such requirement in the *TRO*. To the contrary, the FCC clarified that CLECs serving multi-line mass market business customers count toward the triggers regardless of whether they serve residential customers, as we explain above. *See TRO* at fn. 1546. The Ohio Public Utilities Commission recently rejected the same argument presented by MCI in its nine-month proceeding:

> The Commission disagrees with the request to separately analyze markets distinguishing services provided to residential subscribers and small business customers. The Commission notes that in the *Triennial Review Order*, the FCC defines mass market customers to include residential and small business voice grade customers that "purchase only a limited number of POTS lines and can be economically served via DS0 loops." The Commission stresses that the purpose of the impairment analysis is to assess whether or not CLECs are impaired in providing service to mass market customers if the unbundled local switching element is no longer available to them at TELRIC rates. Therefore, it is the Commission's opinion that once an unaffiliated CLEC is determined by the Commission to be providing service to mass market customers (customers with a limited number of POTS lines regardless of whether they are residential or small business) in a

> particular geographic market using its own switching equipment, the CLEC will be considered as one of the "three self-provisioners of switching" for the purpose of the trigger analysis.

Opinion and Order, *In the Matter of the Implementation of the Federal Communications Commission's Triennial Review Regarding Local Circuit Switching in the Mass Market*, Case No. 03-2040-TP-COI *et al.*, issued January 14, 2004 ("Ohio Order"), at 33-34. *See* Rebuttal Attachment 2. This Commission should likewise reject these CLECs' attempts to rewrite the mass market trigger to require that a CLEC serve both residential and business mass market customers. There simply is no such requirement anywhere in the *TRO*, and this Commission does not have the discretion to create such a requirement in applying the FCC's mandatory self-provisioning trigger. *TRO* ¶ 500 ("For the purposes of these triggers, we find that states shall not evaluate any other factors . . .").[1]

---

[1] Although it is not necessary to demonstrate that each triggering CLEC is serving residential customers using their own switching, we note that PCC witnesses Dulin and Honeywell claim that the lack of reported listings in the E911 data used by Verizon in its analysis somehow proves that certain carriers, such as CTSI (Commonwealth) and Cavalier, do not provide residential services to customers in Pennsylvania. See, e.g. PCC St. 2.0 at 14. However, as we clearly stated in our Direct Testimony, Verizon searched residential E911 data for complete bypass carriers only, because this was the only way that Verizon could identify the location of these carriers' customers (since they do not lease loops from Verizon). We never stated or otherwise implied that Verizon searched for residential E911 data for other carriers, such as Commonwealth or Cavalier, that lease UNE-L facilities from Verizon to serve residential customers. **[BEGIN PROPRIETARY]**

[END PROPRIETARY]

Therefore, the absence of residential E911 data as part of our analysis for these carriers says nothing about whether they do, in fact, serve residential customers.

Q. MCI WITNESS PELCOVITS ALSO CLAIMS THAT THE COMMISSION SHOULD "CONDUCT ITS TRIGGER ANALYSIS IN A WAY THAT EVALUATES WHETHER CUSTOMER LOCATIONS SERVED OVER INTEGRATED DIGITAL LOOP CARRIER ("IDLC") SHOULD BE TREATED AS BEING IN A SEPARATE SUBMARKET FOR WHICH UNBUNDLED SWITCHING WOULD CONTINUE TO BE AVAILABLE". DO YOU AGREE?

A. No, there is absolutely nothing in the *TRO* that would authorize imposing such a condition to the application of the self-provisioning trigger. Mr. Pelcovits' argument is essentially a claim that CLECs are operationally impaired in their ability to serve current Verizon customers in Pennsylvania that are served via Integrated Digital Loop Carrier ("IDLC") facilities. Not only are such claims of operational impairment inappropriate in the Commission's trigger analysis for the reasons explained above and in Verizon's motion to strike, but as MCI is well aware – and as it acknowledges in its testimony (Jenkins Direct at 26-34) – while Verizon does not provision UNE analog voice grade loops over IDLC, it routinely provisions such services to CLECs customers over alternative copper loops or Universal Digital Loop Carrier ("UDLC"). This is expressly permitted under the FCC's hybrid loop unbundling rules. TRO ¶ 297. Therefore, while MCI may take issue with those loop unbundling rules, they have nothing to do with the mass market switching trigger analysis.

Q. DO YOU ADDRESS CLEC CLAIMS CONCERNING THE APPROPRIATE GEOGRAPHIC MARKET IN THIS TESTIMONY?

A. No. Dr. Taylor is addressing those issues on behalf of Verizon.

B. APPLICATION OF THE TRIGGER IN THE RELEVANT MARKET

Q. DO THE CLECS TAKE OTHER LIBERTIES WITH THE FCC'S TRIGGER ANALYSIS?

A. Yes. The CLECs have attempted to impose additional qualifications for triggering carriers that have no basis whatsoever in the TRO and in fact are contradicted by the FCC's Order.

CLEC Coalition witness Gillan (at 41-44), Sprint witness Symecki (at 14-17), and PCC witnesses Schwenke, Malfara, and Dulin (at 48) claim that a CLEC cannot count toward the triggers if it is using an "enterprise switch" to serve mass market customers. Similarly, AT&T witnesses Kirchberger and Nurse claim that a CLEC using an "enterprise switch only incidentally to provide a small number of analog lines" does not count. However, there is no such requirement in the *TRO*'s self deployment trigger. If a CLEC is actually serving mass market customers from its own switch, then it is irrelevant that the CLEC *also* uses that switch to serve enterprise customers. In fact, the FCC expressly noted that "[t]he evidence in the record shows that the cost of providing mass market service is *significantly reduced* if the necessary facilities are already in place and used to provide *other higher revenue services* [i.e., enterprise services]." *TRO* ¶ 508 (emphasis added). Therefore, AT&T's claim that such a "business plan" is not sufficient for a CLEC to count as a triggering carrier is completely false. Nor is there any requirement

that a CLEC serve "primarily" mass market customers. Indeed, the out-of-context statements from the *TRO* that Gillan and Symecki rely upon (*TRO* ¶ 435, 437, 441, 508) *all* relate to the issue of whether switches that serve *exclusively* enterprise customers – and thus may require modifications to accommodate analog voice grade lines – are, standing alone, sufficient evidence of non-impairment for mass market switching in a potential deployment analysis, *not* whether switches that *actually* serve mass market customers using analog lines may count toward the triggers even if they also serve a enterprise customers – they unequivocally do.[2]

Similarly, there is no "market share" (as OCA witnesses Loube and Curry (at 37) contend)[3] or "de minimus" qualification in the *TRO* trigger analysis, nor is there any requirement that a CLEC currently serve, or be capable of serving, customers throughout the market in order to count toward the triggers, as explained in more detail in the testimony of William E. Taylor. In fact, the FCC's *Errata* makes it clear that the FCC did not impose any requirement that a carrier must currently be

[2] As a point of clarification, Sprint witness Symecki appears to claim that Verizon has identified Focal as a triggering CLEC. Verizon has not. The CLECs that Verizon has identified as triggering CLECs are listed in Attachments 2 and 4 of our initial Direct Testimony, Exhibit 1 of our supplemental Direct Testimony, and in Rebuttal Attachment 2.

[3] OCA witnesses Loube and Curry contend that the Commission should require that *each* qualifying CLEC serve fully 3% of the market before it can be counted toward the triggers. In other words, OCA would have the Commission decline to apply the FCC's mandatory triggers unless CLECs were serving ***at least 9% of mass market customers in the given market***. Obviously, this is not the test established by the FCC.

serving customers throughout the market to qualify as a triggering CLEC. In its October 9, 2003 filing in the D.C. Circuit Court opposing the USTA Writ of Mandamus, the FCC explained that

> The corrected paragraph [¶ 499] does *not* require that, for purposes of the switching triggers, self-provisioning competitors must be ready and willing to serve all retail customers in the market. The Commission made similar corrections in the *Order's* discussion of how states should analyze impairment in areas where the triggers are not met...These deletions eliminate any suggestion in the *Order* that a state's finding of no impairment is contingent on a determination that a facilities-based competitor could economically serve all customers in the market.[4]

Therefore, a triggering CLEC need not "offer services to all, or virtually all, customers within the defined market" nor does the Commission have the discretion to refuse to apply the FCC's trigger "by declining to count companies that do not offer services to all, or virtually all, mass-market customers within the geographic market that the Commission adopts," as MCI witness Pelcovits suggests. For the same reason, there is no requirement that CLECs provide "ubiquitous" service in the relevant market, as the PCC claims. (PCC Statement 1.0 at 43).

Q. SEVERAL OF THE CLECS CLAIM THAT CABLE TELEPHONY PROVIDERS DO NOT COUNT TOWARD THE SELF-DEPLOYMENT TRIGGER. ARE THEY CORRECT?

---

[4] *Opposition of Respondents to Petitions for a Writ of Mandamus, United States Telecom Ass'n v. FCC*, No. 00-1012 (D.C. Cir.) (filed October 9, 2003), at 23. *See* Rebuttal Attachment 3.

A. No. The FCC held that "states also shall consider carriers that provide intermodal voice service using their own switch facilities" for the purposes of the triggers. *TRO* ¶ 499 n. 1549 (emphasis added). The CLECs' arguments are based on a claim that, because cable telephony providers do not use the incumbent's loop facilities, their presence in the market does not provide evidence of non-impairment. However, the FCC found that precisely the opposite is true. By setting the trigger at three self-provisioning CLECs, the FCC expressly took into account that some of those triggering carriers would be using their own loops:

> We recognize that when one or more of the three competitive providers is also self-deploying its own local loops, this evidence may bear less heavily on the ability to use a self-deployed switch as a means of accessing the incumbent's loops. Nevertheless, the presence of three competitors in a market using self-provisioned switching and loops, shows the feasibility of an entrant serving the mass market with its own facilities. [*TRO* ¶ 501, n. 1560]

In other words, the FCC found that the trigger is met even if *all* of the triggering carriers are using their own loop facilities to serve the mass market. The Commission does not have the discretion to second-guess the FCC's decision on this point. Therefore, the fact that cable companies are "bypass" carriers is *not* grounds for excluding them from the trigger.

Therefore, the Commission must include cable telephony in the trigger analysis as long as it is comparable in quality to traditional phone service. As Dr. Taylor explains in his Rebuttal Testimony, cable telephony is an unambiguous substitute for ILEC local exchange service, based on service characteristics, quality and

price. Although several CLECs have testified that cable telephony does not meet the "comparable in quality" standard, their arguments are nothing more than claims that cable telephony is not *identical* to traditional telephone service offered by ILECs. Yet, this is not the standard. Given that consumers substitute cable telephony for traditional voice service, they have voted with their feet with respect to whether the service offered is "comparable" in quality.[5]

Q. MESSRS. KIRCHBERGER AND NURSE LIKEWISE CLAIM THAT PROVIDERS OF VOICE OVER INTERNET PROTOCOL ("VOIP") CANNOT COUNT TOWARD THE TRIGGERS BECAUSE VOIP "HAS NOT YET ACHIEVED THE DEGREE OF SUBSTITUTABILITY" REQUIRED FOR THE TRIGGER ANALYSIS. DO YOU AGREE?

A. No, and it is somewhat hypocritical for AT&T's witnesses to make that assertion. AT&T, along with a number of other carriers, including but not limited to Qwest, Time Warner, and SBC Telecom, are actively rolling out VoIP as a complete

[5] The cable telephony providers identified by Verizon as total "bypass" providers are Comcast, RCN, and Adelphia. However, Adelphia Business Solutions, d/b/a Telcove also qualifies as a triggering CLEC as a provider of UNE-L based service to the mass market. Since we filed our Supplemental Direct Testimony, Telcove has provided responses to the Commission's data requests sufficient to identify the number of DS0s that it is providing to mass market customers using Verizon's loops in the markets where Verizon is seeking relief. Those line counts are included in Rebuttal Attachment 2. In addition, it has come to our attention that Adelphia Communications (the cable company) may no longer be affiliated with Adelphia Business Solutions d/b/a Telcove pursuant to *TRO* ¶ 499 n. 1550. http://www.fcc.gov/Daily_Releases/Daily_Business/2003/db1015/DA-03-3198A1.pdf. To be conservative, however, until Verizon confirms this information, we will continue to count the two as a single carrier for the purposes of the trigger.

substitute to traditional circuit-switched telephony over incumbent LEC loop facilities. See AT&T to Launch Internet-Based Telephone Service, Wall Street Journal, December 11, 2003. Clearly, AT&T is willing to bank on the fact that VoIP offers service that not only is sufficiently comparable to traditional telephony, but that provides substantial additional benefits to AT&T and its customers.

Nor is it relevant, as Kirchberger and Nurse claim, that VoIP is offered as part of a bundled service and requires a broadband connection. Not only is there no requirement in the *TRO* that a triggering carrier offer voice service on a standalone basis, but the FCC, in eliminating line sharing as a UNE for mass market loops, took pains to encourage CLECs to offer bundles of voice and data services to mass market customers. *TRO* ¶ 261. The FCC certainly did not give state commissions discretion to discount evidence of bundled voice and data service offerings in the impairment analysis for mass market switching. Accordingly, VoIP should count as a triggering CLEC switching application. Verizon is not including VoIP at this time in its mass market carrier count within particular MSAs, however, because it is currently difficult to determine the exact geography within which it is being offered.

Q. AT&T WITNESSES KIRCHBERGER AND NURSE (AT 31), CLEC COALITION WITNESS GILLAN (AT 62), AND PCC WITNESSES SCHWENKE, MALFARA, AND DULIN (AT 51-52) CLAIM THAT CLECS THAT ARE AFFILIATED WITH

1 OTHER ILECS DO NOT COUNT TOWARDS THE TRIGGERS. ARE THEY
2 CORRECT?

3 A. Not at all. In fact, the FCC explicitly stated that affiliates of incumbent LECs
4 serving the mass market outside of the incumbent's territory can count toward the
5 mass market switching triggers. In particular, the FCC found that "competitive
6 deployment" by "large, independent incumbent LECs expanding into adjacent
7 areas" "could be considered by states in determining whether the triggers . . . have
8 been satisfied in specific markets." *TRO* ¶ 440 & n 1352. Therefore, while it is true
9 that Verizon affiliates serving the mass market do not count toward the triggers,
10 affiliates of other incumbents operating out-of-franchise do.

11

12 Nevertheless, AT&T claims that the FCC's requirement that qualifying CLECs
13 must be using "separate switches" means that a CLEC using the switch of an
14 affiliate is not a qualifying CLEC. This is a gross misreading of the FCC's order.
15 The purpose of the "separate switch" requirement is to "avoid[] counting as a true
16 alternative a provider that uses the switching facilities of the incumbent LEC or
17 another alternative provider *that has already been counted*." *TRO* ¶ 499
18 (emphasis added). In other words, of the three triggering CLECs, each must be
19 using a different switch. However, it does not mean that a triggering CLEC that
20 uses the switch of its parent company or affiliate does not count. To the contrary,
21 the FCC expressly stated that "[a]ffiliated companies will be counted together, in

1 order to prevent gaming." *TRO* ¶ 499 n. 1550. Therefore, for the purposes of the
2 triggers, all affiliated companies are considered to be the same company.
3
4 For the same reason, claims by PCC witnesses Dulin and Honeywell that D&E
5 Systems and CEI Networks (both affiliates of D&E, the ILEC) cannot count
6 toward the triggers where they **[BEGIN PROPRIETARY]**
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12 **[END PROPRIETARY]** and thus
13 thwarting the application of the triggers. This is not allowed under the FCC's
14 rules.

6

that affiliates be counted together. **[BEGIN PROPRIETARY**

[END PROPRIETARY] However, D&E Communications, the parent company, indicated in its annual 10-K report that D&E Systems is using a switch owned by its affiliate to serve customers in the Harrisburg-Carlisle, Lancaster, and Lebanon MSAs where D&E Systems is leasing loops from Verizon (and apparently also provisioning its own copper and fiber loops). *See* D&E

1

2 As a result, affiliates of D&E Communications (D&E Systems and CEI
3 Networks, collectively identified as "D&E" in the Line Count Study), Penn
4 Telecom and CTSI (Commonwealth) are triggering CLECs in the MSAs
5 wherever they are serving mass market customers using non-Verizon switching,
6 regardless of whether they are affiliated with an ILEC from another territory and
7 regardless of whether **[BEGIN PROPRIETARY]**
8 **[END PROPRIETARY]**

9 Q. SEVERAL OF THE CLECS ARGUE THAT THE REQUIREMENT THAT A CLEC
10 BE "ACTIVELY PROVIDING VOICE SERVICE" GIVES THE COMMISSION THE
11 DISCRETION TO EXAMINE EACH CLEC'S BUSINESS PLAN AND TO
12 DETERMINE IF THE CLEC IS ADDING ADDITIONAL CUSTOMERS USING
13 UNE-L. IS THIS ALLOWED BY THE TRO?

14 A. No, it is not. The evidence that a CLEC is "actively providing voice service" is
15 satisfied by evidence that it is currently serving mass market customers using its
16 own switching. Verizon has proven this for each of the qualifying carriers in
17 Rebuttal Attachment 5. Moreover, determining whether a carrier is "likely to
18 continue" providing voice service to mass market customers does not give the
19 Commission the discretion to examine the viability of a particular CLEC's business
20 plan or whether the CLEC is adding new customers. Indeed, the FCC found that
21 states could not look at issues such as the "financial stability or well-being of the

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Communications, Form 10-K Annual Report for 2002 (relevant portions attached

1 competitive switching providers" in applying the triggers. *TRO* ¶ 500. The FCC
2 was clear that, in examining whether a CLEC is "likely to continue" to "offer[] and
3 [be] able to provide service," the Commission may look only at whether a CLEC has
4 affirmatively indicated that it is exiting the market altogether – such as by filing a
5 notice to terminate service – not at evidence that the carrier may be losing customers
6 to its competitors, or increasing its reliance on a UNE-P strategy. *Id.* and note 1556.

7 Q. **AT&T'S WITNESSES KIRCHBERGER AND NURSE (AT 46) CONCEDE THAT**
8 **AT&T PROVIDES SERVICE TO MASS MARKET BUSINESS CUSTOMERS**
9 **USING ITS OWN SWITCHING IN THE PITTSBURGH AND PHILADELPHIA**
10 **MSAS, BUT THAT IT PREFERS UNE-P TO ITS UNE-L STRATEGY, AND THUS**
11 **SHOULD NOT COUNT TOWARD THE TRIGGERS. WHAT IS YOUR**
12 **REACTION?**

13 A. The fact that AT&T does currently serve mass market customers using its own
14 switching makes it a triggering carrier, even if it is also using UNE-P to serve other
15 customers and may prefer that strategy. As the Ohio Commission recently ruled,
16 "the market entry of competitors using UNE-P to serve customers, and their business
17 plans that are focused on using the highest profitability entry method, are irrelevant
18 to the determination whether the competitive provider is impaired without access to
19 the unbundled local switching." Ohio Order at 33 (Rebuttal Attachment 2). In other
20 words, the fact that AT&T has found it more profitable to rely on UNE-P for the
21 majority of its mass market customers is irrelevant to the trigger analysis, which

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hereto as Rebuttal Attachment 4).

1 looks at whether AT&T serves any mass market customers using its own switching.
2 Differences in profitability between the two strategies is not the standard for
3 application of the trigger.

4 Q. IN ADDITION TO THE MORE GENERAL ARGUMENTS ADDRESSED ABOVE,
5 THE CLECS RAISE ADDITIONAL CLAIMS THAT SPECIFIC CARRIERS IN
6 VERIZON'S LINE COUNT STUDY AND E911 ANALYSIS SHOULD BE
7 DISQUALIFIED. DO YOU HAVE A RESPONSE?

8 A. Yes. Below we respond to the various attempts to exclude specific CLECs from the
9 mass market switching trigger and explain why each of them is properly included as
10 triggering CLEC.

11 • **Allegiance**

12 Based on Verizon's Line Count Study and Allegiance's responses to data
13 requests, there can be no serious question that Allegiance is actively serving mass
14 market business customers using its own switching in the **[BEGIN**
15 **PROPRIETARY]**
16 **[END**
17 **PROPRIETARY]** Moreover, Allegiance itself does not dispute that it is a
18 qualifying carrier for the purposes of the self-deployment trigger for mass market
19 switching. Nevertheless, CLEC Coalition witness Gillan (at 52-54) and AT&T's
20 witnesses Kirchberger and Nurse (at 47) claim that, because Allegiance is in
21 bankruptcy and has entered into an agreement for the sale of some of its assets to

Qwest, it cannot count toward the triggers. This is precisely the type of information that the Commission *may not* consider as part of its trigger analysis. Indeed, in holding that "states *shall not* evaluate any other factors, such as the financial stability or well-being of the competitive switching providers," the FCC explicitly recognized that "[r]egardless of [a competing carrier's] financial status, the physical assets remain viable and may be bought by someone else and remain in service." *TRO* ¶ 500. Therefore, it is irrelevant that Qwest and Allegiance have entered into an agreement for the sale of the Allegiance assets as part of Allegiance's Chapter 11 plan.

Moreover, Mr. Gillan's claim that Qwest will cease providing service to the mass market is pure speculation. (Gillan Direct at 52-54). To Verizon's knowledge, Allegiance has not filed a notice to terminate service in the Pennsylvania market, and its own testimony reveals that it is **[BEGIN PROPRIETARY]** **[END PROPRIETARY]** (Anderson Direct at 3) Moreover, as reported by Business Week:

> [Allegiance] has perhaps the most robust network of any telecom competitor to the Baby Bells. Launched in 1997 by telecom veteran Royce Holland, Allegiance serves 100,000 small and midsize businesses in 36 markets. Whoever picks up its assets acquires infrastructure, employees, and customer relationships that would take years and billions of dollars to establish. Allegiance raised $3 billion to build its network. "For anyone that wants to be a national player, this gives them a natural leg up," Holland says.

Qwest Opens the War for Allegiance, Business Week Online, December 19, 2003. In addition, Qwest's CEO Richard Notebaert has been quoted as saying that the Allegiance deal "will take [Qwest] down a layer or two in the customer base" to serve smaller businesses. *Qwest to Buy Allegiance Telecom*, Chicago Tribune, p. 3, December 19, 2003. Clearly, the value of the Allegiance purchase to Qwest is obtaining access to the existing Allegiance small and medium business customer base. Therefore, even if evidence of the proposed bankruptcy sale of Allegiance's assets were relevant to the triggers – which it is not – there is absolutely no basis for a claim that the Allegiance assets will no longer be used to serve the mass market if the sale is consummated.

- **XO Communications**

AT&T claims that XO cannot qualify as a triggering CLEC because, in its response to the Joint Parties Data Requests, XO stated that it "does not currently provide local exchange service to business customers using analog voice-grade loops served by a non-ILEC switch." (Kirchberger/Nurse at 41). XO's responses to the other data requests, however, completely contradict its response to Joint Parties-6, and thus indicate that XO may have interpreted the question to refer to non-ILEC wholesale providers.

[BEGIN PROPRIETARY]

[END PROPRIETARY] Therefore, absent an affirmative statement that XO does not provide *any* local exchange service to these DS0-only business customers (which is highly unlikely), the Commission should count XO as a qualifying carrier for the purposes of the triggers.

Indeed, XO unambiguously holds itself out to the market in Pennsylvania and elsewhere as providing POTS service to mass market business customers using analog lines. Featured prominently on XO's website is its "XO™ Basic Business Lines" service (which it offers in *all* its markets, including Pennsylvania):

> XO™ Basic Business Lines, often called "Plain Old Telephone Service" or POTS lines, supply a single, voice-grade communication channel for telephones, key systems, modems and other devices that need access to the Public Switched Telephone Network (PSTN). Basic Business Lines provide small, growing and large businesses with low-cost, flexible telephone service.

http://www.xo.com/products/smallgrowing/voice/local/businesslines/index.html.

- **Comcast**

CLEC Coalition witness Gillan (at 59) and AT&T witnesses Kirchberger and Nurse (at 44) claim that Comcast cannot count as a triggering company because it

[BEGIN PROPRIETARY]

[END PROPRIETARY]. Therefore, Comcast counts as a qualifying carrier for the purposes of the self-deployment trigger.

In addition, AT&T and the CLEC Coalition claim that, because Comcast may be "scaling back its circuit-switched telephony operations and would concentrate instead on . . . packet switched technology," it cannot count toward the triggers. (Kirchberger/Nurse at 44; Gillan at 59-61) However, for the reasons we discuss above, Comcast's future business plans are irrelevant to the trigger analysis. Moreover, even if it were appropriate to consider this issue, it is clear that Comcast intends to continue offering service to mass market customers – it is merely contemplating an upgrade to newer packet-switched technology to do so. The FCC expressly instructed the states to consider packet and soft switches used to serve mass market customers in the trigger analysis, *TRO* ¶ 499 n. 1549; it did not in any way limit the analysis to traditional circuit-switched telephony. Therefore, it is irrelevant that Comcast may someday choose to swap packet for circuit switching to serve its residential customer base; it is currently and actively serving **[BEGIN PROPRIETARY]**

[END PROPRIETARY]

- **Broadview**

[BEGIN PROPRIETARY]

[END PROPRIETARY] However, as Verizon witness Taylor explains in more detail, there is no requirement that a carrier serve mass market customers ubiquitously throughout the market, or that it even be capable of doing so. Broadview unambiguously meets each and every element of the FCC's self-deployment trigger and must be counted as a qualifying CLEC in the Philadelphia MSA.

- **Full Service Networks**

PCC witness Honeywill claims that Full Service Networks ("FSN") cannot count as a self-providing CLEC because it **[BEGIN PROPRIETARY]**

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6 **[END PROPRIETARY]**
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8 In any event, based on Mr. Honeywill's testimony and FSN's responses to
9 Commission Data Requests, FSN is serving **[BEGIN PROPRIETARY]**
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16 **[END PROPRIETARY]** Mr.
17 Honeywill's claim that the *TRO* identifies customers in multi-unit premises as
18 "enterprise customers" for purposes of analyzing impairment for switching is

[7] **[BEGIN PROPRIETARY]**

incorrect. The portions of the Order cited by Mr. Honeywill (*TRO* ¶ 197 n. 624) relate to the analysis of impairment with respect to *loop* facilities, not switching. As the FCC made clear, the difference between mass market and enterprise customers "may vary slightly from element to element because of the different economic considerations that surround different elements." *TRO* ¶ 123. The mass market for the purposes of *switching* includes all residential customers, even those that reside in multi-tenant buildings.

- **SBC Telecom**

CLEC Coalition witness Gillan claims that SBC Telecom should not be considered to "actively" provide service to mass market customers using its own switches because it is providing service to mass market customers pursuant to a merger agreement. According to Mr. Gillan, SBC Telecom agreed to deploy switches and provide service to mass market customers out-of-franchise in exchange for approval of its merger with Ameritech. However, the FCC's trigger analysis does not look at *why* a particular carrier is serving mass market customers in the relevant geographic market using its own switching, only *whether* the carrier is doing so.

Q. ARE THERE ANY OTHER ISSUES RAISED IN THE OTHER PARTIES' TESTIMONY THAT NEED TO BE ADDRESSED OR CLARIFIED?

[END PROPRIETARY]

A. Yes. Penn Telecom witness Myers claims that we listed certain carriers that are no longer doing business in Pennsylvania as "actively utilizing self-provisioned switches" in our Direct Testimony (in particular, Broadstreet, e.spire, and Net2000). Mr. Myers has clearly misread that testimony. Table 1 in our Direct Testimony merely lists carriers that "have deployed local circuit switches in Pennsylvania." Moreover, we explicitly stated that the "information in [Table 1] reflects data as it appears in the Local Exchange Routing Guide ('LERG')." We further recognized that "there may be instances in which a CLEC switch is assigned to a particular CLEC in the LERG, but where it has in fact been assigned for use by another carrier, such as a successor carrier." Therefore, at no time did we ever represent that each of the carriers named in the LERG was "actively utilizing self-provisioned switches," but rather that the switches have been deployed and likely are being used by someone to provide local exchange service.

Mr. Myers makes other inaccurate claims about the quality of data that Verizon has provided in response to AT&T's Data Requests. In particular, Mr. Myers claims that Verizon somehow misrepresented that Penn Telecom had failed to confirm in its responses to the Commission's Data Requests that it was using the switch we had identified in Table 1 of our Direct Testimony as a Penn Telecom switch **[BEGIN PROPRIETARY]** **[END PROPRIETARY]** to serve mass market customers. However, Verizon's response to AT&T's Data Request was completely accurate – Penn Telecom did *not*

provide information in response to the Commission Data Requests – *i.e.*, CLLI code or address – sufficient to confirm that it was using the particular switch identified by Verizon from the LERG in Table 1 of our Direct Testimony. Therefore, Verizon could not state with certainty that Penn Telecom had admitted that it used that particular switch to serve mass market customers. Moreover, Verizon was explicit that the list provided in response to AT&T's Data Request did not include all of the additional switches identified by Penn Telecom and other CLECs in discovery, but only listed the switches identified in Table 1 of our testimony. Therefore, Mr. Myers' accusations are wholly unfounded and should be ignored. In any event. Penn Telecom has now confirmed that it does in fact serve mass market customers using its own switches.

V. DEDICATED TRANSPORT

A. THE CLECS' TESTIMONY LARGELY CONFIRMS AND IS CONSISTENT WITH VERIZON'S EVIDENCE.

Q. WHAT IS YOUR REACTION TO THE TESTIMONY FILED BY THE CLECS WITH RESPECT TO VERIZON'S DEDICATED TRANSPORT CASE?

A. Only a small handful of carriers, such as the Pennsylvania Carriers' Coalition, Allegiance, Penn Telecom, and Cavalier have even attempted in their testimony to respond to Verizon's evidence by presenting specific factual evidence about particular transport routes. The vast majority of carriers, such as MCI, AT&T, and Sprint, instead have adopted a strategy of proclaiming that Verizon bears the entire

burden of proving each and every fact concerning the existence and uses of non-Verizon transport facilities, refusing to provide the granular information called for by the FCC even about their own networks, and then raising entirely hypothetical or generalized complaints in their testimony about Verizon's methodology and evidence.

In addition, a few carriers, most notably AT&T and Sprint, are relying in their rebuttal testimony entirely on unsupportable interpretations of the FCC's Order. AT&T claims that *none* of its pervasive and robust fiber transport facilities "count" for purposes of the FCC's transport triggers because traffic from an AT&T collocation arrangement at a Verizon wire center may pass through an AT&T switch before being delivered to an AT&T collocation arrangement at another Verizon wire center. Because its transport network may involve an intervening switch, AT&T has simply refused to submit hard evidence concerning its own transport network and business operations in this proceeding. Based on its misinterpretation of the FCC's rules, AT&T also refused to respond fully to the Commission's own discovery requests. AT&T's position is outrageous, and threatens to make a mockery of this proceeding: the FCC specifically said in its Order that a dedicated transport route "*may pass through one or more intermediate* wire centers or *switches*."[8]

[8] The FCC defined a dedicated transport "route" as "a transmission path between one of an incumbent LEC's wire centers or switches and another of the incumbent ILEC wire

Nevertheless, the CLECs' testimony, though glaringly deficient on hard facts, largely confirms the evidence Verizon submitted in support of its transport case, *i.e.* that the transport routes listed in Exhibits 3, 4, 5 and 6 of Verizon's supplemental testimony satisfy the FCC's triggers. Most notably, in their rebuttal testimony, many carriers do not even bother to dispute Verizon's evidence -- *even about their own transport networks, business strategies, and products.* And those few carriers that do have specific complaints about Verizon's evidence have relatively few. In their rebuttal testimony, CLECs have submitted little or no hard evidence disputing that:

> Competitive carriers have operational collocation arrangements, fed with non-Verizon fiber, at the Verizon wire centers identified by Verizon;
>
> Those fiber facilities are transport facilities (not loop facilities);
>
> Competitive carriers have generally constructed their fiber transport facilities as fiber rings;
>
> Competitive carriers' fiber transport facilities are connected to Verizon wire centers and to each other;
>
> Competitive carriers operate their fiber transport facilities at an OCn level;

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centers or switches. A route between two points (*e.g.*, wire center or switch 'A' and wire center or switch 'X') may pass through one or more intermediate wire centers or switches (*e.g.*, wire center or switch 'Z'). Transmission paths between identical end points (*e.g.*, wire center or switch 'A' and wire center or switch 'Z') are the same 'route,' irrespective of whether they pass through the same intermediate wire centers or switches, if any." 47 C.F.R. § 51.319(e).

Competitive carriers provide DS1-level and DS3-level transport on those OCn transport facilities; and

Competitive carriers' fiber facilities generally contain unlit or "dark" fibers.

Q. PLEASE EXPLAIN HOW THE CLECS' TESTIMONY CONFIRMS VERIZON'S EVIDENCE THAT COMPETITIVE CARRIERS HAVE OPERATIONAL COLLOCATION ARRANGEMENTS, FED WITH NON-VERIZON FIBER, AT THE VERIZON WIRE CENTERS IDENTIFIED BY VERIZON?

A. AT&T, MCI, Choice One, Penn Telecom,[9] Snip Link, the Pennsylvania Carriers' Coalition (PCC), and Sprint do not challenge Verizon's evidence of the Verizon wire centers at which each carrier (or the Coalitions' constituent members) has operational collocation arrangements fed with non-Verizon fiber. To be clear, none of these carriers has challenged Verizon's evidence concerning the carrier's own network for even a single wire center. In addition, Cavalier has only disputed a handful of the hundreds of collocation arrangements that Verizon has identified as operational and containing non-Verizon fiber. Of course, these carriers know the Verizon wire centers at which they have operational collocation arrangements fed with non-Verizon fiber, and have every incentive to dispute evidence they believe mistaken. Verizon's evidence on these undisputed collocations arrangements should be deemed admitted.

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[9] Penn Telecom testified that it is collocated at **[BEGIN HIGHLY CONFIDENTIAL]**

[END HIGHLY CONFIDENTIAL] Penn Telecom Testimony, Myers at 3-4.

1 Q. HAS ANY CARRIER SUBMITTED EVIDENCE THAT VERIZON INCORRECTLY
2 IDENTIFIED A FACILITY AS A TRANSPORT FACILITY, WHEN IN FACT IT IS
3 A LOOP FACILITY?

4 A. No. None of the carriers that submitted testimony in this proceeding on behalf of
5 themselves or constituent members has claimed, for a particular route or facility, that
6 Verizon incorrectly identified a loop facility as a transport facility. MCI suggests
7 hypothetically that "CLECs often use collocation arrangements to aggregate
8 unbundled loops," but does not identify a single instance in which Verizon
9 misidentified a loop as transport.[10] If Verizon identified an MCI facility as transport
10 when in fact it was a loop, MCI – which of course knows whether its fiber is being
11 used as loop or as transport – would have said so. Given that there is no evidence
12 supporting the MCI's generalized complaint that the MCI fiber facilities (or any
13 other carriers' fiber facilities) identified by Verizon could be loops, the Commission
14 should find them to be transport facilities.

15 Q. DOES THE CLECS' TESTIMONY CONFIRM VERIZON'S CONCLUSION THAT
16 COMPETITIVE CARRIERS GENERALLY BUILD THEIR TRANSPORT
17 FACILITIES IN FIBER RINGS SO THAT TRAFFIC CAN AND DOES FLOW
18 BETWEEN THEIR FIBER COLLOCATION ARRANGEMENTS IN VERIZON
19 WIRE CENTERS?

20 A. Yes. In our direct testimony, we explained that if a competitive carrier has
21 operational, fiber-based collocations in two or more Verizon wire centers, it is very

[10] MCI Testimony, Pelcovits at 89.

likely that those facilities are part of a fiber ring network connecting these wire centers, and that traffic can and does flow to and from all parts of the carrier's network. Only one carrier – Allegiance – has testified that **[BEGIN PROPRIETARY]**

[END PROPRIETARY] In addition, no carrier appears to have submitted evidence showing that the transport facilities of non-parties (such as City Signal and Telcove) are not physically interconnected.

To be sure, many if not most carriers argue hypothetically that their own facilities or competitive facilities *might* not be interconnected. For example, Sprint offers a laundry list of possible reasons why competitive networks might not be connected.[11] But Sprint and the other carriers never challenge Verizon's evidence on any particular transport route -- even with respect to their own networks. AT&T similarly complains that the existence of operational, fiber-based collocations does not prove competitive transport.[12] But AT&T's testimony about its *own network* confirms Verizon's conclusion: AT&T testified that it uses a hub-and-spoke architecture in which each of AT&T's fiber-based collocations is connected to a central switch and, therefore, indirectly connected to each other through that switch.[13]

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[11] Sprint Testimony, Dunbar at 11-13.

[12] AT&T Testimony, Kirchberger at 105.

[13] AT&T Testimony, Kirchberger at 105-06, at 110-112.

MCI also asserts in its testimony that not all of its fiber rings in Pennsylvania pass through more than one ILEC wire center,[14] but does *not* say that its fiber rings are physically separate and unconnected. Under the FCC's rules, the issue is whether MCI can directly or indirectly take traffic from one Verizon wire center to another wire center. If MCI's fiber rings are physically connected – and MCI has essentially conceded in its testimony that they are – the number of Verizon wire centers on each is completely irrelevant. (MCI's statement is also an important concession that at least some of its fiber rings in Pennsylvania do "pass through" more than one ILEC wire center.)

Q. **DOES THE CLECS' TESTIMONY CONFIRM THAT THEIR FIBER TRANSPORT FACILITIES OPERATE AT AN OCN LEVEL, JUST AS VERIZON CONCLUDED IN ITS DIRECT TESTIMONY?**

A. Yes. No carrier appears to contest this point. In response to the Commission's discovery requests, most if not all carriers that self-provision transport, including AT&T and MCI, reported that they have attached optronics to their fiber facilities to allow those facilities to operate at an OCn level.

Q. **DOES THE CLECS' TESTIMONY GENERALLY CONFIRM THAT THEY "RUN" DS1 OR DS3 SPEEDS (AMONG OTHERS) OVER THEIR OCN FIBER TRANSPORT FACILITIES?**

[14] MCI Testimony, Pelcovits at 89-90.

A. Yes. We explained in our direct testimony that competing carriers very typically build fiber networks at an OCn capacity and then offer the lower speeds required by customers, including DS1 or DS3 speeds. In their testimony, most carriers do not dispute that they operate their self-deployed dedicated transport systems in precisely this manner. Some CLECs have even submitted testimony supporting Verizon's conclusion. For example, Allegiance, which acknowledges self-provisioning some of its transport facilities, reports that it **[BEGIN PROPRIETARY]**

[END PROPRIETARY] AT&T admits that "it is not a stretch to say that OCn fiber facilities are 'capable of channelization to DS1 or DS3 capacity services.'"[17] And on its own website, AT&T advertises SONET and private line services that including "channelization" to "lower capacity DS1, DS3, OC3, and OC12 signals."[18] The Commission should not assume that AT&T is incapable of doing precisely what AT&T's own website states that it can do.

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[15] Allegiance Testimony, Anderson at 3.

[16] *Id.* at 4.

[17] AT&T Testimony, Kirchberger at 110.

[18] *See, e.g.*, AT&T SONET and Optical Private Line Services, at http://www.business.att.com/products/optiondetails.jsp?productID=sonet&option=sonet_ioc. (AT&T's "Local Channel circuit Multiplexing Office Function . . . allows for

While acknowledging that it offers lower speeds including DS1s and DS3s over its OCn facilities network on a nationwide basis, AT&T argues that this may not be correct for any particular route.[19] Tellingly, though, AT&T does not identify any particular routes where its network is incapable of providing DS1 or DS3 level transport, nor does it suggest that this may be the case on even some of AT&T's fiber routes.

Q. DOES THE CLECS' TESTIMONY GENERALLY CONFIRM THAT THE CARRIERS THAT VERIZON IDENTIFIED AS WHOLESALE PROVIDERS ARE IN FACT WHOLESALE PROVIDERS?

A. The CLECs' testimony confirmed that many of the competitive carriers that Verizon identified as wholesale providers are in fact wholesale providers. For example, **[BEGIN PROPRIETARY]**

[END PROPRIETARY] And in its testimony, MCI does not take issue with a single route, or level of capacity (i.e., DS1, DS3, dark fiber), that Verizon identified as MCI providing, or being willing to provide, to other carriers. MCI suggests hypothetically that carriers might not have standard contracts or tariffs, and therefore might not be operationally ready to provide wholesale

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channelization and an economical way to separate and transmit lower-capacity DS1, DS3, OC3 and OC12 signals.").

1 transport. But MCI does not say -- as to its own operations and network – that it is
2 not operationally ready to provide wholesale transport, nor does MCI say that it does
3 not have a standard wholesale contract or tariff. In any event, other carriers in
4 discovery responses have identified MCI as the source of their transport facilities.
5 For example, **[BEGIN PROPRIETARY]**
6 **[END PROPRIETARY]**[20]
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8 In addition, a number of CLECs have testified that they have obtained transport
9 from the competitive carriers that did not submit testimony in this proceeding,
10 thereby confirming Verizon's designations as to those carriers. For example,
11 **[BEGIN PROPRIETARY]**
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19 **[END PROPRIETARY]**

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[19] AT&T Testimony, Kirchberger at 106.

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[23] Cavalier Testimony, Vermeulen at 6.

And still other carriers appear to base their claims that they do not offer wholesale transport on erroneous conclusions about the FCC's rules. For example, AT&T does not dispute *a single specific route* that Verizon has identified in its supplemental testimony as meeting the wholesale trigger. Instead, AT&T relies on its mistaken assertion that, even though it is undeniably willing to provide transport to other carriers precisely as Verizon says, none of its transport facilities in Pennsylvania (or indeed, apparently anywhere in the country) "count" under the transport triggers. Specifically, AT&T claims that, for purposes of the FCC's transport triggers, a dedicated transport route between ILEC wire centers must connect those centers *directly*, on one continuous end-to-end dedicated circuit, and cannot pass through an AT&T switch on the way. The FCC's rules, however, are clear and unambiguous that a dedicated transport route "*may pass through one or more intermediate* ***switches*** or wire centers." Of course, neither in response to discovery nor in its testimony has AT&T denied that it has entered into agreements allowing other carriers to use its transmission facilities to carry signals from one Verizon wire center to one or more switches and then onward to another Verizon wire center.

Similarly, XO claims that it "does not provide transport to third parties between two incumbent local exchange carrier central offices in Pennsylvania."[24] Of course, this leaves open the possibility that XO provides to third parties

transmission paths between a Verizon central office and XO's switch, and then again from that switch to another Verizon central office, which, as explained above, *is* dedicated transport for purposes of the transport trigger analysis under the FCC's Order.

Finally, carriers such as Allegiance and Cavalier assert that they do not provide transport at wholesale, even though they publicly hold themselves out on their websites and in tariffs filed with the Commission as being wholesale transport providers. In the next section, we discuss these specific claims by Allegiance and Cavalier with respect to the wholesale trigger, and show why they should not be credited.

Q. DOES THE CLECS' TESTIMONY GENERALLY CONFIRM THAT CLECS SELF-PROVISION DARK FIBER?

A. Yes. As Verizon explained in its direct testimony, it is reasonable to assume that all self-provisioned carriers have dark fiber. Dark fiber is simply fiber optic cable "that has not been activated through connections to optronics that light it, and thereby render it capable of carrying communications."[25] All fiber, regardless of the capacities at which some of it now operates, once was dark fiber.

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[24] XO Testimony, Hudson at 2.

[25] *TRO* ¶ 381.

With the exceptions of Penn Telecom and Sprint, the carriers submitting testimony in this proceeding do not appear to have challenged the common sense proposition that as a matter of basic network engineering and sound economics most self-provisioned fiber transport facilities will have dark fibers. Indeed, in its testimony, MCI *admits* the overall correctness of Verizon's general conclusion, saying "it is true that no carrier would place only enough fiber capacity to serve its existing demand."[26] Consistent with its admission, MCI does not challenge *a single* transport route identified by Verizon as meeting the self-provisioning trigger for dark fiber. Likewise, Allegiance, Choice One, Cavalier, and XO do not take issue with Verizon's evidence of the direct transport routes meeting the self-provisioning trigger for dark fiber,[27] nor do they take issue with the general conclusion that self-provisioned transport facilities contain dark fiber.

B. RESPONSES TO SPECIFIC FACTUAL ALLEGATIONS IN CLEC TESTIMONY

Q. **DID CLECS RAISE SPECIFIC FACTUAL ISSUES ABOUT THE DIRECT TRANSPORT ROUTES IDENTIFIED BY VERIZON IN ITS INITIAL AND SUPPLEMENTAL TESTIMONY?**

A. Yes, some carriers – Cavalier, Allegiance, Snip Link, Penn Telecom, and the PCC -- have attempted to provide the Commission with the route-by-route analysis required

[26] MCI Testimony, Pelcovits at 99.

[27] Allegiance and Cavalier dispute Verizon's identification of a few collocation arrangements, but do not specifically challenge Verizon's general conclusion that most if not all self-provisioned transport facilities contain dark fiber.

by the FCC's Order by raising specific factual questions and concerns about some of the transport routes that Verizon has identified as meeting one or both of the FCC's triggers. The approach taken by these carriers stands in stark contrast to the generalized denials offered by MCI and AT&T and others. In the section below, we address these factual issues, and show that most of them stem from simple misunderstandings about the evidence or can otherwise be easily resolved.

i. Cavalier

Q. IN ITS SUPPLEMENTAL TESTIMONY, VERIZON IDENTIFIED CAVALIER AS HAVING OPERATIONAL COLLOCATION ARRANGEMENTS FED WITH NON-VERIZON FIBER AT THE DEWEY AND TROOPER WIRE CENTERS. CAVALIER CLAIMS THAT THIS IS INCORRECT, AND ARGUES THAT VERIZON'S VISUAL INSPECTIONS OF CLEC COLLOCATION ARRANGEMENTS WAS "SLOPPY" AND "BOUND TO PRODUCE ERRONEOUS DATA."[28] WHAT IS YOUR RESPONSE?

A. Cavalier – *not Verizon* -- identified Cavalier as having operational collocation arrangements, **[BEGIN PROPRIETARY]**

[28] Cavalier Testimony, Vermeulen at 4-5.

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13 **[END**
14 **PROPRIETARY]**

15 Q. CAVALIER ALSO CRITICIZES VERIZON FOR IDENTIFYING CAVALIER AS A
16 CARRIER THAT PROVIDES, OR OFFERS TO PROVIDE, DARK FIBER
17 TRANSPORT AT WHOLESALE.[31] WHY DOES VERIZON BELIEVE THE
18 COMMISSION MAY APPROPRIATELY TREAT CAVALIER HAS OFFERING TO
19 PROVIDE DARK FIBER TRANSPORT TO OTHER CARRIERS?

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1 A. Cavalier advertises wholesale dark fiber on its website. Specifically, Cavalier offers
2 its "Metro Dark Fiber Rings" in Philadelphia "to carriers and resellers" on the
3 "Wholesale Services" page of its website.[32] Cavalier does not say on its website that
4 its offer to provide dark fiber to other carriers in Philadelphia is limited only to
5 certain portions of its network. Cavalier therefore "is willing immediately to
6 provide" wholesale dark fiber, and it is appropriate for Verizon and the Commission
7 to "count" it as such. (Although Cavalier disputes Verizon's evidence that
8 Cavalier wholesales dark fiber it does not dispute Verizon's evidence that Cavalier
9 offers DS-1s and DS-3s at wholesale.)

10 Q. CAVALIER ASSERTS THAT [BEGIN PROPRIETARY]
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[31] Cavalier Testimony, Vermeulen at 5-6.

[32] www.cavtel.com/wholesale. A copy of this web page is attached as Rebuttal Attachment 8.

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11 **[END PROPRIETARY]**

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13 Q. CAVALIER CLAIMS THAT, IN MR. VERMEULEN'S EXPERIENCE, MCI DOES

14 NOT LEASE DARK FIBER DEDICATED TRANSPORT.[39] IN YOUR OPINION,

15 BASED ON THE EVIDENCE PRESENTED TO DATE, SHOULD MCI BE

16 "COUNTED" AS A WHOLESALE PROVIDER OF DARK FIBER?

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[37] In its Exhibit 6, the PCC also questions whether **[BEGIN PROPRIETARY]** **[END PROPRIETARY]** See PCC Testimony, Ex. 6.

[38]

[39] Cavalier Testimony, Vermeulen at 7.

1 A. Yes, for a number of reasons. First, it is undisputed that MCI has spare fibers – i.e.,
2 dark fibers -- in its dedicated transport facilities.[40] Second, it is undisputed that MCI
3 is ready, able, and willing to provide dedicated transport facilities to other carriers
4 Among other things, in its response to the Commission's discovery requests, MCI
5 does not deny that it provides transport to other carriers; other carriers have
6 identified MCI as the source of their transport; and MCI publicly holds itself out on
7 its website and elsewhere as offering transport to other carriers. Third, MCI has not
8 responded to Verizon's initial and supplemental testimony – both of which identify
9 MCI as a wholesale provider of dark fiber – by claiming that it does not wholesale
10 dark fiber. Indeed, MCI has not identified a single route along which it is unable or
11 unwilling to provide dark fiber transport. Unless MCI states that it does not offer
12 dark fiber to other carriers, given this evidence, Verizon is justified in counting MCI
13 as a provider of wholesale dark fiber for purposes of the FCC's triggers.

14 Q. **CAVALIER ALSO CLAIMS THAT METROMEDIA FIBER DOES NOT PROVIDE**
15 **WHOLESALE DS1 OR DS3-LEVEL TRANSPORT.[41] HOW DO YOU RESPOND?**

16 A. AboveNet, formerly Metromedia Fiber Network (MFN), is not a party to this
17 proceeding and, therefore, has not responded to the Commission's discovery
18 requests. Nothing on AboveNet's website, however, limits its wholesale transport

[40] MCI did not say in response to the Commission's discovery requests that it has no spare fiber; it said that it "does not track whether the transport is lit or dark." *See* MCI WorldCom Network Services, Inc. to Pennsylvania Public Utility Commission's Appendix A Interrogatories Dated October 3, 2003, Interrogatory No. 3.

1 services to dark fiber, as Cavalier claims. To the contrary, on its website, AboveNet
2 states that it is willing to provide speeds "up to OC-48 (OC-192 in some locations).[42]
3 Obviously, if AboveNet is providing a speed, the fiber is lit, not dark.

4 Q. CAVALIER ASSERTS THAT VERIZON IS SEEKING TO "ELIMINATE UNE
5 TRANSPORT MERELY BY SHOWING THAT 'ONE END' OF THE ROUTE IS IN
6 PENNSYLVANIA.[43] IS THAT WHAT VERIZON DOES IN ITS TESTIMONY?

7 A. No. Verizon has included a direct route in its triggers case only if it has evidence
8 that both ends of the direct route meet one or both of the triggers. In its
9 supplemental testimony, Verizon asked this Commission for relief on 44 routes for
10 which one end of the direct route is in Delaware,[44] which of course is part of the
11 Philadelphia LATA. Verizon also will be submitting evidence of these routes to the
12 Delaware commission. This is consistent with the FCC's rules. The FCC defined
13 dedicated transport as "those transmission facilities connecting incumbent ILEC
14 switches and wire centers *within a LATA*."[45] The FCC then delegated to the state
15 commissions the responsibility of gathering evidence on the location of competitive
16 transport facilities and applying it to the triggers. The FCC is well aware that some
17 LATAs cross state boundaries, but did not reserve to itself the responsibility of

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[41] Cavalier Testimony, Vermeulen at 8. Snip Link makes the same claim at page 23 of its testimony.

[30] www.abovenet.com/products/transport-ipbandwidth.html. (Rebuttal Attachment 10).

[43] Cavalier Testimony, Vermeulen at 2.

[44] Verizon does not ask the Commission for relief on the three direct transport routes that both originate and terminate in Delaware.

conducting the transport triggers analysis in that circumstance. At this point, Cavalier's stated concern -- that this Commission and the Delaware commission might reach different conclusions – is entirely hypothetical and premature.

ii. Allegiance

Q. ALLEGIANCE ASSERTS THAT ITS FIBER RINGS IN PENNSYLVANIA ARE NOT CONNECTED, AND SUGGESTS THAT THIS CHANGES THE NUMBER OF TRANSPORT ROUTES THAT MEET THE FCC'S TRIGGERS.[46] HOW DO YOU RESPOND?

A. Even if Allegiance's fiber rings are not connected, Allegiance has not identified a single transport route that is affected by this circumstance. Put differently, even if Allegiance's local fiber rings are not connected, since these rings are an integral part of the Allegiance network, the specific pairs of Verizon wire centers that Verizon identified as being at either end of a direct route could nevertheless be directly or indirectly connected by Allegiance transport facilities. Furthermore, even if Allegiance were to be removed from the analysis for a few wire centers, that might not affect the total number of direct routes meeting the transport triggers because the self-provisioning trigger requires three or more self-provisioning carriers, and the wholesale trigger requires two or more self-provisioning carriers – and those routes may still qualify even if Allegiance were not counted.

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[45] *TRO* ¶ 365 (emphasis added) and n.1111.

[46] Allegiance Testimony, Anderson at 7.

1 Q. ALLEGIANCE STATES THAT IT [BEGIN PROPRIETARY]
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14 **[END PROPRIETARY]**

15 Q. ALLEGIANCE STATES THAT IT "HAS NOT PROVIDED ANY WHOLESALE
16 TRANSPORT IN PENNSYLVANIA."[47] DOES THIS MEAN THAT ALLEGIANCE IS
17 NOT APPROPRIATELY CONSIDERED A WHOLESALE TRANSPORT
18 PROVIDER FOR PURPOSES OF THE FCC'S TRIGGERS?

19 A. No. As we understand the FCC's Order, it is not necessary that a carrier actually
20 have wholesale arrangements presently in place to "count" as a wholesale provider,

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as long as the carrier is ready and willing to provide wholesale transport. Allegiance certainly appears to meet that test. Allegiance holds itself out on its website and elsewhere as willing to provide transport at wholesale: "Our Broadband-xSP, Enterprise and Government groups provide a wide range of telephony and Internet solutions for *service carriers*, including ISPs, local and international carriers, building centric access providers, Fortune 500 Companies, governmental and educational organizations."[50] Indeed, Allegiance declares on its website that it offers carriers two "Dedicated DS1 Aggregation" products -- "DS3 Hub" and "DS3 Mux" – which allow other carriers to "sell T1-based services to [its] customers, nationwide, without building a point-of-presence in each geographic location" – all on a network that Allegiance "owns."[51] Allegiance even has a "Carrier and Service Provider Solutions" brochure posted on its website,[52] along with information on how to contact Allegiance's "Wholesale" representatives and obtain Allegiance's "Wholesale Service Level Agreement."

Allegiance has also admits that it filed an Access Tariff in Pennsylvania stating that it will provide DS1 and DS3 private line services, without excluding carriers

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[49] Allegiance Testimony, Anderson at 8.

[50] www.algx.com/wholesale/wholesale.jsp (emphasis added). (Rebuttal Attachment 11).

[51] www.algx.com/wholesale/dds1.jsp (Rebuttal Attachment 12).

[52] Rebuttal Attachment 13.

as purchasers.[53] Of course, Allegiance's tariffs bind it as seller and potential seller, just as surely as they bind any potential buyers of Allegiance's services.

Furthermore, Allegiance's claim that it is not operationally ready rests on its position that its collocations do not count because they are not *directly* connected together. The FCC's Order is clear, however, that a route from one collocation to another qualifies for trigger purposes regardless of whether it must be provisioned through intermediate switches and wire centers, instead of over a direct wire center-to-wire center transport facility. For purposes of the transport triggers, a route "may pass through one or more intermediate wire centers or switches,"[54] and may "connect wire centers or switches that are not directly connected to each other."[55]

iii. Choice One

Q. CHOICE ONE SAYS THAT IT SHOULD NOT BE "COUNTED" AS A WHOLESALE TRANSPORT PROVIDER?[56] HOW DO YOU RESPOND?

A. Verizon does not identify Choice One as a wholesale provider in its supplemental testimony. In its initial testimony, Verizon identified Choice One as a wholesale provider based on information on Choice One's website. After Choice One

[53] Allegiance's Tariff is attached to Verizon's direct testimony.

[54] 47 C.F.R. § 51.319(e).

[55] *TRO* ¶ 402 n.1246.

[56] Choice One Testimony, Bailey at 2.

1 reported in its discovery responses that it had provided no wholesale transport,
2 Verizon re-evaluated the website material, and removed Choice One as a wholesale
3 provider in its supplemental testimony.

4 **iv. Snip Link**
5
6 Q. SNIP LINK CLAIMS THAT VERIZON OFFERS NO EVIDENCE THAT "THE
7 WHOLESALE PROVIDERS IT IDENTIFIES ARE OPERATIONALLY READY TO
8 PROVIDE WHOLESALE SERVICE."[57] IS THAT CORRECT?

9 A. No. Verizon has offered considerable evidence that the wholesale providers it
10 identifies are operationally ready to provide transport services. First, Verizon
11 confirmed through physical inspections that the carriers identified in its initial
12 testimony had operational collocation arrangements fed with non-Verizon fiber. A
13 Verizon management employee looked at each collocation arrangement and
14 confirmed that it had non-Verizon fiber, that the equipment in the collocation was
15 powered and operating, and that with a very few exceptions the fiber could be traced
16 out the vault. Verizon describes these visual inspections in its initial testimony, and
17 attached to that testimony the Methods and Procedures used for those inspections,
18 which describes how Verizon management employees went about confirming that
19 the collocation arrangements including in Verizon's initial testimony were
20 operationally ready. Snip Link does not take issue with any particular step in the
21 Methods and Procedures; indeed, it does not even address the fact that Verizon
22 conducted visual inspections to confirm that each carrier included in its initial

1 testimony had an operationally functioning collocation arrangement. Rather, Snip
2 Link simply resorts to generalized complaints that do not deal with the specific
3 evidence Verizon has presented in this proceeding.
4
5 Second, Verizon's primary source of information about whether carriers are
6 operationally ready to provide wholesale services is the publicly available
7 statements of those carriers themselves. Verizon is perfectly justified in
8 concluding that carriers such as Allegiance, Cavalier, AboveNet, City Signal --
9 which are presently advertising their wholesale services -- are ready to provide
10 those services if approach by a prospective customer. Certainly, in their public
11 advertisements for their carriers services, none of these carriers indicated that it
12 was not ready to provide wholesale services immediately.
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14 Q. **SNIP LINK MAKES A VARIETY OF CLAIMS ABOUT THE CAPACITIES OF**
15 **WHOLESALE TRANSPORT THAT TELCOVE, ABOVENET, MCI, AND CITY**
16 **SIGNAL ARE WILLING TO PROVIDE AT WHOLESALE.[58] DO YOU HAVE A**
17 **RESPONSE?**
18 A. Yes. Snip Link's assertions about the capacities of dedicated transport that other
19 carriers are willing to provide at wholesale are very unspecific, in addition to not
20 being confirmed by those carriers themselves. While Snip Link suggests that it had
21 conversations in the past with unnamed representatives at Telcove, AboveNet, and

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[57] SNiP LiNK Testimony, Abate at 21.

City Signal, it does not identify the dates on which those conversations occurred, the specific routes for which it was seeking dedicated transport, whether pricing was at issue, the individuals to whom Snip Link spoke, or the names of the Snip Link representatives who purportedly had those communications. For example, while Snip Link claims that it unsuccessfully sought DS1 transport from Telcove, Snip Link does not disclose whether this conversation took place this year, last year, or many years ago, nor does it offer a single document confirming the substance of these communications. It is therefore impossible to give weight to Snip Link's assertions.

Plainly, the best evidence of what other carriers are willing to offer at wholesale comes, not from Snip Link, but from those carriers themselves through discovery responses or publicly available information:

[BEGIN PROPRIETARY]

[58] SNiP LiNK Testimony, Abate 23-24.

[END PROPRIETARY]

Finally, if the Commission accepts at face value Snip Link's unspecific assertions about the capacities that Telcove, AboveNet, and MCI, and City Signal are *not* willing to provide (and Verizon believes it should not), it should also accept Snip Link's unspecific assertions about the capacities of transport that these carriers *are* willing to provide. In that case, Snip Link has confirmed Verizon's evidence that Telcove, AboveNet, MCI, and City Signal are wholesale providers of dedicated transport facilities; and Snip Link has further confirmed that Telcove

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wholesales DS3s; that AboveNet wholesales dark fiber; and that MCI wholesales DS1s and DS3s.

v. The Pennsylvania Carriers' Coalition

Q. IN ITS EXHIBIT 6, THE PENNSYLVANIA CARRIERS' COALITION HAS RAISED QUESTIONS ABOUT VERIZON'S CLASSIFICATION OF SELF-PROVISIONING CARRIERS AT SEVERAL WIRE CENTERS. CAN YOU BRIEFLY EXPLAIN VERIZON'S TREATMENT OF EACH OF THE SELF-PROVISIONING CARRIER AT THE WIRE CENTERS ON EXHIBIT 6?

A. Yes. In the portion of Exhibit 6 the self-provisioning trigger, the PCC appears to be questioning Verizon's evidence of self-provisioned transport by nine competitive carriers at eight Verizon wire centers. The eight Verizon wire centers are: Locust, Market, Mayfair, Pennypacker, Pilgrim, Trooper, Wayne, West Chester, and Willow Grove. The nine competitive carriers are: **[BEGIN PROPRIETARY]**

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- **Telcove.** Verizon described the publicly-available evidence that Telcove self-provisions DS3-level transport in response to Cavalier's testimony.

vi. Penn Telecom

Q: PENN TELECOM CLAIMS THAT IT HAS HAD MIXED SUCCESS REQUESTING DARK FIBER UNES FROM VERIZON AND, FROM THAT, ATTEMPTS TO ARGUE AGAINST VERIZON'S CONCLUSION THAT MOST SELF-PROVISIONED FIBER TRANSPORT FACILITIES WILL HAVE DARK FIBERS.[66] WHAT IS YOUR RESPONSE?

[66] Penn Telecom Testimony, Myers at 20.

A. The facts underlying Penn Telecom's claims are not at all clear cut, and, even if they were, the conclusions Penn Telecom draws from them are questionable at best. According to Verizon's records, Penn Telecom has (for many months) not agreed to changes to its interconnection agreement that almost certainly would have facilitated Verizon's provision of dark fiber.[67] But even without those contractual changes, Verizon's has affirmatively responded to Penn Telecom's requests almost half the time, a success rate substantially higher than that mentioned by Penn Telecom. In any event, regardless of the accuracy of Penn Telecom's factual claims, in evaluating Penn Telecom's argument the Commission should put great weight on the fact that, as described above, the vast majority of CLECs in this proceeding do not challenge Verizon's conclusion that most if not all competitive carriers' fiber facilities have unlit fibers. Finally, Verizon has obligation to provide UNE dark fiber to CLECs such as Penn Telecom, which obviously reduces the amount of dark fiber in its network.

vii. Sprint

Q. ALTHOUGH AT&T DOES NOT DISPUTE THAT IT HAS FIBER-FED COLLOCATION ARRANGEMENTS AT THE [BEGIN PROPRIETARY]

[67] We understand that these contractual changes would have addressed other of Penn Telecom's complaints by allowing it access to a "parallel provisioning" process. Through this process, CLECs can concurrently process a collocation build out or augment a dark fiber order, thereby reducing the possibility of the dark fiber being used by another carrier while the collocation build out is in process.

[END PROPRIETARY]

C. AT&T'S ERRONEOUS INTERPRETATION OF THE FCC'S RULES

Q. AT&T OWNS AND OPERATES EXTENSIVE FIBER FACILITIES IN PENNSYLVANIA THAT IT CURRENTLY USES FOR DEDICATED TRANSPORT. SHOULD THOSE FACILITIES "COUNT" TOWARD THE FCC'S TRANSPORT TRIGGERS?

A. Yes. First, AT&T does not dispute that it owns and operates extensive fiber facilities that provide physical connections among Verizon wire centers. In fact, AT&T concedes that it has extensive fiber facilities that provide connections between multiple Verizon central offices. For example, Mr. Kirchberger testifies that AT&T "has OCn fiber facilities terminating in collocation arrangements," and

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that all AT&T fiber facilities meet at a "central point" – an AT&T switch.[70] Thus, AT&T admits that it has fiber facilities that provide connections that run from numerous Verizon wire centers, through AT&T's switching facilities, to numerous other Verizon wire centers.

Second, AT&T also does not dispute that it is using these extensive fiber facilities to transport traffic between Verizon wire centers. Put differently, AT&T's fiber facilities provide connections between Verizon wire centers, and those connections are being used to transport traffic. In fact, Mr. Kirchberger testifies that AT&T builds its network so that "traffic can flow to *all* parts of their network, as well as directly or indirectly to the networks of other carriers."[71]

For this reason, AT&T fiber facilities "count" toward meeting the FCC's transport triggers. The FCC requires only that AT&T have "deployed its own transport facilities" and be "operationally read to use those facilities to provide DS3 transport along the particular route."[72] AT&T's facilities meet this test.

Q. IS IT RELEVANT THAT AT&T TRANSPORT FACILITIES MAY BE "ROUTED" THROUGH INTERMEDIATE SWITCHING FACILITIES, RATHER THAN RUNNING DIRECTLY BETWEEN TWO VERIZON WIRE CENTERS?

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[70] AT&T Testimony, Kirchberger at 110-112.

[71] AT&T Testimony, Kirchberger at 111.

[72] 47 C.F.R. §§ 51.319(e)(2)(i)(A)(1), (B)(1).

A. No. AT&T's claim that it has no dedicated transport facilities in Pennsylvania for purposes of the FCC's triggers rests on its mistaken belief that there can be no intermediate switch. But the FCC's rules say precisely the opposite. The FCC's definition of "dedicated transport" expressly states that "[a] route between two points (e.g., wire center or switch 'A' and wire center or switch 'Z') *may pass through one or more intermediate* wire centers or *switches* (e.g., wire center or switch 'X')."[73] For purposes of the FCC's rule, only the end points are relevant in defining the route, even when the intermediate point is a switch. In sum, if AT&T's fiber network provides a connection between two Verizon wire centers – and its facilities plainly do -- those facilities count toward the trigger, even if AT&T routes those facilities through centralized switching facilities.[74] Using AT&T's faulty logic, Verizon would not be required to provide UNE interoffice facilities ("IOF") between two wire centers if it did not have a direct route between the two end points. Yet in many cases, Verizon routes traffic between two end offices through an intermediate office.

Q. **TO BE DEDICATED TRANSPORT FOR PURPOSES OF THE TRIGGERS, DOES THE FCC REQUIRE A PERMANENT DEDICATED CIRCUIT BETWEEN TWO ILEC WIRE CENTERS?**

A. No. AT&T is attempting to confuse an old fashioned engineering definition of dedicated transport with the regulatory definition used in the FCC's rules. The

[73] 47 C.F.R. § 51.319(e) (emphasis added); *see TRO* ¶ 401.

[74] *See TRO* ¶ 401.

1 FCC's definition of dedicated transport – which is the only definition that matters for
2 purposes of applying the transport triggers – is a facility on which a certain amount
3 of capacity is "dedicated to a particular customer or carrier."[75] The FCC's
4 definition is consistent with how modern networks are constructed. It also is the
5 only definition of "dedicated" that makes sense given the FCC's express allowance
6 of intervening switching.

7
8 AT&T is attempting to re-write the FCC's Order by imposing an engineering
9 definition of dedicated transport that means a dedicated circuit or connection is
10 one that is permanently established between two points and is always on. The
11 FCC's Order, however, clearly provides that dedicated transport includes
12 transport routed through switching facilities, so long as the transport is used to
13 provide dedicated bandwidth to a particular customer or carrier. AT&T's
14 transport facilities meet that definition.

15 Q: **AT&T AND OTHER CLECS SUCH AS ALLEGIANCE ARGUE THAT THEIR**
16 **TRANSPORT FACILITIES DO NOT QUALIFY AS DEDICATED TRANSPORT**
17 **BECAUSE THEY ARE "BACKHAUL FACILITIES." IS THIS CORRECT?**

18 A: No. AT&T and other CLECs argue that the FCC's exclusion of backhaul transport
19 facilities from the definition of the UNE – *i.e.*, the dedicated transport facilities
20 Verizon and other ILECs are required to provide CLECs as a UNE at TELRIC

[75] 47 C.F.R. § 51.319(e)(2) (emphasis added); *see TRO* ¶ 361 ("Dedicated interoffice transmission facilities (transport) are facilities dedicated to a particular customer or

prices -- means that competitive carriers' backhaul transport facilities are not to be considered when applying the FCC's transport triggers. "Backhaul" facilities are the portion or "leg" of the transport facility that takes traffic from the Verizon wire center to the CLEC switch.

This argument is nonsense. First, the argument that CLEC backhaul facilities are not dedicated transport for purposes of the triggers confuses the FCC's definition of the "dedicated transport *UNE*" that ILECs are required to provide with the competitive transport facilities that are evaluated under the triggers. CLECs like AT&T and Allegiance do not have UNE obligations. The FCC's exclusion of backhaul facilities from the definition of the UNE -- a purely regulatory construct – therefore has nothing to do with whether a UNE must be made available in the first place. Nor does it have anything to do with the fundamental purpose of the trigger analysis, which is to determine whether there are sufficient competitive transport facilities on a particular transport route that CLECs are not impaired without use of Verizon's network.

Second, the FCC's Order explicitly recognizes that CLEC use their self-provisioned transport facilities for backhaul, and then expressly classifies that use as *dedicated transport*. For example, in Paragraph 361 of the Order, the FCC

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competitive carrier that it uses for transmission among incumbent LEC central offices and tandem offices.").

states that "[c]ompeting carriers generally use interoffice transport as a means to aggregate end-user traffic . . . *by using dedicated transport* to carry traffic from their end users' loops, often terminating at incumbent LEC central offices, through other central offices to a point of aggregation."[76]

Third, excluding CLEC backhaul transport facilities from the facilities subject to the transport triggers makes absolutely no sense in terms of the FCC's factual findings in its Order on competitive transport facilities and what the FCC is trying to accomplish through the application of its transport triggers. The Order makes clear that the FCC excluded backhaul transport facilities from the ILEC UNE requirement precisely because backhaul facilities are the most competitive segment of the transport market.[77] Backhaul facilities are the very transport facilities that competing carriers have been most successful in self-provisioning. Taken to its logical conclusion, the argument against considering backhaul facilities would mean that, even if there were three or more competitors with competitive fiber in every ILEC wire center in the country, all of which were backhauling traffic to some central hub prior to termination at other ILEC wire centers, and no transport competition would be deemed to exist.

[76] (Emphasis added); *see also TRO* ¶ 370.

[77] *See TRO* ¶ 367 n.1222 ("Competing carriers agree that the most competitive type of transport is the link between an incumbent LEC wire center and a competitor's network.").

Fourth, excluding transport backhaul facilities from the trigger analysis would mean that huge amounts of competitive fiber that AT&T, Allegiance, and other CLECs have admittedly deployed would be ignored simply because competitive networks are not configured in precisely the same way as ILECs' networks.[78] In its Order, however, the FCC expressly declares that the purpose of the transport trigger analysis is not to identify CLEC transport that mirrors ILEC networks, but to "identify[] specific point-to-point routes where carriers have the ability to use alternatives to the incumbent LEC's network."[79]

Q: **PLEASE ADDRESS MR. KIRCHBERGER'S CLAIM THAT AT&T'S TRANSPORT FACILITIES DO NOT QUALIFY AS DEDICATED TRANSPORT UNDER THE FCC'S DEFINITION OF THAT TERM BECAUSE AT&T IS NOT OPERATIONALLY READY TO USE THEM TO PROVIDE DEDICATED TRANSPORT.**

A: AT&T claims that it is not operationally ready to provide dedicated transport because it routes all of its fiber facilities through a switch and it would require considerable investment and work for AT&T to convert these facilities into dedicated circuits.80 In other words, AT&T claims that it would have to reconfigure its network to provide dedicated transport using *dedicated circuits.* Whether or not

[78] As AT&T's witness Mr. Kirchberger puts it, "considerable portions of AT&T's fiber network have been rendered irrelevant to the transport trigger analysis by the FCC's *TRO*." AT&T Testimony, Kirchberger at 112 n. 150; *see also id.* at 100 & n.135.

[79] *TRO* ¶ 360; *see id.* ¶ 400; *see also id.* ¶ 406 n. 1257 ("impairment analysis recognizes alternatives outside the incumbent LEC's network").

AT&T's claims about its network are correct, it is irrelevant here. AT&T does not dispute that it is operationally ready to use – and is using – its fiber transport facilities to provide dedicated DS1 and DS3 capacity to customers. The FCC's definition of "dedicated transport" is a facility on which a certain amount of capacity is "dedicated to a particular customer or carrier." The FCC does not require a dedicated circuit.

The Commission does not need to evaluate what, if any, reconfiguring would be required for AT&T to dedicate circuits because AT&T's current network architecture already counts toward the transport triggers, regardless whether it has dedicated circuits. AT&T has transport facilities in place that connect Verizon wire centers, and AT&T's transport facilities are operationally ready to provide dedicated bandwidth to *a particular customer or carrier.* Indeed, AT&T admits that it "has OCn fiber facilities terminating in collocation arrangements"; these fiber facilities meet at a "central point" – an AT&T switch; and that these facilities permit "traffic to flow to *all* parts of their network, as well as directly or indirectly to the networks of other carriers."[81]

Furthermore, the FCC's "operationally ready" standard evaluates whether the facility is "*capable of operation* on that route," not, as AT&T claims, "whether it

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[80] *See* AT&T Testimony, Kirchberger at 114, 119-20.

[81] AT&T Testimony, Kirchberger at 110-11.

actually does so."[82] To be counted as operationally ready, it is not necessary to demonstrate that a competing carrier has already taken every possible step to use its transport facilities in a particular manner. Rather, it is enough to demonstrate that the competing carrier has the facilities in place, and the facilities are capable of operation on that route, even if making that facility operational requires some extra steps. Indeed, the only specific content the FCC gave to the "operationally ready" requirement was that a carrier have transport facilities and fully provisioned collocation arrangements in place.[83]

Finally, although AT&T claims that reconfiguring a route from a switched circuit to a dedicated circuit requires "substantial capital investment," it never quantifies what it means by "substantial." Although AT&T provides a laundry list of items that supposedly must be performed to create dedicated circuits, those steps are equivalent to steps that the FCC has specifically classified as "routine network modifications to existing facilities," that present "no significant operational issues."[84] For example, although AT&T uses a SONET-based fiber network, those fibers do not typically (if ever) terminate directly on AT&T's switches, but must be de-multiplexed to lower-capacity facilities – usually DS1 facilities –

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[82] *TRO* ¶ 406 n.1256; Kirchberger at 115; *id.* at 119-20. For the same reason, there is no merit to MIC's claim that it is necessary to show that a competing carrier actually offers service over a particular transport route. MCI Testimony, Pelcovits at 88.

[83] AT&T Testimony, Kirchberger at 110-111

[84] *TRO* ¶¶ 632-638.

before they may be connected to the switch. It is a straightforward process to peel off one of these DS1 facilities on one side of the switch and connect it to a DS1 facility that has been peeled off on the other side of the switch through a digital cross-connect. The only requirement here is that AT&T have the spare capacity, and on that score there can be no dispute: AT&T argued repeatedly in the FCC's Triennial Review proceeding that its transport facilities were greatly underutilized.[85]

Q: **AT&T CLAIMS THAT THE SELF-PROVISIONING TRIGGER REQUIRES VERIZON TO SHOW THAT A CARRIER SELF-PROVISIONS TRANSPORT AT SPEEDS "BETWEEN A FLOOR OF 1 DS3 CIRCUIT UP TO NO MORE THAN 12 DS3 CIRCUITS."[86] IS THIS AN ACCURATE DESCRIPTION OF THE FCC'S RULES?**

A: No, it is a blatant attempt by AT&T to re-write the FCC's self-provisioning trigger for DS3s. The FCC's rules provide that a state commission shall find no impairment where three or more competing carriers have "deployed their own transport facilities and [are] operationally ready to provide dedicated DS3 transport along the particular route."[87] There is no "ceiling" in the FCC's rules on the number of DS3s provided on self-provisioned transport facilities, as AT&T falsely claims in its testimony. The ceiling AT&T refers to applies to the number of DS3s UNEs that a CLEC can

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[85] *See, e.g.*, AT&T Comments in CC Docket No. 01-338 at 62 (FCC filed Apr. 5, 2002) ("AT&T's own local facilities are significantly underutilized.").

[86] AT&T Testimony, Kirchberger at 97.

[87] 47 C.F.R. § 51.319(e)(2)(i)(A)(1).

lease if a state commission finds that a route does not meet the DS3 self-provisioning trigger. Tellingly, although most if not all CLECs described the FCC's triggers in their testimony, AT&T alone suggested this preposterous requirement.

Q: **PLEASE RESPOND TO AT&T'S CLAIM THAT IT IS IMPROPER TO ASSUME THAT OCN LEVEL FIBER FACILITIES ARE USED FOR DS1 AND DS3 TRANSPORT BECAUSE "THE DEPLOYMENT OF FIBER AT SONET OCN LEVELS IS ECONOMICALLY NOT THE EQUIVALENT OF DEPLOYING CAPACITY AT A LOWER LEVEL?"**[88]

A: The issue here is not the economics of deploying *new* fiber but the capabilities of that fiber once it has already been deployed. AT&T's argument – under which the existence of OCn fiber facilities deployed along a route would be deemed to "prove[] nothing of relevance" as to whether competing carrier could provide DS3 or DS1 transport along that route – is inconsistent with the FCC's Order. To satisfy the DS3 trigger, for example, it is not necessary to prove that a carrier has actually deployed a facility that is capable of providing DS3 transport (or multiple DS3s) *but no more.* The test is whether "[t]he competing provider has deployed its own transport facilities and is operationally ready to *use* those transport facilities to provided dedicated DS3 transport along the particular route."[89] Verizon does not need to show that the underlying facility that the CLEC is using to provide transport

[88] AT&T Testimony, Kirchberger at 109

[89] 47 C.F.R. §51.319(e)(2)(A)(1), (B)(1).

is *only* a DS3 facility, but rather that, regardless of the maximum capacity of such facility, it is or can be used to provide transport at the DS3 level.

Not only is AT&T argument inconsistent with the plain language of the FCC's rules, it is also obvious from the FCC's discussion in the Order of competitive transport facilities. In the Order, the FCC states that the transport networks deployed by competing carriers and incumbents alike invariably consist of OCn-level fiber, not pure DS3 or DS1 facilities.[90] There is no basis for AT&T's suggestion that, on the one hand, the FCC recognized that all interoffice transport facilities are OCn-level fiber, but on the other hand, constructed a test that ignores such fiber in determining whether there is competitive transport.

VI. HIGH CAPACITY LOOPS

A. GENERAL CONTENTIONS REGARDING LOOP TRIGGERS

Q. SEVERAL CLECS CONTEND THAT VERIZON HAS FAILED TO PROVE THAT THE TRIGGERS ARE MET AT EACH CUSTOMER LOCATION IDENTIFIED IN EXHIBIT 7 TO YOUR SUPPLEMENTAL DIRECT TESTIMONY BECAUSE ITS CASE RESTS ON ASSUMPTIONS RATHER THAN FACTS, AND ACCUSE

[90] *See, e.g.*, *TRO* ¶ 372, n. 1144 (citing AT&T's comment that "most carriers, including incumbent LECs, typically operate their transport networks at the OC48 capacity."), *id.* ("When carriers deploy new transport facilities, they deploy fiber optic facilities."); *id.* ("Incumbent LECs generally operate their interoffice transport networks at OCn capacity levels"); *id.* ¶ 382 ("The record indicates that when competing carriers self-deploy transport facilities, they often deploy fiber optic facilities that are activated at OCn levels.").

VERIZON OF SHIFTING THE BURDEN TO THE CLEC COMMUNITY. (KIRCHBERGER/NURSE P. 128-129, 141-142; MEYERS P. 23). WHAT IS YOUR RESPONSE?

A. As discussed in connection with transport, although we are not attorneys, we do not read the *TRO* as having a traditional "burden of proof" standard. Rather, under the TRO, no individual party bears the burden of proof of the triggers, and the Commission has the obligations to apply the triggers using all available data, including data in the hands of the CLECs. Verizon based its loop trigger case on the facts available to it. Verizon does not have independent data about where other carriers have deployed loop facilities. This information was and is in the hands of those carriers. Thus, Verizon—as well as the Commission—is dependent on data provided by the CLECs. Some CLECs have attempted to thwart Verizon's efforts to gather data necessary to identify the customer locations satisfying the triggers by providing incomplete responses to discovery requests. As a result, certain reasonable conclusions were drawn from the data the CLECs did provide. Verizon continues its efforts to collect more data from the CLECs, but the Commission should not accept their stonewall tactics and claims that Verizon bears the sole burden for presenting the relevant facts. Absent evidence from the CLECs to the contrary, Verizon's conclusions are based on information provided by the CLECs, are reasonable and should be relied upon by the Commission.

Q. DID ANY OF THE CARRIERS IDENTIFIED IN EXHIBIT 7 TO YOUR SUPPLEMENTAL DIRECT TESTIMONY DENY SATISFYING THE TRIGGER AT ANY OF THE CUSTOMER LOCATIONS IDENTIFIED?

A. No.

Q. DO YOU AGREE WITH AT&T AND SNIP LINK'S CONTENTION THAT THE FCC'S IMPAIRMENT CHARACTERISTICS ARE FACTORS THAT THE TRIGGER ANALYSIS MUST SHOW HAVE BEEN OVERCOME? (KIRCHBERGER/NURSE P. 123, ABATE P. 9-10)?

A. No. The TRO made clear that if a trigger has been met, there is no impairment and no need to do a further analysis of operational and economic factors that might affect impairment in the absence of a trigger showing. Specifically, the FCC stated that if a state commission finds that either trigger is met for a specific loop capacity at a specific customer location, the state commission must make a finding of non-impairment, and the ILEC will no longer be required to unbundle that loop capacity to that customer location. *TRO* ¶ 328; see also 47 C.F.R. §51.319(a)(4)-(6). The FCC has already found that its impairment assumption is overcome where the triggers are met, and this Commission cannot reach a contrary result. In other words, the FCC's rules mandate that the Commission find that the national finding of impairment has been overcome for the relevant loop capacity at any customer location meeting one of the loop triggers.

Q. SPRINT AND AT&T ENCOURAGE THE COMMISSION TO PETITION THE FCC FOR A WAIVER AT ANY CUSTOMER LOCATON AT WHICH THE LOOP

1 **TRIGGERS ARE MET. (KIRCHBERGER/NURSE P. 130; DUNBAR P. 20). HAVE**
2 **THE CLECS PROVIDED ANY BASIS FOR SUCH A WAIVER?**

3 A. No. Paragraph 336 of he *TRO* grants state commissions the "analytical flexibility"
4 to petition the FCC for a waiver to maintain an ILEC's unbundling obligation at a
5 particular customer location where impairment remains due to the existence of a
6 barrier to further competitive facilities deployment until the barrier identified in the
7 waiver petition no longer exists. This flexibility appears to apply only with respect
8 to the self-provisioning trigger. In any event, none of the other parties have
9 provided evidence of the existence of a barrier to the deployment of further
10 competitive facilities at any customer location identified in Exhibit 7 to support a
11 Commission petition for waiver to the FCC.

12 Q. **AT&T CONTENDS THAT ILECS DO NOT FACE THE SAME OBSTACLES IN**
13 **CONSTRUCTING LOOPS AS CLECS (KIRCHBERGER/NURSE P. 125-26). HOW**
14 **DO YOU RESPOND?**

15 A. ILECs face different challenges that CLECs do not with respect to loop deployment.
16 For example, CLECs have the ability to choose which customers they wish to serve,
17 and can refuse to serve customers who would be unwilling or unable to pay rates to
18 recover the costs to deploy loops to their locations. An ILEC, however, must serve
19 any customer, regardless of the cost to deploy facilities to serve that customer, and is
20 constrained in the rates it may charge by regulatory requirements.

21 Q. **PLEASE COMMENT ON SNIP LINK'S DEFINITION OF "CUSTOMER**
22 **LOCATIONS" (ABATE P. 11).**

1 A. SniP LiNK claims that the FCC defined customer locations as "the connection
2 between the relevant service central office and the network interface device ("NID")
3 or equivalent point of demarcation at a specific customer premises." However, this
4 is the definition of a loop, not a customer location. *See TRO* n. 620. As outlined in
5 our supplemental testimony, a customer location is a building.

6 **B. THE SELF-PROVISIONING TRIGGER**
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8 Q. **HAVE AT&T AND SNIP LINK CORRECTLY DESCRIBED THE SELF-**
9 **PROVISIONING TRIGGER (KIRCHBERGER/NURSE P. 132; ABATE P. 11)?**

10 A. No. AT&T incorrectly claims that the self-provisioning trigger requires that the
11 providers be operationally ready and have access to the entire location. SNiP LiNK
12 also contends that the self-provisioning trigger requires that a CLEC have access to
13 the entire customer location. However the self-provisioning trigger for dark fiber
14 and DS-3 loops do not contain either of these requirements. *See* 47 C.F.R. §§
15 51.319(a)(5)(i) and (6)(i); *TRO* ¶¶ 332-333.

16 Q. **AT&T AND SNIP LINK CLAIM THAT CARRIERS USING AN ILEC'S SPECIAL**
17 **ACCESS FACILITIES OR OTHER FACILITIES OWNED OR CONTROLLED BY**
18 **THE ILEC -- OR ONE OF THE OTHER PROVIDERS TO A GIVEN LOCATION –**
19 **DO NOT COUNT FOR PURPOSES OF THE SELF-PROVISIONING TRIGGER.**
20 **SNIP LINK CLAIMS FURTHER THAT FACILITIES OBTAINED THROUGH**
21 **CAPACITY LEASES AND ALL THIRD PARTY PROVIDED FACILITIES DO NOT**
22 **QUALIFY AS "OWNED FACILITIES" (KIRCHBERGER/NURSE P. 133; ABATE P.**
23 **15). ARE THEY CORRECT?**

1 A. AT&T and SniP LiNK are only partly correct. Dark fiber purchased on an
2 unbundled basis from an ILEC does not count as self-provisioned dark fiber. 47
3 C.F.R. § 51.319(a)(6)(i). Moreover, the special access facilities of an ILEC or
4 transmission facilities of the second self-provisioning CLEC do not count as a self-
5 provisioned DS3. TRO ¶ 333. However, dark fiber obtained on a long-term
6 indefeasible-right-of-use ("IRU") basis, counts as a carrier's "own facilities" for the
7 dark fiber and DS3 self provisioning triggers. *Id.* at n. 981; *see also* 47 C.R.F. §§
8 319(a)(5)(i)(A) and (6)(i); *TRO* ¶ 333. Moreover, for the DS1 and DS3 wholesale
9 trigger, a competing provider's DS1 or DS3 facilities may use dark fiber facilities
10 that it has obtained on an unbundled, leased, or purchased basis if it has attached its
11 own optronics to activate the fiber. 47 C.F.R. §§ 51.319(a)(4)(ii)(A) and
12 (5)(i)(B)(1).

13 Q. **HOW DID VERIZON IDENTIFY THE CUSTOMER LOCATIONS TO WHICH**
14 **CLECS HAVE DEPLOYED THEIR OWN LOOP FACILITIES?**

15 A. Verizon Request 1 asked carriers to provide a list of the customer locations in
16 Pennsylvania to which they have deployed their "own high-capacity loop facilities."

17 Q. **IS AT&T CORRECT THAT THE EXISTENCE OF OC3 DEPLOYMENT IS**
18 **IRRELEVANT TO THE QUESTION OF EVIDENCE OF DS3 LOOPS?**

19 A. No. As we explained in our supplemental direct testimony, OC3 deployment is
20 evidence that a carrier is capable of providing DS1 or DS3 capacity loops. Because
21 the capacity of a circuit carried over OCn fiber is solely dependent on the electronics

1 attached, a carrier that has deployed an OC3 can use that facility to provide DS1s or
2 DS3s wholesale to other carriers.

3 Q. IS OC3 DEPLOYMENT RELEVANT TO ANY OTHER TRIGGER?

4 A. Yes. As we outlined in our supplemental direct testimony, OC3 deployment is
5 evidence of the self-provisioning of dark fiber. See TRO ¶ 334.

6 Q. PENN TELECOM CONTENDS THAT VERIZON'S REJECTION OF PENN
7 TELECOM'S INQUIRIES FOR DARK FIBER BETWEEN ADJACENT WIRE
8 CENTERS DISPROVES AN ASSUMPTION THAT ALL SELF PROVISIONED
9 LOOP FACILITIES CONTAIN DARK FIBER. (MEYERS P. 20) DO YOU AGREE?

10 A. No. Verizon's rejection rate for dark fiber between wire centers has nothing
11 whatsoever to do with the availability of dark fiber at a customer location.

12 Q. SNIP LINK CRITICIZES VERIZON FOR NOT APPLYING THE TRIGGERS
13 SEPARATELTY TO DS1, DS3 AND DARK FIBER. IS THIS ACCURATE?

14 A. No. Verizon applied the triggers separately to each capacity of loops.

15 Q. HOW DID VERIZON IDENTIFY THE CAPACITY OF THE LOOP FACILITIES
16 DEPLOYED BY THE CLECS IT COUNTED TOWARDS THE TRIGGERS?

17 A. Verizon Discovery Request 3 asked carriers to specify the capacity or capacities of
18 the facilities deployed by the carrier in Pennsylvania. **[BEGIN PROPRIETARY]**
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20
21
22 **[END PROPRIETARY]**

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2 The remaining carriers did not give a specific response for each customer

3 location. **[BEGIN PROPRIETARY]**

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16 **[END PROPRIETARY]**

17 Q. **HOW DID VERIZON IDENTIFY WHETHER A CLEC HAD DEPLOYED DARK**
18 **FIBER TO A PARTICULAR LOCATION?**

19 A. Verizon Request 4 asked each carrier to identify the number of fiber strands

20 deployed at each location, specifying the number that are lit and the number that are

21 dark. **[BEGIN PROPRIETARY]**

22

[END PROPRIETARY] See MCI Response to Verizon Request 4 (attached as Rebuttal Attachment 19). AT&T and RCN did not provide a response. See AT&T and RCN Responses to Verizon Request 4 (attached as Rebuttal Attachments 20 and 21). However, for the reasons outlined in our supplemental direct testimony, evidence of lit fiber deployment is also evidence of dark fiber. It is standard industry network engineering design (as well as sound economics) to maintain spare dark fibers when deploying loop facilities. In light of **[BEGIN PROPRIETARY]** **[END PROPRIETARY]** failure to identify dark fiber facilities in response to discovery, the Commission should reasonably find that those carriers have maintained dark fiber at each location identified in Exhibit 7 absent evidence to the contrary.

Q. **SOME CLECS APPEAR TO CONTEND THAT THE DARK FIBER TRIGGER IS NOT SATISFIED UNLESS A CLEC THAT HAS DELOYED DARK FIBER OFFERS IT TO OTHER CLECS ON A WHOLESALE BASIS. (KIRCHBERGE/NURSE P. 143; MEYERS P. 21; DUNBAR P. 19-20). IS THIS CORRECT?**

A. No. The dark fiber trigger is a self-provisioning trigger, not a wholesale trigger. As the FCC explained:

> When applying the Self-Provisioning Trigger to eliminate an incumbent LEC's requirement to unbundle dark fiber loops at a particular customer location, the mere existence of two unaffiliated competitive providers (in addition to the incumbent LEC) that have deployed fiber to that location,

> ***whether or not they are offering dark fiber to other carriers to serve end-user customers at that location***, will satisfy the Self-Provisioning Trigger for dark fiber loops and require a finding of no impairment at that location.

TRO ¶ 334 (emphasis in original). For that reason, the FCC did not apply the wholesale trigger to dark fiber. *Id.; see also* 47 C.F.R. §51.319(a)(6)(i). The relevant question for the Commission is whether a CLEC has deployed dark fiber to a customer location, not whether it leases that dark fiber to another CLEC.

Q. **DO YOU AGREE WITH AT&T THAT FOR DARK FIBER, QUALIFYING FACILITIES MUST PROVIDE EACH COMPETITOR WITH THE ABILITY TO ATTACH ELECTRONICS THAT PERMIT IT TO PROVIDE SERVICE AT THE LEVEL OF ITS CHOOSING?**

A. No. The dark fiber trigger contains no such requirement. See 47 C.F.R. § 51.319(a)(6)(i). Moreover, the rule cited by AT&T does not even relate to the proposition to which it is cited. Rule 319(a)(4)(ii)(A) states that if a CLEC has attached its own optronics to dark fiber obtained on an unbundled, leased, or purchased bases to create a DS1, that DS1 counts as a DS1 deployed by that CLEC. 47 C.F.R. § 51.319(a)(4)(ii)(A).

C. THE COMPETITIVE WHOLESALE TRIGGER

Q. **HAVE AT&T OR SNIP LINK CORRECTLY DESCRIBED THE WHOLESALE TRIGGER FOR LOOPS (KIRCHBERGER/NURSE P. 139-140; ABATE P. 18-19)?**

A. No. SNiP LiNK blends together the wholesale trigger for loops and transport, suggesting that to count towards the wholesale loop trigger, the loop facility must be

operationally ready.[91] SNiP LiNK and AT&T also claim that the alternative provider must have equipped its network to facilitate numerous wholesale customers and developed the appropriate procedures to manage a wholesale business. However, the wholesale triggers for DS1 and DS3 do not contain either of these requirements. Thus, the wholesale loop trigger does not require any showing that each wholesale carrier (a) has sufficient systems, methods and procedures for ordering, preordering, provisioning, maintenance and repair, and billing; (b) possesses the ability to immediately provision wholesale high capacity loops to each specific location identified; or (c) has the ability to provide wholesale high capacity loops in reasonably foreseeable quantities, including having reasonable quantities of additional currently installed capacity. Finally, AT&T and SNiP LiNK's claims notwithstanding, the triggers do not require a showing that Verizon's OSS are capable of handling LSRs that are provisioned to a wholesale provider's facilities.

Q. **UNDER THE COMPETITIVE WHOLESALE TRIGGER MUST A WHOLESALER OFFER AN "EQUIVALENT WHOLESALE LOOP PRODUCT AT A COMPARABLE LEVEL OF CAPACITY, QUALITY, AND RELIABILITY" AS THE ILEC (KIRCHBERGER/NURSE P. 137, ABATE P. 17-18)?**

A. No. AT&T and SNiP LiNK have taken the "comparable in quality" language in Paragraph 337 of the TRO out of context. That paragraph states:

[91] AT&T repeats this claim.

> Specifically, where the relevant state commission determines that two or more unaffiliated alternative providers, ***including alternative transmission technology providers that offer an equivalent wholesale loop product at a comparable level of capacity, quality, and reliability***, have access to the entire multiunit customer premises, and offer the specific type of high-capacity loop over their own facilities on a widely available wholesale basis to other carriers desiring to serve customers at that location, then incumbent LEC loops at the same loop capacity level serving that particular building will no longer be unbundled.

(emphasis added). This means that for an ***inter***modal carrier to count towards the trigger, it must be providing an equivalent wholesale loop product comparable in quality to that of the ILEC. *See* 47 C.F.R. § 51.319(a)(4)(ii), 47 C.F.R. § 51.319(a)(5)(i)(B). The wholesale trigger does not require that an ***intra***modal carrier's wholesale loop product be "equivalent to" an ILEC's wholesale loop product.

Q. **PLEASE COMMENT ON AT&T'S DEFINITION OF AN "EQUIVALENT WHOLESALE LOOP PRODUCT." (KIRCHBERGER/NURSE P. 137).**

A. It appears that AT&T has simply rewritten the requirements of the TRO to make the trigger more difficult to attain. Nothing in the TRO or the FCC's rules support a definition of an "equivalent wholesale loop product" as one that terminates in the same central office where the ILEC loop serving the same customer premise is available.

Q. **PLEASE COMMENT ON AT&T'S CONTENTION THAT VERIZON MUST PROVIDE SUFFICIENT EVIDENCE TO DEMONSTRATE A "REASONABLE EXPECTATION" THAT EACH WHOLESALER COUNTING TOWARDS THE**

1 TRIGGERS WILL "CONTINU[E] TO PROVIDE WHOLESALE LOOP CAPACITY
2 TO THAT CUSTOMER LOCATION" (KIRCHBERGER/NURSE P. 140)

3 A. As AT&T notes, the FCC instructed state commissions not to undertake a financial
4 viability analysis with respect to each provider. TRO ¶ 338. However, in stating
5 that there should be some reasonable expectation that wholesale loop providers are
6 operationally capable of continuing to provide wholesale loop capacity to that
7 customer location, the FCC did not place the burden on making such a showing on
8 any particular party. *See Id.* Indeed, only the wholesaler has the information
9 necessary to make such a showing. No party has provided any evidence suggesting
10 that the carriers identified in Exhibit 7 to our Supplemental Testimony as
11 wholesalers are not operationally capable of continuing to provide wholesale loop
12 capacity to the specific customer locations identified as satisfying the wholesale
13 trigger. All of them are parties to this case, and their silence on their wholesale
14 capabilities give the Commission every reason to believe they can continue
15 providing wholesale service at the specific locations identified in Exhibit 7.

16 Q. PENN TELECOM CRITICIZES VERIZON'S ASSUMPTION THAT CLECS HAVE
17 ACCESS TO THE ENTIRE CUSTOMER LOCATION WHERE ITS LOOPS ARE
18 DEPLOYED, BASED ON ITS EXPERIENCES WITH BUILDING MANAGERS AND
19 OWNERS RESISTING REQUESTS TO PROVIDE SERVICE TO TENANTS OR
20 RESTRICTING ITS ACCESS IN A BUILDING. (MEYERS P. 21-22). SNIP LINK
21 LIKEWISE CRITICIZES VERIZON'S ASSUMPTION BASED ON ITS
22 OBSERVATION THAT SEVERAL ALTERNATIVE PROVIDERS PROVIDE "LIT
23 BUILDING" LISTS TO PROSPECTIVE BUYERS THAT IDENTIFY A SPECIFIC

FLOOR OR SUITE AND DO NOT PROVIDE ACCESS TO THE REMAINING UNITS. (ABATE P. 12). HOW DO YOU RESPOND?

A. Again, the wholesalers possess the factual information about whether they have access to the entire customer location to which they have deployed their loops. Building owners restricting such access is generally the exception, not the rule. To their credit, **[CLEC PROPRIETARY DATA BEGINS]** **[CLEC PROPRIETARY DATA ENDS]** identified some building locations as not having access to the entire location. As a result, Verizon did not include these CLECs at these locations in its trigger analysis contained in Exhibit 7. Penn Telecom and SniP LiNK, however, presented broad generalizations and old, outdated war stories with no factual support. For example, Penn Telecom did not identify any of the customer locations identified in Exhibit 7 to our Supplemental Direct Testimony as a building in which a building owner or manager has restricted access. Likewise, SNiP LiNK did not identify any of those carriers or customer locations as ones at which an alternative provider restricted its wholesale offerings. Nor did any of the CLECs identified as satisfying the wholesale trigger present any evidence that their access to those locations is restricted. Absent evidence of such restrictions, the Commission should assume that a CLEC has access to the entire customer location.

Q. PENN TELECOM ALSO DISCUSSES ITS "LIMITED SUCCESS" OBTAINING CAPACITY FROM ALTERNATIVE WHOLESALE PROVIDERS. (MEYERS P. 22) DOES THIS CALL INTO QUESTION ANY OF THE CUSTOMER LOCATIONS IDENTIFIED AS SATISFYING THE DS1 OR DS3 WHOLESALE TRIGGER?

1 A. No. Again, Penn Telecom presented a general anecdote with respect to AT&T, but
2 did not identify any of the customer locations identified in Exhibit 7 as one in which
3 it has been refused wholesale facilities from AT&T or any other alternative provider.

4 Q. **PLEASE COMMENT ON SNIP LINK'S CONTENTION THAT IF A CARRIER IS**
5 **REQUIRED TO CONSTRUCT FACILITIES IN ORDER FOR THE SERVICE TO**
6 **BE MADE AVAILABLE, THEN THE SERVICE IS NOT WIDELY AVAILABLE.**
7 **(ABATE P. 20).**

8 A. It is unclear what SNiP LiNK means by "constructing" facilities. Undoubtedly the
9 installation of new aerial or buried cable is construction of a loop (See 47 C.F.R. §
10 51.319 (a)(8)(ii)), and Verizon did not count any CLEC towards the wholesale
11 trigger where their fiber cables have not already been installed. However, the FCC
12 found that attaching or changing electronic and other equipment that are ordinarily
13 attached to activate a DS1 loop to be "routine network modifications" by an ILEC.
14 Id. The same holds true for CLECs. As stated in our supplemental direct testimony,
15 where a wholesaling CLEC has deployed dark fiber or a fiber optic loop, Verizon
16 assumed that the carrier would provide DS1 loops by adding or changing the
17 electronics to activate a DS1. Such activity would not constitute construction.

18 Q. **PLEASE COMMENT ON AT&T AND SNIP LINK'S CLAIM THAT TO BE**
19 **"WIDELY AVAILABLE", SERVICE MUST BE MADE AVAILABLE ON A**
20 **COMMON CARRIER BASIS, FOR EXAMPLE, THROUGH A TARIFF OR**
21 **STANDARD CONTRACT. (KIRCHBERGER/NURSE P. 139; ABATE P. 20).**

A. The DS1 and DS3s provided by the carriers identified in Exhibit 7 are offered on a common carrier basis through a tariff, standard contract, or general service/product guide on that company's web page. Specifically, MCI's DS1 and DS3 services are governed by the terms and conditions contained in its products service guide on its web page.[92] AT&T, RCN, and XO offer DS1s and DS3s through tariffs contained on the Commission's web page.

VII. TRANSITION PERIOD FOR DEIDICATED TRANSPORT AND LOOPS WHERE THE COMMISSION FINDS THE TRIGGERS HAVE BEEN MET

Q. AT&T AND ALLEGIANCE PRESENT A TRANSITION PLAN FOR THE COMMISSION'S CONSIDERATION IF IT FINDS NO IMPAIRMENT ON CERTAIN DEDICATED TRANSPORT ROUTES OR CUSTOMER LOCATIONS. SHOULD THE COMMISSION ADDRESS A TRANSITION PLAN AT THIS TIME IN THIS NINE-MONTH CASE?

A. No. The Commission should not address a transition plan in this nine-month case. The FCC's loop rules limit the nine-month state loop proceedings to the triggers review contained in rules 319(a)(4) – (6). 47 C.F.R. §51.319(a)(7). Likewise, the transport rules limit the nine-month transport proceedings to the triggers review contained in rules 319(e)(1) – (3). The trigger rules do not discuss adoption of a transition plan. 47 C.F.R §§ 51.319(a)(4) – (6) and (e)(1) – (3). Thus, while the FCC expected state commissions to develop a transition plan for transport routes and customer locations where it found no impairment, it did not

[92] *See* http://global.mci.com/publications/service_guide/products/, http://global.mci.com/publications/service_guide/products/products_currently_availab

1 require them to do so in the initial nine-month review. Given the significant
2 amount of work the Commission must complete in its nine-month triggers review,
3 it should not add an issue that could extend its decision-making process beyond
4 the nine-month deadline. Instead, as detailed below, the Commission can (and
5 should) address the transition period issue in a separate arbitration proceeding to
6 determine the terms for amendments to interconnection agreements in connection
7 with the *TRO*.

8 Q. DOES THE ORDER OFFER GUIDANCE ON A TRANSITION MECHANISM
9 ONCE NON-IMPAIRMENT IS FOUND FOR A PARTICULAR UNE?

10 A. Yes. Recognizing that "the unbundling provisions of section 251 are
11 implemented to a large extent through interconnection agreements between
12 individual carriers," the FCC rejected BOC requests for Commission intervention
13 in the contract modification process:

> 14 Although some parties believe that the contract
> 15 modification process requires Commission intervention in
> 16 this instance, we believe that ***individual carriers should be***
> 17 ***allowed the opportunity to negotiate specific terms and***
> 18 ***conditions necessary to translate our rules into the commercial***
> 19 ***environment***, and to resolve disputes over any new agreement
> 20 language arising from differing interpretations of our rules.

21 *TRO* ¶ 700 (emphasis added). The FCC explained that "[p]ermitting voluntary
22 negotiations for binding interconnection agreements is the very essence of section

---

le/ (included as Rebuttal Attachment 22).

251 and 252." *Id.* ¶ 701. The same holds true for any change in an ILEC's unbundling obligations as a result of a state's trigger analysis.

Consistent with the framework adopted in the *TRO,* on October 2, 2003, Verizon posted on its website a draft interconnection agreement amendment reflecting the new rules, and it sent industry letters to CLECs notifying them that such draft TRO amendment was available (and that, pursuant to the *TRO,* October 2nd is deemed to be the negotiation request date for future arbitrations of that amendment).[93]

Q. DOES VERIZON'S DRAFT AMENDMENT ADDRESS STATE FINDINGS OF NON-IMPAIRMENT?

A. Yes. Section 3.8.2 of the draft amendment provides as follows:

> 3.8.2 Other Nonconforming Facilities. With respect to any Nonconforming Facility not addressed in Section 3.8.1 above [regarding switching], Verizon will notify ***CLEC Acronym TXT*** in writing as to any particular unbundling facility previously made available to ***CLEC Acronym TXT*** that is or becomes a Nonconforming Facility, as defined herein [e.g., a loop at a specific customer location or transport facility along a particular route]. The Parties acknowledge that such notice was issued prior to the execution of this Amendment with respect to certain Nonconforming Facilities [e.g.,

[93] This industry letter can be found at http://www22.verizon.com/wholesale/clecsupport/content/1,16835,east-wholesale-resources-2003_industry_letters-clec-10_02b,00.html, and the draft amendment can be found at http://www22.verizon.com/wholesale/attachments/industry-letters/TROAmendment-v102203.pdf *See also* Correspondence from Jeffrey A. Masoner dated October 2, 2003 included as Rebuttal Attachment 23 hereto

OCn transport and dark fiber entrance facilities]. During a transitional period of thirty (30) days from the date of such notice, Verizon agrees to continue providing the Nonconforming Facilities addressed in the subject notice(s) to ***CLEC Acronym TXT*** under the terms of the Agreement. At the end of that thirty (30) day period, unless ***CLEC Acronym TXT*** has submitted an LSR or ASR, as appropriate, to Verizon requesting disconnection of the Nonconforming Facility, Verizon shall convert the subject Nonconforming Facilities to an analogous access service, if available, or if no analogous service is available, to such other service arrangement as Verizon and ***CLEC Acronym TXT*** may agree upon (e.g. a separate arrangement at market-based rates or resale); *provided however*, that where there is no analogous access service, if ***CLEC Acronym TXT*** and Verizon have failed to reach agreement as to a substitute service within such thirty (30) day period, then Verizon may disconnect the Nonconforming Facilities; and *provided further*, that with respect to any dark fiber facility that, pursuant to the terms of this Amendment, is (or becomes) a Nonconforming Facility, the transition period shall be ninety (90) days from the date of the aforementioned notice; and *provided further*, that unless the parties have been able to negotiate a suitable transitional services agreement for such dark fiber facilities within that ninety (90) day period, Verizon shall no longer be obligated to provide the Nonconforming Facilities in question to ***CLEC Acronym TXT***. Where the Nonconforming Facilities are converted to an analogous access service, Verizon shall provide such access services at the month-to-month rates, and in accordance with the terms and conditions, of Verizon's applicable access tariff, with the effective bill date being the first day following the thirty (30) day notice period. ***CLEC Acronym TXT*** shall pay all applicable termination charges, if any, for any Nonconforming Facilities that ***CLEC Acronym TXT*** requests Verizon to disconnect, or that

1 Verizon disconnects as a result of the Parties'
2 failure to reach agreement on a substitute service.

3 Thus, upon the effective date of any Commission finding of non-impairment with
4 respect to loop or transport facilities, Verizon would not simply stop providing
5 loops or transport to CLECs, Instead, Verizon would provide Pennsylvania
6 CLECs with 30 days' notice that (a) it intends to discontinue provisioning, as a
7 UNE, the applicable facility in the subject location(s), and (b) upon the passage of
8 the 30 day period, unless the CLEC submits LSRs/ASRs (as appropriate) to
9 disconnect the subject facility, VZ ***will continue provisioning the facility*** as an
10 access service (where an analogous access service exists).

11 Q. HAVE ANY CLECS IN PENNSYLVANIA PROVIDED INPUT WITH RESPECT
12 TO NEGOTIATION OF A TRO AMENDMENT?

13 A. Yes. A number of carriers (including parties to this case) have submitted letters
14 to Verizon commenting upon changes associated with the *TRO*, including
15 Verizon's draft TRO amendment. However, thus far relatively few carriers have
16 provided many substantive comments on that amendment. If the parties are
17 unable to reach agreement on an amendment within 135 days after October 2,
18 2003, either party may request arbitration.[94] The transition mechanism described
19 above and contained in the model amendment for nonconforming facilities –
20 including, without limitation, for loops and/or transport facilities in respect of
21 which the Commission finds no impairment– is reasonable and appropriate.

[94] *See TRO* ¶ 703.

However, if Verizon and the CLECs cannot agree to such a mechanism, this issue should be decided by the Commission in the context of a separate Section 251/252 arbitration proceeding determining terms for TRO amendments.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes.

VERIZON PENNSYLVANIA INC.
STATEMENT NO. 2.0

1/26/04
Hbg DC

INVESTIGATION INTO THE
OBLIGATION OF INCUMBENT LOCAL
EXCHANGE CARRIERS TO UNBUNDLE
NETWORK ELEMENTS

DOCKET NO. I-00030099

VERIZON PENNSYLVANIA INC.

STATEMENT NO. 2.0

(REBUTTAL TESTIMONY)

WITNESS: William E. Taylor

DATED: January 20, 2004

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JAN 30 2004

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SECRETARY'S BUREAU

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Attachment 1: Dr. Taylor's Vita.

1 **I. INTRODUCTION**

2 **A. Background**

3 Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS ADDRESS.

4 A. My name is William E. Taylor. I am Senior Vice President of National Economic
5 Research Associates, Inc. ("NERA"), head of its telecommunications economics
6 practice, and head of its Cambridge office. My business address is One Main Street,
7 Cambridge, Massachusetts 02142.

8 Q. PLEASE BRIEFLY OUTLINE YOUR EDUCATIONAL AND PROFESSIONAL
9 BACKGROUND.

10 A. I have been an economist for over twenty-five years. I earned a Bachelor of Arts degree
11 from Harvard College in 1968, a Master of Arts degree in Statistics from the University
12 of California at Berkeley in 1970, and a Ph.D. from Berkeley in 1974, specializing in
13 Industrial Organization and Econometrics. For the past twenty-five years, I have taught
14 and published research in the areas of microeconomics, theoretical and applied
15 econometrics and telecommunications policy at academic and research institutions
16 including the Economics Departments of Cornell University, the Catholic University of
17 Louvain in Belgium, and the Massachusetts Institute of Technology. I have also
18 conducted research at Bell Laboratories and Bell Communications Research, Inc. I
19 have appeared before state and federal legislatures, testified in state and federal courts,
20 and participated in telecommunications regulatory proceedings before state public

1 utility commissions, as well as the Federal Communications Commission ("FCC"), the
2 Canadian Radio-television Telecommunications Commission, the Mexican Federal
3 Telecommunications Commission and the New Zealand Commerce Commission. I
4 have appeared before the Pennsylvania Public Utility Commission ("Commission")
5 recently in Docket Nos. P-00981449, P-00032020, P-00930715F0002 and others
6 regarding economic aspects of price regulation. My vita is provided as Attachment 1.

7 **B. Purpose & Summary of the Testimony**

8 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

9 A. I have been asked by Verizon to assess the economic issues raised in the direct
10 testimonies of Dr. John W. Mayo, on behalf of AT&T Communications of
11 Pennsylvania, Inc. ("AT&T"), Dr. Michael D. Pelcovits on behalf of MCIMetro Access
12 Transmission Services LLC and MCI WorldCom Communications, Inc ("MCI"), Dr.
13 Robert Loube and Mr. Rowland Curry on behalf of the Pennsylvania Office of
14 Consumer Advocate ("OCA"), and Mr. Joseph Gillan on behalf of the CLEC Coalition.

15 Verizon is asking the Commission to relieve it of the requirement to unbundle mass
16 market switching in the Density Cell 1, 2 and 3 areas of the Philadelphia, Pittsburgh,
17 Harrisburg, Allentown, Reading, Scranton/Wilkes-Barre, and Lancaster MSAs in
18 accordance with the provisions and criteria in the Federal Triennial Review Order.[1] In

[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, "*TRO*").

1 accordance with sound economic principles, and consistent with prior FCC policy
2 statements, Verizon has correctly chosen the relevant geographic market to be an area
3 larger than an individual wire center, namely the MSA. Some intervenor testimonies in
4 this proceeding disagree with that notion and propose that the relevant geographic
5 market be something smaller, such as the individual wire center. In this rebuttal
6 testimony, I present the economic arguments for why the MSA is the appropriate
7 geographic market.

8 Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

9 A. Based on sound economic principles, and consistent with prior FCC policy, the relevant
10 geographic market the Commission should adopt for purposes of this proceeding is the
11 MSA and not the individual wire center as some of the interveners in this proceeding
12 erroneously suggest. As the FCC stated: "states should not define the market so
13 narrowly that a competitor serving that market alone would not be able to take
14 advantage of available scale and scope economies from serving a wider market." *TRO*
15 ¶ 495.

16 The FCC has recognized the primacy of "actual marketplace evidence" in determining
17 impairment.[2] Thus, the most significant factor for determining the relevant geographic
18 market is where CLECs have chosen to enter and compete for mass market customers
19 using their own switches and the areas that they currently serve and could serve using

[2] *TRO* ¶ 7 at 10.

1 those switches. The FCC places heavy emphasis on actual marketplace evidence
2 throughout the *TRO*.

3 In Pennsylvania, CLECs have deployed their own switches throughout the MSAs in
4 which Verizon is seeking relief — Philadelphia, Pittsburgh, Harrisburg, Allentown,
5 Reading, Scranton/Wilkes-Barre, and Lancaster MSAs. Those switches have wide
6 geographic reach (as wide as an entire MSA) and represent a sunk investment. Using
7 that investment, CLECs serve mass market and other customers across these MSAs.
8 Given the MSA-wide coverage of major media outlets and the CLECs' strong
9 incentives to use fixed investment to full capacity, this geographic scope of entry is
10 exactly what one would expect, and CLECs can be expected to continue expanding the
11 scope and extent of their facilities-based services throughout the MSA.

12 In general, we would expect carriers to try to serve at least an MSA because the high
13 degree of social and economic integration present in such areas implies that firms would
14 generally market services throughout this geographic area.[3] Mass-market entry is often
15 associated with media advertising aimed at a geographic area at least as large as the
16 MSA; thus, we would expect the carrier to serve the entire MSA because advertising
17 throughout the MSA, but not serving the entire area, raises the carrier's costs and harms
18 its reputation. Service offerings, including offerings of discounted bundled services, are
19 frequently rolled out by individual MSAs since that is the geographic area covered by

[3] While these incentives clearly apply to new entrants, there may be circumstances where a CLEC's existing facilities or customer base may dictate serving, at least initially, a geographic area different from an MSA. Examples might include cable companies that choose to provide telephone service to their video footprint or CLECs that expand across an MSA boundary into an area contiguous with their existing facilities. However, of (continued...)

1 newspapers and local radio, television and cable media.[4] Thus, all potential customers
2 in the MSA are exposed to the same mass-market advertising messages.

3 A focus on potential customers is consistent with recent FCC guidance to the states on
4 how to determine the relevant market. Recently in its *Brief for Respondents* before the
5 United States Court of Appeals for the District of Columbia Circuit, the FCC explained
6 the guidance it gave to the states as it pertains to market definition.[5] On page 40 the
7 FCC stated: "Under this standard, the self-provisioning trigger would be met, at a
8 minimum, not only at locations in which three competitive providers are *actually*
9 *serving* mass market customers with non-ILEC switching, but also at locations where
10 three competitive providers are "*holding out*" the availability of such service to mass
11 market customers."

12 Similarly, in its October 9, 2003 filing in the D.C. Circuit Court opposing the USTA
13 Writ of Mandamus, the FCC explained that

14 The corrected paragraph [¶ 499] does *not* require that, for purposes of the
15 switching triggers, self-provisioning competitors must be ready and
16 willing to serve all retail customers in the market. The Commission made
17 similar corrections in the *Order's* discussion of how states should analyze
18 impairment in areas where the triggers are not met...These deletions
19 eliminate any suggestion in the *Order* that a state's finding of no

(...continued)

all the existing, pre-defined geographic areas, the MSA comes closest to encompassing the area in which local exchange competition takes place.

[4] In its discussion of a geographic market to be used in the Bell Atlantic/NYNEX merger, the FCC observed that television and radio advertising markets generally coincided with the LATA 132 geographic market it had specified. *Bell Atlantic-NYNEX Order* at ¶ 55-56.

[5] *Brief for Respondents*, On Petition for Review of an Order of the Federal Communications Commission, *United States Telecom Ass'n v. FCC*, No. 00-1012 (D.C. Cir.) (filed December 31, 2003) ("*Brief for Respondents*") (emphasis in original).

impairment is contingent on a determination that a facilities-based competitor could economically serve all customers in the market.[6]

II. GEOGRAPHIC MARKET DEFINITIONS FOR MASS-MARKET LOCAL EXCHANGE SERVICE

A. TRO Triggers

Q. PLEASE EXPLAIN THE CRITERIA THAT VERIZON MUST MEET IN ORDER TO OBTAIN THE RELIEF THAT IT IS SEEKING.

A. The FCC has set forth the criteria that incumbent local exchange carriers ("ILECs") must meet in order to be relieved of the unbundling obligations in the Telecommunications Act of 1996 ("TA96"). In the *TRO*, the FCC establishes certain "triggers" that state commissions are required to use to determine whether ILECs should be relieved of certain unbundling obligations.

Q. DR. MAYO (AT 19-28) AND DR. PELCOVITZ (AT 56-58) DISCUSS THEIR VIEWS OF THE TRIGGERS. WHAT ARE TRIGGERS AND WHY DID THE FCC DECIDE TO USE A TRIGGERS APPROACH TO DETERMINE WHETHER ILECS SHOULD BE RELIEVED OF CERTAIN UNBUNDLING OBLIGATIONS?

A. The FCC describes triggers as "a principal mechanism for use by states in evaluating whether requesting carriers are in fact not impaired in a particular market," and has

[6] *Opposition of Respondents to Petitions for a Writ of Mandamus, United States Telecom Ass'n v. FCC*, No. 00- (continued...)

1 emphasized that they are "keyed to objective criteria" and "provide bright-line rules."[7]
2 The FCC has also highlighted that the use of objective triggers can expedite
3 proceedings, noting that the triggers allow state commissions to "avoid the delays
4 caused by protracted proceedings and can minimize administrative burden."[8]

5 Triggers are objective measures of CLEC competitive activity, which are to be used by
6 state commissions for determining the degree of competition in a particular market and,
7 therefore, whether ILECs should be relieved of certain unbundling obligations. In this
8 proceeding, the trigger that determines whether Verizon must continue to offer
9 switching for CLECs serving the mass market is whether there are at least three
10 unaffiliated CLECs serving mass market customers in a particular market with the use
11 of their own switches.

12 Because determining the degree of competitive activity in a particular market can be a
13 complicated undertaking, subject to considerable debate and disagreement among
14 economists and policymakers, the use of objective triggers is a way to minimize such
15 debates, preserve the resources that would otherwise be consumed in such debates, and
16 provide for expedited decision making on the part of state commissions. It is relatively
17 straightforward to determine whether an ILEC has or has not met a particular objective
18 trigger.

(...continued)

1012 (D.C. Cir.) (filed October 9, 2003), at 23.

[7] *TRO* at ¶ 498.

[8] *TRO* at ¶ 498.

1 Moreover, because there can be several different geographic markets in every ILEC
2 territory—as I discuss below, I believe the relevant geographic market is the MSA—the
3 use of objective triggers substantially reduces the amount of resources and time that
4 state commissions must devote to the issue. Without the use of objective triggers, the
5 state commission would need to conduct more resource-intensive proceedings that
6 apply to the different geographic markets, thus prolonging the time required to reach a
7 decision. Though it is possible that the triggers may be overly conservative and relieve
8 ILECs of unbundling obligations only after the time when sound economic principles
9 would call for relief, the desire to minimize regulatory debate and provide a
10 straightforward and expedited approach to relieving ILECs of unbundling obligations is
11 the reason for the use of objective triggers.

12 Q. IS IT APPROPRIATE TO CONSIDER CRITERIA NOT INCLUDED IN THE
13 TRIGGERS—SUCH AS MARKET SHARE TESTS, PROFITABILITY, ETC.—
14 WHEN EVALUATING VERIZON'S REQUEST?

15 A. No. The value of the triggers is their simplicity and objective nature. That value is lost
16 if the triggers become a complex, far-ranging—and lengthy—inquiry into the
17 economics of the local exchange market. Similarly, the value of the trigger process is
18 undermined if the determination of the proper geographic market is allowed to depend
19 upon such an inquiry. Under the self-provisioning trigger, a state "must find 'no
20 impairment' when three or more unaffiliated competing carriers are serving mass

1 market customers in a particular market with the use of their own switches."[9] The self-
2 provisioning trigger is an objective test that simply requires the counting of unaffiliated
3 competing carriers in a particular geographic market providing service to mass market
4 customers. Once the market has been defined—and I discuss below that the geographic
5 market is the MSA—other criteria, such as market share tests, profitability analyses,
6 etc., are not to be taken into account. It is only if a state commission determines that an
7 ILEC has not met the self-provisioning triggers that the commission can conduct an
8 analysis of the potential for CLECs to deploy their own switches to serve mass market
9 customers in the relevant geographic market, given economic and operational
10 conditions in that market.[10] But that is not the case in this instance because Verizon has
11 provided evidence that it has met the self-provisioning triggers in certain geographic
12 regions in its Pennsylvania service territory.

13 Once a geographic market is defined, determining whether an ILEC has met the trigger
14 in that market is relatively straightforward.

15 Q. DR. MAYO (AT 7) URGES THE COMMISSION TO CONSIDER IN THIS
16 PROCEEDING INDUSTRY HISTORY AND THE TELECOMMUNICATIONS ACT
17 OF 1996. DO YOU AGREE?

18 A. No, that analysis is not necessary. The purpose of the trigger phase of the
19 Commission's impairment investigation for local circuit switching is simply to quantify
20 deployment, not to measure market share, market power or the potential for additional

[9] *TRO* at ¶ 501.

[10] *TRO* at ¶ 506.

entry or to assess the role of the local switching UNE in local exchange competition. As expressed in the *TRO* that established this proceeding: "Our triggers are based on our conclusion that actual deployment is the best indicator of whether there is impairment, and accordingly evidence of actual deployment is given substantial weight in our impairment analysis."[11] The required measure of actual deployment in any market is thus the list and count of the competitors that currently supply services to mass-market customers using their own switches. The link between deployment and the public policy goals of the FCC and this Commission has already been subsumed in the FCC's determination of the triggers and is not for this Commission to second-guess.

Q. DR. MAYO STATES (AT 20) THAT THE "TRIGGER ASPECT OF THE IMPAIRMENT ANALYSIS AND THE MORE DETAILED CASE STUDY ARE **NOT** TWO DIFFERENT IMPAIRMENT TESTS," SO THAT THE TWO TESTS SHOULD PRODUCE THE SAME RESULTS REGARDING IMPAIRMENT. DO YOU AGREE?

A. No. First, the tests have different goals. A trigger analysis simply identifies and counts CLECs providing basic exchange service to mass-market customers using their own switches. Its goal is to provide a *bright line* test—i.e., a test whose outcome is objective and unambiguous so that industry participants can determine the result in real time and use the information in their investment planning and entry decisions. Attempts to modify or "focus" the triggers would effectively produce a subjective test, and as a

[11] *TRO* at ¶ 461.

result, potential entrants and incumbents would be unable to predict the outcome reliably and thus unable to use the information in their business plans.

Second, there is no reason in economics to suppose that a properly conducted trigger analysis will produce the same result as a properly conducted case study of potential competition. The trigger analysis identifies competition on the ground: *i.e.*, it identifies CLECs that have chosen to supply mass-market customers using their own switching facilities in different geographic markets. In contrast, an analysis of potential competition identifies those geographic markets in which CLEC entry using its own switching facilities is economically sustainable. Because UNE-P is currently available, it is perfectly possible—indeed, likely—that CLECs have entered markets using UNE-P even though UNE-L entry was sustainable, simply because UNE-P was more profitable than UNE-L. Thus, it would not be surprising to find that potential competition using CLEC switching was sustainable in geographic markets where no CLEC facilities-based competition can be currently observed – that is, where the triggers are not currently met.

In the remainder of my testimony I present the economic arguments that lead me to conclude that the relevant geographic market is an area that is larger than an individual wire center, namely the MSA.

B. The Concept of a Geographic Market

Q. DR. PELCOVITZ (AT 36-40) SUGGESTS THAT THE RELEVANT GEOGRAPHIC MARKET IS, AT A MAXIMUM, THE WIRE CENTER. DO YOU AGREE WITH HIS POSITION?

A. No. Based on sound economic principles and a number of FCC policy statements I conclude—contrary to Dr. Pelcovits' position—that the relevant geographic market is the MSA, not the individual wire center. In this section I provide the basis for my conclusion.

Q. HOW DO ECONOMISTS DEFINE A GEOGRAPHIC MARKET?

A. A geographic market area is one in which sellers provide products or services that customers treat as substitutes for one another and thus which compete against one another. As a leading text describes the concept:

> The geographic limit of a market is determined by answering the question of whether an increase in price in one location substantially affects the price in another. If so, then both locations are in the same market.[12]

For mass-market local telephone service, carriers offering mass-market local telephone service in the core of an urban area would compete in the same geographic market as carriers offering local service in a close suburb because reductions in local exchange prices in the suburb could lead to lower prices in the core area. This would happen because carriers advertise and promote mass-market services on a metropolitan-wide basis, and customers in the core area would consequently expect to pay the same prices advertised for services in the suburb. Conversely, if a firm attempted to raise rates in the suburb, a competitor in the core area could quickly expand its business in the suburb

[12] D.W. Carlton and J.M. Perloff, *Modern Industrial Organization*, Second edition, (1994), New York: Harper Collins, at 807. Similarly, the *Horizontal Merger Guidelines* (Section 1.2.1) consider firms at different locations to be in the same market when a potential price increase by one firm (assuming other firms maintain their current prices) would be unprofitable, because customers would shift to the products of firms at other locations in the same geographic market.

using the same switch and the same mass-marketing tools, placing downward pressure on the prices in the suburb.

Q. DOES THE ANALYSIS OF THE GEOGRAPHIC SCOPE OF THE RELEVANT MARKET IN THE CASE OF TELECOMMUNICATIONS DIFFER IN DETAIL FROM THE TYPICAL DELINEATION OF THE GEOGRAPHIC DIMENSIONS OF A PRODUCT?

A. To some extent. The typical case, (e.g., a merger analysis), starts with the products of the firm(s) in question and then poses the question of whether customers would shift to the products of firms *at other locations* in the event of a price increase by the reference firm(s). That is, firms are viewed as having precise locations; consequently, considerations such as transportation costs come into play when determining whether customers would shift their purchases to the competing firms. In contrast, telecommunications carriers have switches that can reach major portions of the geographic market area and market their services throughout the geographic market. Indeed, CLECs frequently offer service (using resale or UNE-P) in geographic areas where they have no facilities, so the notion of identifying a firm with a location at which it provides service makes less sense for telecommunications carriers than (for example) cement manufacturers.

Q. IN ASSESSING WHETHER THE ABSENCE OF THE UNBUNDLED LOCAL SWITCHING WOULD IMPAIR ENTRY INTO MASS-MARKET LOCAL EXCHANGE SERVICES, HOW WOULD AN ECONOMIST DETERMINE THE GEOGRAPHIC SCOPE OF THE MARKET?

A. The obvious touchstone is the FCC's market-definition rule, which specifies 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.[13]

In addition to the specific requirements of the rule, paragraphs 495-496 of the *TRO* refer to other factors that a state commission may consider in defining the geographic market. For example, in paragraph 495, the FCC stated: "states should not define the market so narrowly that a competitor serving that market alone would not be able to take advantage of available scale and scope economies from serving a wider market."

All in all, however, the most significant factor is where CLECs have chosen to enter and compete for mass market customers through their own switches and the areas that they do serve and could serve using those switches. The FCC places heavy emphasis on actual marketplace evidence throughout the *TRO*. At paragraph 93, for example, the FCC states, "As we anticipated in the *Triennial Review NPRM,* we agree with commentators that argue that actual marketplace evidence is the most persuasive and useful kind of evidence submitted. In particular, we are most interested in granular evidence that new entrants are providing retail services in the relevant market using non-incumbent LEC facilities...." The market-entry evidence presented by Ms. Berry and Mr. Peduto in their direct testimony on behalf of Verizon shows where CLECs are

providing mass market switching services and implicitly reflects the CLECs' own economic and business evaluation of all the other potentially relevant factors listed in paragraphs 495-96.[14]

Q. IS THE ANALYSIS UNDER THE FCC'S RULE IN REASONABLY CLOSE ALIGNMENT WITH THE TRADITIONAL ECONOMIC APPROACH TO GEOGRAPHIC MARKET DETERMINATION?

A. Yes. The competing firm can be thought to be located at the location of its switch and to offer the local exchange service product at that location. In order to reach customers throughout the market, the firm incurs "transportation costs" in the form of outlays for unbundled loops, transport of traffic between its switch and ILEC end-offices, certain non-recurring charges, and the like.

Specifically, from the perspective of the CLEC, two related considerations come into play, which together determine the geographic area in which the CLEC chooses to compete for mass-market services. First, the CLEC incurs fixed costs (costs insensitive to the number of customers) when it chooses to locate its switch and market its services following the contours of the media markets. That is, when a CLEC enters using mass-market advertising, it has implicitly chosen to reach all potential customers in the geographic area served by the media. Thus, to serve mass-market customers, CLECs implicitly offer service to a geographic area consisting of the intersection of the areas (i)

(...continued)

[13] 47 C.F.R. § 51.319(d)(2)(i).

1 served by a switch and (ii) corresponding to media market geographic reach. Second,
2 the CLEC must decide how to serve customers in particular ILEC wire centers to which
3 it has already offered service: whether to incur fixed costs of collocation or to serve the
4 customers through EELs or resold ILEC services. Putting these two types of costs
5 together, the CLEC entrant determines that it is likely to be profitable to serve this
6 area—*i.e.*, the intersection of the reach of a switch and the reach of mass media—given
7 the most efficient way to connect customers in different ILEC wire centers to its switch.

8 Economic analysis, of course, also takes into account actual market activity to date,
9 because that indicates how competitors themselves have balanced the various
10 considerations that go into entering a market. In Pennsylvania, CLECs have deployed
11 their own switches to serve the Philadelphia, Pittsburgh, Harrisburg, Allentown,
12 Reading, Scranton/Wilkes-Barre, and Lancaster MSAs. These switches have wide
13 geographic reach (as wide as an entire MSA) and represent a sunk investment. In using
14 that investment, CLECs have served mass market and other customers across much of
15 the MSA. Given the MSA-wide coverage of major media outlets and the CLECs'
16 incentives to use fixed investment to full capacity, this geographic scope of entry is
17 exactly what one would expect, and CLECs can be expected to continue expanding the
18 scope and extent of their facilities-based services throughout the MSA.

19 Q. WHAT GEOGRAPHIC AREA WILL THIS ANALYSIS PRODUCE AS A MARKET
20 DEFINITION?

(...continued)

[14] Direct Testimony of Debra M. Berry and Carlo Michael Peduto, II, on behalf of Verizon Pennsylvania Inc., (continued...)

1 A. This analysis of how CLECs enter local exchange markets, together with the economic
2 definition of a relevant geographic market discussed above, shows that the MSA is the
3 best readily-available geographic area that corresponds to the concept of the geographic
4 market. In individual circumstances, media geographic contours may not align
5 perfectly with MSA boundaries, and switches can certainly serve larger areas than
6 individual MSAs. Circumstances of individual CLECs may favor entry into different
7 geographic areas: *e.g.*, cable companies may initially serve telephone customers in their
8 cable footprint, or some CLECs may offer service in contiguous areas in a neighboring
9 MSA. Nonetheless, because the MSA approximates how mass-market services are sold
10 (through mass-market advertising) and how services are provided (with a switch that
11 serves a large geographic area), the MSA is the best available answer to the question: In
12 what geographic areas are CLEC and ILEC services likely to compete?

13 Q. WHAT ARE METROPOLITAN STATISTICAL AREAS?

14 A. In concept, a MSA is a county or group of counties having a large clustered population,
15 including adjacent areas having a high degree of community of interest with the core
16 population center. Specifically, the Office of Management and Budget (OMB) defines
17 MSAs as a county or group of counties with (1) a city of population 50,000 or more or
18 (2) an urbanized area (as defined by the Census Bureau) of population of at least 50,000
19 consisting of one or more counties. According to the OMB:

(...continued)

October 31, 2003, Docket No. 1-00030099, ("*Berry-Peduto Testimony*").

> The general concept of a Metropolitan Statistical Area or a Micropolitan Statistical Area is that of an area containing a recognized population nucleus and adjacent communities that have a high degree of integration with that nucleus. Metropolitan Statistical Area.—A Core Based Statistical Area associated with at least one urbanized area that has a population of at least 50,000.
>
> The Metropolitan Statistical Area comprises the central county or counties containing the core, plus adjacent outlying counties having a high degree of social and economic integration with the central county as measured through commuting.[15]

MSAs are carefully developed to reflect demographic and commercial reality based on the application of OMB standards to census data (including commuting patterns). MSAs have a "high degree of integration" with a recognized population nucleus and recognize "economic linkages between urban cores and outlying, integrated areas."[16]

Q. WHY DO THESE AREAS DETERMINE REASONABLE BOUNDARIES FOR THE GEOGRAPHIC SCOPE OF LOCAL EXCHANGE MARKETS?

A. In general, we would expect carriers to try to serve at least the MSA because the high degree of social and economic integration present in such areas implies that firms would generally market services throughout this geographic area.[17] Mass-market entry is associated with media advertising aimed at a geographic area at least as large as the MSA; thus, we would expect the carrier to serve the entire MSA because, if a carrier

[15] Currently defined metropolitan and micropolitan statistical areas are based on application of the 2000 standards (which appeared in the Federal Register on December 27, 2000) to Census 2000 data and were announced by OMB effective June 6, 2003.

[16] 65 Fed. Reg. 82228 (2000).

[17] While these incentives clearly apply to new entrants, there may be circumstances where a CLEC's existing facilities or customer base may dictate serving, at least initially, a geographic area different from an MSA. Examples might include cable companies that choose to provide telephone service to their video footprint or CLECs that expand across an MSA boundary into an area contiguous with their existing facilities. However, of (continued...)

1 advertised throughout the MSA, but did not serve the entire area, that would raise its
2 costs and potentially harm its reputation. Service offerings, including offerings of
3 discounted bundled services, are frequently rolled out by individual MSA since that is
4 the geographic area covered by newspapers and local radio, television and cable
5 media.[18] Thus, all potential customers in the MSA are exposed to the same mass-
6 market advertising messages.

7 By the same token, entry into local exchange markets from outside the MSA (*e.g.*, in
8 response to a price increase) may be more difficult because potential new entrants have
9 no existing customer base and little brand awareness, except that engendered by the
10 provision of other related services (*e.g.*, AT&T or MCI's long distance services) or by
11 national marketing plans (*e.g.*, MCI's The Neighborhood). Furthermore, potential
12 customers served by ILEC central offices too small or too sparsely populated to justify
13 the CLEC's cost of collocation or backhaul transport to the switch are still exposed to
14 the same marketing messages and can be served through resale of the ILEC's retail
15 local exchange service.

16 In this sense, mass-market consumers in any two central offices in the same MSA
17 generally face similar competitive conditions and have access to similar competitive

(...continued)

all the existing, pre-defined geographic areas, the MSA comes closest to encompassing the area in which local exchange competition takes place.

[18] In fact, in its discussion of the metropolitan area to be used in the Bell Atlantic/NYNEX merger, the FCC observed that television and radio advertising markets generally encompassed the geographic area it had designated. *Applications of NYNEX Corporation Transferor, and Bell Atlantic Corporation Transferee, For Consent to Transfer Control of NYNEX Corporation and Its Subsidiaries,* File No. NSD-L-96-10, *Memorandum Opinion and Order, 12 FCC Rcd 199985 (1997) ("Bell Atlantic-NYNEX Order")* at ¶ 55-56.

1 alternatives. In addition, as the FCC observed in its *Pricing Flexibility Order,* at ¶ 72,
2 the MSA reflects the primary geographic scope of competitive entry from the CLEC's
3 perspective, because the entry decision is generally undertaken first at the level of the
4 MSA.[19] Consistent with the geographic market definitions favored by recent FCC
5 decisions (discussed below) and the geographic market analysis generally used in the
6 antitrust and economic context, such customers are thus part of the same geographic
7 market.

8 **C. Previous FCC Determinations of Geographic Markets**

9 Q. HAS THE FCC RECENTLY PROVIDED GUIDANCE ON HOW TO DEFINE THE
10 RELEVANT GEOGRAPHIC MARKET IN ACCORDANCE WITH THE *TRO*?

11 A. Yes. Recently in its *Brief for Respondents* before the United States Court of Appeals
12 for the District of Columbia Circuit, the FCC explained the guidance it gave to the
13 states as it pertains to market definition.[20] On page 40 the FCC stated:

14 Under this standard, the self-provisioning trigger would be met, at a
15 minimum, not only at locations in which three competitive providers are
16 *actually serving* mass market customers with non-ILEC switching, but
17 also at locations where three competitive providers are "*holding out*" the
18 availability of such service to mass market customers.

19 Footnote: "This focus on the locations in which customers face similar
20 competitive choices is consistent with Commission precedent analyzing

[19] *In the Matter of Access Charge Reform, Price Cap Performance Review for Local Exchange Carriers, Interexchange Carrier Purchases of Switched Access Services Offered by Competitive Local Exchange Carriers, Petition of U S West Communications, Inc. for Forbearance from Regulation as a dominant Carrier in the Phoenix, Arizona MSA*, CC Docket Nos. 96-262, 94-1, CCB/CPD File No. 98-63 and CC Docket No. 98-157. Fifth Report and Order and Further Notice of Proposed Rulemaking, Released August 27, 1999 ("*Pricing Flexibility Order*").

[20] *Brief for Respondents*, On Petition for Review of an Order of the Federal Communications Commission, *United States Telecom Ass'n v. FCC*, No. 00-1012 (D.C. Cir.)(filed December 31, 2003) ("*Brief for Respondents*").

geographic markets in the merger context. *See e.g., Application of NYNEX Corp. and Bell Atlantic Corp. for Consent to Transfer of NYNEX Corp. and Its Subsidiaries*, 12 FCC Rcd 19985 (¶54) (1997); *Application of EchoStar Communications Corp.* 17 FCC Rcd 20559 (¶¶119-120)(2002).

As I described above, mass-market entry is often associated with media advertising aimed at a geographic area at least as large as the MSA. That is, CLEC advertising is conducted at least at the MSA level, which means that CLECs are "holding" themselves out to offer service at the MSA.

Q. HAS THE FCC PREVIOUSLY DETERMINED THAT MSAS ARE THE CORRECT GEOGRAPHIC SCOPE OF LOCAL EXCHANGE MARKETS?

A. Yes, in at least three contexts. In its just-released order that allows customers to port their wireline telephone numbers to wireless carriers, the FCC implemented this requirement on a MSA basis.[21] This order is especially germane to this proceeding, because, as four of the five FCC Commissioners explicitly observed in their separate statements, one of the major implications of the order is to substantially increase the intermodal competition between wireline services (including ILEC offerings) and wireless services.

Second, in its assessment of how the merger of formerly independent incumbent local exchange carriers would affect local exchange competition in the merged territories, the FCC identified specific metropolitan areas as the markets subject to a competitive

[21] *In the Matter of Telephone Number Portability and CTIA Petitions for Declaratory Ruling on Wireline-Wireless Porting Issues,* Memorandum Opinion and Order and Further Notice of Proposed Rulemaking, (CC Docket No. 95-116) (FCC 03-284) (rel. November 10, 2003) at ¶ 29-30.

1 assessment.[22] The FCC identified the metropolitan scope of advertising markets as a
2 relevant factor in defining the market.[23]

3 Third, in its order granting ILECs price flexibility for certain interstate services, the
4 FCC concluded:

5 We will grant pricing flexibility relief for both Phase I and Phase II on an
6 MSA basis. We agree with those commenters that maintain that MSAs
7 best reflect the scope of competitive entry, and therefore are a logical basis
8 for measuring the extent of competition.[24]

9 When properly interpreted, the FCC's market definition rule in the *TRO* is entirely
10 consistent with its prior emphasis on the "scope of competitive entry" used to define
11 geographic markets in its price flexibility order.

12 In addition to defining geographic markets for local competition, the FCC has used
13 MSAs in numerous other proceedings, such as in its Biennial Review of spectrum
14 aggregation limits for wireless carriers,[25] in defining the geographic markets for
15 programming distributors[26] and in conducting lotteries and granting the right to acquire
16 cellular telephone licenses.[27] It also used the MSA as the geographic basis for its

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[22] See, *e.g.*, *Bell Atlantic-NYNEX Order* at ¶ 43.

[23] *Ibid.* at ¶ 55.

[24] *Pricing Flexibility Order* at ¶ 72.

[25] *In re 1998 Biennial Regulatory Review Spectrum Aggregation Limits for Wireless Telecommunications Carriers*, 15 FCC Rcd. 22072 at ¶16 (October 17, 2000).

[26] *In re Implementation of Section 304 of the Telecommunications Act of 1996*, 13 FCC Rcd. 14775 at ¶ 108 (June 11, 1998).

[27] The Federal Trade Commission has also noted that MSAs can serve as "close proxies" for detailed geographic analysis and has frequently used MSAs to define geographic markets in the number of cases involving retail sales to consumers. *See In the Matter of CVS Corporation*, File No. 971-0060, Analysis to Proposed Consent Order to Aid Public Comment (June 1997).

1 switching exemption in the *UNE Remand Order* for CLECs serving enterprise (4-plus
2 line) customers.[28]

3 **D. Verizon's geographic market definition is correct**

4 Q. HOW DOES VERIZON DEFINE THE RELEVANT GEOGRAPHIC MARKET?

5 A. Verizon appropriately recognizes that the MSAs are the relevant geographic market.[29]
6 Verizon's support for using the MSA as the relevant geographic market is based upon
7 some of the arguments I mentioned above, such as the fact that mass market media
8 advertising is usually conducted on an MSA basis.

9 While Verizon's position is that the MSA is the correct geographic market, it presented
10 evidence on a Density Cell basis so as to provide the Commission with an alternative to
11 MSAs if the Commission were not inclined to accept the entire MSA as the relevant
12 geographic market. It follows that if Verizon passes the self-provisioning trigger test
13 based on a Density Cell definition of the geographic market within an MSA—as it does
14 as described in Ms. Berry's and Mr. Peduto's direct testimony—then it must also pass
15 the trigger test based on an MSA definition of the geographic market. Therefore, even
16 though Verizon submitted evidence on a Density Cell basis, the Commission can and
17 should still decide that the entire MSA should be entitled to relief.

[28] *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 FCC Rcd 3696, 3699, *("UNE Remand Order")*, ¶¶ 276-298. Specifically, ILECs are exempted from having to provide unbundled switching to CLECs serving customers with four or more lines in density zone one of the top 50 MSAs.

[29] *Berry-Peduto Testimony* at 11-14.

Q. WHAT EVIDENCE DID VERIZON PRESENT TO SUPPORT ITS CLAIM THAT IT HAS MET THE SELF-PROVISIONING TRIGGERS IN THE DENSITY CELL 1, 2 AND 3 AREAS OF THE PHILADELPHIA, PITTSBURGH, HARRISBURG, ALLENTOWN, READING, SCRANTON/WILKES-BARRE, AND LANCASTER MSAS?

A. Verizon examined two sources of data at the wire center level, the Line Count Study that examined the standalone loops that Verizon leases to CLECs and the E911 database that was used to count the number of residential customers served by carriers that do not use Verizon's network to serve mass-market customers. Verizon correctly believes that CLECs that lease stand-alone voice-grade UNE loops from Verizon, without also leasing switching, are necessarily using their own switches to provide service to the customers connected to those loops. In addition, Verizon used the residential listings in the E911 database to identify residential customers of known cable telephony providers. These customers were then associated with Verizon wire centers based on their reported NPA/NXX. According to this analysis, multiple CLECs lease stand-alone UNE loops or bypass Verizon's network to serve mass-market customers in the Density Cell 1, 2 and 3 areas of the Philadelphia, Pittsburgh, Harrisburg, Allentown, Reading, Scranton/Wilkes-Barre, and Lancaster MSAs. Table 1[30] shows these data by MSA:

[30] See *Berry-Peduto Testimony,* Attachment 2.

Table 1

Number of CLECs Serving Mass-Market Customers

Using Their Own Switches

MSA	Number of CLECs
Philadelphia	13
Pittsburgh	8
Harrisburg	5
Allentown	7
Reading	4
Scranton/Wilkes-Barre	5
Lancaster	4

Q. DR. PELCOVITZ (AT 62) AND DR. MAYO (AT 29, 34-36) ASSERT THAT CABLE TELEPHONY PROVIDERS SHOULD NOT BE COUNTED AS SWITCH-BASED CLECS IN APPLYING THE FCC'S TRIGGER ANALYSIS. DO YOU AGREE?

A. No, cable telephony is an unambiguous substitute for ILEC local exchange service, based on service characteristics, quality and price. Despite the fact that cable telephony services are generally offered only to current or potential video subscribers, the services substitute for ILEC local exchange service for those customers. Application of the *Horizontal Merger Guidelines* analysis to define the product market would unambiguously include such cable telephony services in the same product market as wireline local exchange service: a hypothetical monopolist of wireline local exchange

service could not profitably set a price above the competitive market level in the face of such competition from cable suppliers.

Companies offering cable telephony use a different technology to provide telecommunications services to their customers. What matters to the customer, however, is not necessarily how the service is provided but whether the service provides the same types of features and services, the service quality and the price compared to traditional wireline services. The fact that cable telephony is an unambiguous substitute means that from an economic perspective the combination of quality, features and price that cable telephony provides is comparable to the quality, features and price of traditional wireline services, otherwise consumers would not view the two a substitutes.

Q. DR. PELCOVITZ CLAIMS (AT 62) THAT CABLE TELEPHONY PROVIDES NO EVIDENCE OF NON-IMPAIRMENT BECAUSE IT BYPASSES THE ILEC'S NETWORK ENTIRELY AND DOES NOT PROVIDE ACCESS TO THE ILEC'S LOOPS. DO YOU AGREE?

A. No. The fact that cable suppliers do not use or provide access to ILEC local loops does not affect the inclusion of cable telephony providers as CLECs in the FCC's trigger analysis. The FCC's choice of a trigger level of three competing switch-based CLECs *explicitly* accounts for the fact that some CLECs (including cable providers) that would count toward the trigger would completely bypass the ILEC's network.

> We recognize that when one or more of the three competitive providers is also self-deploying its own local loops, this evidence may bear less heavily on the ability to use a self-deployed switch as a means of accessing the incumbent's loops. Nevertheless, the presence of three competitors in a market using self-provisioned switching and loops, shows the feasibility of an entrant serving the mass market with its own facilities. [TRO ¶ 501, n. 1560]

In addition, the three-CLEC trigger expressly accounts for the fact that CLECs do not provide switching as wholesale access to ILEC loops:

> Setting the trigger at three competitive facilities takes into consideration the likelihood that self-providers will not offer their service for wholesale, based on evidence that local exchange service providers have generally not shown an interest in providing wholesale services...[*TRO* at ¶ 501].

Based on the evidence presented, Verizon has met the triggers required to relieve it of the requirement to unbundle mass market switching, at a minimum, in the Density Cell 1, 2 and 3 areas of the Philadelphia, Pittsburgh, Harrisburg, Allentown, Reading, Scranton/Wilkes-Barre, and Lancaster MSAs.

III. INTERVENORS' TESTIMONIES DEFINE THE GEOGRAPHIC MARKET TOO NARROWLY

A. Dr. Pelcovits' claim that the relevant geographic market is, at a maximum, the wire center is unsupportable.

Q. WOULD YOU PLEASE SUMMARIZE DR. PELCOVITZ'S POSITION ON WHAT THE COMMISSION SHOULD CONSIDER AS THE RELEVANT GEOGRAPHIC MARKET?

A. Dr. Pelcovits states (at 35) "[m]arket definition at the most accurate level of granularity would be conducted on a customer-by-customer basis." He then goes on (at 36) to state, "[f]ortunately, subject to certain important limitations I discuss below, it is possible to analyze customer-specific locations in large numbers, achieving administrative practicality with little or no loss of accuracy." He concludes (at 37), that "...it is reasonable to aggregate customers and consider impairment issues at the wire center level."

1 Q. SHOULD THE COMMISSION ADOPT THE INDIVIDUAL WIRE CENTER AS
2 THE RELEVANT GEOGRAPHIC MARKET FOR PURPOSES OF IMPAIRMENT
3 ANALYSES?

4 A. No, the Commission should adopt the MSA, and not the individual wire center as the
5 relevant geographic market for purposes of impairment analyses. As I described above,
6 such an approach is consistent with prior FCC policy on this issue. Moreover, from an
7 economic perspective, the wire center cannot be a properly-defined geographic market
8 in Verizon's serving territory in Pennsylvania. No CLEC holds itself out as providing
9 service in individual ILEC wire centers; indeed, from the end user's perspective, ILEC
10 wire centers are features of the ILEC's legacy network that have no relevance for the
11 CLEC's marketing of its services. Rather, for mass-market services, the geographic
12 areas to which CLECs market using television, radio and newspapers comprise areas
13 much larger than a wire center that can be roughly equated with the community-of-
14 interest characteristics defining an MSA.

15 While the geographic contours of local mass-media advertising in which CLECs offer
16 service may not coincide perfectly with those of an MSA, they certainly exceed those of
17 an individual wire center. On the network side, individual wire centers are typically too
18 small to exhaust the capacity of an efficient CLEC's switch—particularly for CLECs
19 that expect to start business with a small share of the markets in which they offer
20 service—and we find evidence of this fact in the Pennsylvania data. According to
21 Table 1 in the Berry-Peduto Testimony, there are 54 known CLEC circuit switches in
22 Pennsylvania that together serve far more than 54 wire centers. CLECs do not, in fact,

1 purchase and install switches to serve single wire centers in Pennsylvania, which
2 confirms the view that the number of customers a CLEC can expect to win in a given
3 wire center is too small to exhaust the economies of scale from sharing the fixed costs
4 of switching and marketing over a wider geographic base of customers.

5 D&E Communications, an integrated communications provider operating in central
6 Pennsylvania, identifies its geographic market area as being much larger than the
7 individual wire center. D&E is both an ILEC in its established territory and a CLEC.
8 In its 2002 Annual Report, D&E claims that "[a] second market includes the seven
9 communities where we operate as a CLEC: Lancaster, Harrisburg, Reading, Pottstown,
10 State College, Altoona and Williamsport."[31]

11 Q. WHAT ARE THE REASONS THAT DR. PELCOVITS PROVIDES TO SUPPORT
12 HIS POSITION THAT THE WIRE CENTER IS THE MOST APPROPRIATE
13 GEOGRAPHIC AREA?

14 A. Dr. Pelcovits gives several reasons. He claims (at 39) that some CLEC entry decisions
15 are made at the wire center level: "CLEC self-provisioning of local switching will
16 require collocation at each wire center the CLEC intends to serve." He observes that a
17 number of components of cost and revenue vary by wire center (at 39, 42-43).

18 Q. HOW DO YOU RESPOND TO THESE ARGUMENTS?

19 A. The short answer to Dr. Pelcovits' issues is that in the economic definition of a
20 geographic market, what ultimately matters is whether prices and service offerings in

[31] D&E Communications, Inc. *Annual Report 2002*, p. 14.

one area are constrained by prices and services offered in another. Thus, the fact that CLECs collocate and make sunk investments in individual wire centers does not mean that prices and service offerings will be independent across wire centers. Other sunk costs, e.g., mass-market advertising and sales, are incurred at the MSA level. In addition, the fact that some costs and prices may vary across wire centers, *e.g.*, across Density Cells, does not mean that price changes in one wire center do not affect sales in other wire centers. Costs can vary within the examples of geographic markets that the economic textbooks use to illustrate the concept: Chicago and Detroit are in the same geographic market for oranges even though shipping costs from Florida or California obviously differ.[32]

Q. WHAT GUIDANCE DOES THE FCC GIVE WITH RESPECT TO DR. PELCOVITS' CONCERNS?

A. The FCC's trigger analysis is based, in part, on the view that "actual marketplace evidence" is the best indication of the viability of switch-based mass-market competition.[33] Thus, the fact that competitors actually enter markets and serve customers on a wider geographic basis than a single wire center is strong evidence that Dr. Pelcovits' geographic markets are too small. The *TRO*'s focus [at ¶ 495] on "the locations of customers actually being served by competitors" implies that wire center "markets" are much too narrow and consequently unreasonable. Conversely, the FCC's suggestion that the existence of possibly "uneconomical" pockets in a larger area (*e.g.*, a

[32] *See* Carlton and Perloff, *op. cit.*, at 807.

[33] *TRO* at ¶ 7.

1 LATA) may call for smaller geographic markets[34] would be meaningless if markets
2 were already defined at the extreme level of granularity that a wire center represents.

3 The FCC explained this reasoning in its *Brief For Respondents* (cited above), stating
4 that "...the self-provisioning trigger would be met, at a minimum, not only at locations
5 in which three competitive providers are *actually serving* mass market customers with
6 non-ILEC switching, but also at locations where three competitive providers are
7 '*holding out*' the availability of such services to mass market customers." [footnote
8 omitted]. CLECs certainly "hold themselves out" to provide service to mass-market
9 customers in areas larger than individual wire centers when they file press releases
10 regarding service and when they advertise in media such as radio, television and
11 newspapers that have a large reach, usually at least as large as the MSA.[35]

12 Q. HOW DO DR. PELCOVITS' CONCERNS APPLY TO VERIZON'S MARKETS IN
13 PENNSYLVANIA?

14 A. Actual marketplace evidence shows that these concerns do not apply in Pennsylvania.
15 The evidence presented by Verizon demonstrates that competitors' switches serve mass-
16 market customers in multiple wire centers, because to do so allows them to take
17 advantage of the scale and scope economies available from deploying switches.
18 Attachment 3 to the *Berry-Peduto Testimony* shows the ILEC wire centers served by

[34] *See, e.g.*, *TRO* at ¶ 495.

[35] *TRO* Footnote 1537 suggests that states could define the market for analyzing local switch impairment as being the geography over which competitors are actually serving customers. The fact that a CLEC chooses to serve some customers with resale or UNE-P and others with its own switch should not be used to incorrectly exclude some customers from the relevant geographic market.

1 switches owned by 14 CLECs that provide service to mass market customers in
2 Pennsylvania.

3 Q. DR. PELCOVITS CLAIMS (AT 39-40) THAT IT IS PRACTICAL TO CONDUCT
4 AN IMPAIRMENT ANALYSIS AT THE WIRE-CENTER LEVEL. HAS THE FCC
5 CONSIDERED THE PRACTICAL DIFFICULTIES OF ADMINISTERING RULES
6 WHICH DIFFER ACROSS ILEC WIRE CENTERS?

7 A. Yes. From an implementation viewpoint, in its *Pricing Flexibility Order*, the FCC
8 rejected the use of wire center areas for the geographic scope of a market, partly on the
9 grounds of administrative cost (¶ 74).

10 Q. HAVE OTHER STATE REGULATORY COMMISSIONS DETERMINED THE
11 EXTENT OF THE GEOGRAPHIC MARKET IN ORDER TO IMPLEMENT THE
12 FCC'S TRIGGER ANALYSIS FOR UNBUNDLED MASS-MARKET SWITCHING?

13 A. Yes. In a recent decision, the Ohio Commission rejected the use of the wire center as
14 the geographic market for the purpose of the impairment analysis, finding that the wire
15 center was too small to exhaust economies of scale and scope. The Ohio Commission
16 found that "there is no evidence in the record that any switch-based competitive carrier
17 has entered a market and provided services in only a single wire center in the state of
18 Ohio."[36] Instead, the Ohio Commission constructed geographic markets by combining

[36] In the Matter of the Implementation of the Federal Communications Commission's Triennial Review Regarding Local Circuit Switching in the [SBC Ohio and Cincinnati Bell Telephone Company] Mass Market, The Public Utilities Commission of Ohio, *Opinion and Order*, Case Nos. 03-2040-TP-COI, 04-34-TP-COI and 04-35-TP-COI, January 14, 2004 ("Ohio Order") at 30.

homogenous contiguous wire centers within each MSA, in a manner similar to the geographic markets proposed in the current proceeding by Verizon.[37]

Q. DO OTHER WITNESSES IN THIS PROCEEDING AGREE WITH VERIZON'S APPLICATION OF ITS GEOGRAPHIC MARKET DEFINITION?

A. Yes. While Dr. Loube (at 6) disagrees with my opinion that the full MSA is the appropriate geographic market for these purposes, he generally concurs (at 16-19) with Verizon's proposal to use the first three density cells within each MSA. He also agrees that the wire center is too small an area to be a geographic market because

- ILEC retail rates do not vary precisely with wire centers,
- UNE loop rates vary with density cells, not wire centers,
- Efficient backhaul networks do not serve single wire centers, and
- Marketing expenses are incurred over an area much larger than a wire center.

Thus, although some elements of CLEC costs differ across wire centers, a single wire center is too small to be a geographic market, in Dr. Loube's opinion, because other costs — backhaul and marketing costs — affect multiple wire centers.

Dr. Mayo also agrees (at 19) that "[d]ue to economies of scale associated with local exchange switches, the relevant geographic market is likely to be broader than single wire centers." However, as discussed below, Dr. Mayo tempers his concession of a wide geographic market (at 24) by requiring that CLECs exhibit "entry...of sufficient magnitude and scope" before they count as qualifying entrants.

[37] Each MSA would be divided into separate areas according to UNE-loop rates and those areas would be further (continued...)

1 Q. DR. PELCOVITS (AT 48-55) IMPLIES THAT PRICE DISCRIMINATION AFFECTS
2 THE PRODUCT MARKET DEFINITION USED BY THE FCC AND REQUIRES A
3 COMMISSION TO PERFORM SEPARATE TRIGGER ANALYSES FOR
4 RESIDENTIAL AND SINGLE-LINE BUSINESS CUSTOMERS. DO YOU AGREE?

5 A. No. The fact that prices may differ between customers in different density zones or
6 between residential and business mass-market customers does not necessarily imply that
7 they fall into different relevant markets because such differences may reflect regulatory
8 history rather than profit-seeking behavior and because customer groups are often not
9 similarly-situated, differing with respect to cost of service and the amount, type and
10 quality of services demanded.

11 In the first place, the *TRO* makes it clear that the product market the FCC considers
12 relevant for applying its triggers is mass-market local exchange service, irrespective of
13 whether the customers are business or residential:

14 The record demonstrates that customers for mass market services are
15 different from customers in the enterprise market. [ftnt: Mass market
16 customers are residential and very small business customers — customers
17 that do not, unlike larger businesses, require high-bandwidth connectivity
18 at DS1 capacity and above....Mass market customers' accounts tend to be
19 smaller, lower revenue accounts and are often serviced on a month-to-
20 month basis and not pursuant to annual contracts. The record shows that
21 consumers of DS1 capacity and above telecommunications are more
22 willing to sign annual or term commitments....] The mass market for
23 local services consists primarily of consumers of analog "plain old
24 telephone service" or "POTS" that purchase only a limited number of
25 POTS lines and can only economically be served via analog DS0
26 loops...[*TRO* ¶ 459, emphasis added]

(...continued)

divided into clusters of contiguous wire centers for each UNE-loop rate. *Ohio Order* at 24.

1 ...

2 We determine that — subject only to the limited exception set forth below
3 — a state must find "no impairment" when three or more unaffiliated
4 competing carriers each is serving mass market customers in a particular
5 market with the use of their own switches. [*TRO* ¶ 504]

6 Thus, the FCC's trigger test explicitly applies to suppliers of local telephone services to
7 all mass-market customers, residential and business alike.

8 Second, from an economic perspective, the fact that residential and business customers
9 pay different prices for basic service does not imply that those customers purchase
10 services in different markets. The *Horizontal Merger Guidelines* observe that when
11 price discrimination between two sets of customers would be profitable for a
12 hypothetical monopolist, the Agency will consider whether those customers fall into
13 different product markets.[38] However, the fact that from time immemorial, regulated
14 residential basic service prices have been held below the prices of comparable business
15 services for public policy reasons in no way implies that a profit-maximizing firm
16 would find it profitable or feasible to impose such price differences. In fact, the
17 treatment of regulated prices on the industry was cited by the D.C. Circuit Court of
18 Appeals as a deficiency of the previous FCC unbundling requirements:

19 One reason for such market-specific variations in competitive impairment
20 is the cross-subsidization often ordered by state regulatory commissions,
21 typically in the name of universal service. This usually brings about
22 undercharges for some subscribers (usually rural and/or residential) and
23 overcharges for the others (usually urban and/or business)...Competitors
24 will presumably not be drawn to markets where customers are already
25 charged below cost, unless either (1) the availability of UNEs priced well

[38] Department of Justice and Federal Trade Commission, *Horizontal Merger Guidelines*, April 1992, at § 1.12 "Product Market Definition in the Presence of Price Discrimination."

> below the ILECs' historic cost makes such a strategy promising, or (2) provision of service may, by virtue of economies of scale and scope, enable a CLEC to sell complementary services (such as long distance or enhanced services) at prices high enough to cover incomplete recovery of costs in basic service. The Commission never explicitly addresses by what criteria want of unbundling can be said to impair competition in such markets, where, given the ILECs' regulatory hobbling, any competition will be wholly artificial.[39]

In other words, Dr. Pelcovits overlooks the fact that the price differences between residential and business services are the result of public policy and not private profit-maximization, and thus those price differences, by themselves, do not imply that residential and business customers occupy different product markets under the *Merger Guidelines'* standard.

Third, the *TRO*, itself, outlines some of the economic reasons why all mass-market customers, business and residence alike, belong in the same product market for the purpose of its trigger analysis. In ¶ 459, the FCC spells out the characteristics of these customers that place them in a distinct product market: they are served by DS0 technology, they have small accounts, and they purchase service month-to-month rather than using a term discount. In addition, such customers are served through customer service centers rather than individual customer representatives, their services are marketed using mass-market media rather than individual, customer-specific marketing, and they buy simple tariffed services rather than packages of network services solicited by formal Requests for Proposals. Residential and business mass-market customers are served using the same technologies (circuit switches and DS0 loops), and thus any

[39] *United States Telecom Ass'n. v. FCC,* 290 F.3d 415, 422 (D.C. Cir. 2002), *cert. denied,* 123 S.Ct. 1571 (2003).

1 supplier of mass-market business services offers and can supply mass-market residential
2 services if a profitable opportunity arises.

3 Q. HAVE ORDERS IN OTHER STATE TRO PROCEEDINGS REJECTED THE USE
4 OF SEPARATE PRODUCT MARKETS FOR BUSINESS AND RESIDENTIAL
5 MASS-MARKET CUSTOMERS FOR THE APPLICATION OF THE FCC'S
6 TRIGGER ANALYSIS?

7 A. Yes. The *Ohio Order* rejects the use of separate product markets for residence and
8 business customers. The commission observed that the purpose of an impairment
9 analysis is to assess the potential impairment caused by the absence of the UNE
10 switching element at TELRIC rates, and the presence of CLECs serving mass-market
11 customers (residential or business) with their own switches indicates the absence of
12 impairment.[40]

13 **B. Dr. Mayo's approach to defining the geographic market is improper**

14 Q. DR. MAYO ASSERTS THAT THE WIDER THE GEOGRAPHIC SCOPE OF THE
15 MARKET, THE MORE CONSIDERATION COMMISSIONS SHOULD GIVE TO
16 SUCH FACTORS AS THE "MAGNITUDE AND SCOPE" OF CLEC ENTRY (AT
17 24), AND "THE TYPES OF CUSTOMERS SERVED, THEIR LOCATIONS..., THE
18 AVAILABILITY OF COLLOCATION SPACE..." (AT 25) DO YOU AGREE WITH
19 THIS APPLICATION OF THE FCC'S TRIGGER ANALYSIS?

[40] *Ohio Order* at 34.

1 A. No. The purpose of a trigger — as opposed to a full-fledged potential deployment
2 investigation — is to provide a bright line standard to the industry. In setting that
3 trigger, it is perfectly appropriate for the regulator — in this case, the FCC — to weigh
4 the costs and benefits of the trade-offs between the scope of the geographic market and
5 the ubiquity of CLEC service within that market, and to embody those calculations in
6 the levels at which the triggers are set. But once the triggers are in place, it is not
7 appropriate to reconsider those same costs and benefits as reasons to modify or shade
8 the application of the triggers. To do so would be to double-count those costs and
9 benefits in unpredictable ways.

10 The level at which the FCC set its self-provisioning trigger (three competitors, not two
11 or four) already embodies the Commission's view of the consequences of a finding of
12 no impairment. If the Commission were to take Dr. Mayo's opinion into account in
13 implementing the FCC's triggers, it would be effectively changing the weight the FCC
14 gave to its view of those consequences. At the end of the day, the Commission should
15 simply apply the FCC's trigger requirements without trying to adapt them to
16 compensate for setting a wide rather than a narrow geographic market.

17 Inferences regarding impairment that might be drawn from individual CLECs'
18 circumstances are explicitly <u>not</u> part of a trigger proceeding. As the FCC observed
19 (with reference to its transport triggers),

20 As the Commission has done in other circumstances, we adopt these
21 triggers as a mechanism for determining impairment. Adopting triggers
22 with objective criteria can avoid the delays caused by protracted
23 proceedings and can minimize administrative burdens. Our selection of
24 various thresholds, as in rate setting, is not an exact science. Rather, the
25 thresholds are based on our agency expertise, our interpretation of the

> record, and our desire to provide bright-line rules to guide the industry in implementing section 251. Our effort to select triggers that precisely measure impairment for transport is hampered by the lack of verifiable data concerning competitors' facilities. Given these constraints, we adopt triggers that, in our reasoned judgment, minimize administrative burdens while still reasonably applying our impairment standard. [*TRO* at ¶ 403].

Q. DR. MAYO (AT 28-36) PROPOSES A NUMBER OF CIRCUMSTANCES IN WHICH CLEC'S SERVING MASS-MARKET CUSTMERS WITH THEIR OWN SWITCH SHOULD BE "IDENTIFIED" BUT NOT COUNTED IN THE TRIGGER ANALYSIS. DO YOU AGREE WITH THESE RESTRICTIONS?

A. No. In the first place, they are inconsistent with the FCC's trigger analysis which set the bar at three switched base CLECs, taking into account the fact that all CLEC competitors are not the same. Second, the purpose of the trigger is to indicate non-impairment not effective competition, and the presence of one switch-based CLEC serving mass-market customers indicates in a literal sense that entry is not impaired.

Q. IN PARTICULAR, DR. MAYO (AT 28-29) WOULD VIEW WITH SUSPICION CLECS THAT DON'T SERVE "A SIGNIFICANT SHARE" OF THE GEOGRAPHIC MARKET. IS THIS AN APPROPRIATE CONCERN FOR THE COMMISSION?

A. No. From an economic perspective, the fact that a CLEC in a particular MSA has not yet reached every wire center does not imply that "the natural presumption is that there are economic barriers to further expansion." (Mayo Direct at 29). Profit opportunities vary by geographic areas within MSAs and CLECs, like any business, invest incrementally based on those profit opportunities. Deploying telecommunications network and incrementally adding to the CLECs existing network cannot be done overnight, it is a capital-intensive process. The fact that in any given MSA there are

1 pockets of unserved areas does not mean that it is necessarily unprofitable for a CLEC
2 to serve those wire centers. In particular, the easy availability of UNE-P corrupts any
3 inference regarding "economic barriers to further expansion" that could legitimately be
4 drawn from the absence of switched-based mass-market CLEC services in parts of an
5 MSA; so long as CLECs can continue to rely on the UNE-P at below market prices,
6 there is no incentive to expand even where there are no economic barriers.

7 Moreover, nothing in economics or the *TRO* requires that entrants serve a market
8 ubiquitously in order to demonstrate that entry into that market is feasible and
9 sustainable. In economics, once a firm has incurred the fixed costs of entry (in this
10 case, the purchase and installation of a switch and marketing costs), it then pursues
11 customers in that market roughly in the order of their profitability. Were the ILEC
12 hypothetically to increase prices in a wire center where CLECs do not currently serve
13 mass-market customers, it would raise the profitability of serving customers in that wire
14 center.[41] Retail prices above the competitive market level would thus not be sustainable
15 in these circumstances because the major fixed costs of entry into the market would
16 have already been incurred. Thus, applying the *Horizontal Merger Guidelines* approach
17 to geographic market definition, we note that these wire centers (where CLECs do not
18 currently serve customers) are nonetheless part of the MSA geographic market. A
19 hypothetical monopolist of such a wire center could not hold price above the
20 competitive market level without attracting competition from competitors already
21 owning facilities and offering service in the market.

In addition, the FCC has already addressed this question and concluded that its choice of a level of competition in its trigger analysis (three, not four or two) accounts for the possibility that CLECs may not actually be providing service to mass-market customers using their own switches in all wire centers in the relevant geographic market. Its correction to ¶ 499 of the *TRO* makes it clear that geographic ubiquity is not required for CLECs to count as self-providers of switching services for the application of the retail trigger analysis. The correction *eliminates* the requirement that the competitive switch providers counted in the trigger analysis "should be capable of economically serving the entire market, as that market is defined by the state commissions. This prevents counting switch providers that provide services that are desirable only to a particular segment of the market." Thus, the *TRO* explicitly requires the Commission to *include* in its list of qualifying CLECs, those that do not currently serve customers ubiquitously throughout the geographic market. As the FCC explained to the D.C. Circuit Court of Appeals:

> The Commission provided significant guidance on market definition, directing that states "*must* 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, and competitors' ability to target and serve specific markets economically and efficiently using currently available technologies." [ftnt: cite] Under this standard, the self-provisioning trigger would be met, at a minimum, not only at locations in which three competitive providers are *actually serving* mass market customers with non-ILEC switching, **but also at locations where three competitive providers are "*holding out*" the availability of such service to mass market customers.** [ftnt: This focus on the locations in which customers face similar competitive choices is consistent

(...continued)

[41] ILEC retail prices for mass-market basic local exchange service are still regulated in Pennsylvania.

> with Commission precedent analyzing geographic markets in the merger context. See [cites].[42] [emphasis added].

Finally, economic theory does not require that "all or virtually all" customers have competitive alternatives in order that a market be effectively competitive. Economists recognize that competition occurs at the margin, and the presence of large proportions of infra-marginal customers does not mean that the market outcome will be anything other than competitive. For example, I buy canned tomatoes infrequently at the grocery store. I have no idea what the current market price for such tomatoes is or whether they can be purchased more cheaply at some other store. Many other people are like me. Nonetheless, my local grocery store cannot profitably increase the price of a can of tomatoes by a penny—or it would already have done so. The possibility of a small proportion of customers taking their business elsewhere is sufficient to discipline the canned tomato market, and the same principle applies to local telecommunications service.

Q. DR. MAYO CLAIMS THAT HIS CONCERNS (AT 28-31) SHOULD BE ADDRESSED BY FURTHER COMMISSION ANALYSES AND STUDIES THAT EXAMINE IMPAIRMENT IN MORE DETAIL. DO YOU AGREE WITH THIS IN PRINCIPLE?

A. No. Above I discussed the underlying purpose of the trigger, which is to create an objective and relatively straightforward approach to the issue of impairment. Dr. Mayo

[42] FCC, Brief for Respondents, *United States Telecom Association, et. al., v. Federal Communications Commission and United States of America*, Case No. 00-1012 (and consolidated cases), United States Court of Appeals for the District of Columbia Circuit, December 31, 2003.

1 would greatly expand the meaning of the triggers by requiring a full-blown "potential
2 competition" analysis in order to confirm the "correctness" of conclusions that result
3 from the trigger analysis. That is, he is recommending that the trigger analysis be
4 explicitly linked to the potential competition analysis. This would be incorrect.

5 Q. DR. MAYO WOULD REJECT A CLEC FOR TRIGGER PURPOSES IF IT SERVED
6 FEWER THAN X LINES OR LESS THAN Y PERCENT OF THE MARKET, IF IT IS
7 "RETRENCHING," IF IT IS ADDIING "MINIMAL" NUMBERS OF NEW
8 CUSTOMERS, IF IT HAS MERGED WITH ANOTHER CLEC, OR IF IT SERVES A
9 "RESTRICTED NICHE" OF CUSTOMERS. DR. LOUBE WOULD ALSO
10 EXCLUDE CLECS THAT SERVE LESS THAN 3 PERCENT OF THE ACCESS
11 LINES IN THE MARKET. ARE THESE ADEQUATE REASONS TO REJECT A
12 CLEC FROM THE TRIGGER COUNT?

13 A. No. The FCC spelled out clearly in the *TRO* precisely what the process should be to
14 account for alleged anomalies in the classification of CLECs:

15 The analysis we prescribe with regard to mass market switching is as
16 follows. First, where a state determines that there are three or more
17 carriers, unaffiliated with either the incumbent LEC or each other, that are
18 serving mass market customers in a particular market using self-
19 provisioned switches, the state <u>must find "no impairment" in that market</u>.
20 As described below, we recognize that there may be some markets where
21 three or more carriers are serving mass market customers with self-
22 provisioned switches, but where some significant barrier to entry exists
23 such that additional carriers with self-provisioned switches are foreclosed
24 from serving mass market customers...Where the self-provisioning trigger
25 has been satisfied and the state commission identifies an exceptional
26 barrier to entry that prevents further entry, the state commission may
27 petition the Commission for a waiver of the application of the trigger, to
28 last until the impairment to deployment identified by the state no longer
29 exists. [*TRO* at ¶462, emphasis added]

1 Thus, the triggers are to be applied literally without further examination of the markets
2 or the CLECs. If the Commission identifies exceptional circumstances where CLECs
3 are currently providing service to mass-market customers using their own switches but
4 barriers foreclosing further entry are present, the Commission must petition the FCC for
5 a waiver of the trigger rules. It cannot, as Dr. Mayo would have it do, simply ignore
6 qualifying CLECs in applying the triggers.

7 Q. DR. MAYO (AT 31) WOULD EXCLUDE FROM CONSIDERATION ANY CLEC
8 THAT SERVED MASS-MARKET CUSTOMERS USING BOTH UNE-P AND UNE-
9 L PLATFORMS. DOES THIS EXCLUSION MAKE ECONOMIC SENSE?

10 A. No. The availability of UNE-P at reduced rates means that some CLECs will serve
11 customers with UNE-P even if it were profitable to serve the same customers with
12 UNE-L. UNE-P and UNE-L are both factors of production that CLECs use to supply
13 mass-market services. As the price of UNE-P falls, cost-minimizing firms will
14 substitute UNE-P service for UNE-L, so that the geographic extent of actual switch-
15 based competition in the presence of UNE-P will understate the areas in which the
16 CLEC could profitably provide UNE-L service, just not as profitably as by using UNE-
17 P.

18 **C. Mr. Gillan's theory of "ubiquity comparable to UNE-P" to define the**
19 **geographic market should be rejected**

20 Q. PLEASE DESCRIBE MR. GILLAN'S POSITION AS IT PERTAINS TO WHAT THE
21 RELEVANT GEOGRAPHIC MARKET SHOULD BE IN THIS PROCEEDING?

1 A. Mr. Gillan (at 27) advocates a "reasonably broad" area to evaluate impairment.
2 However, he also states that within that broad area "any carrier whose offerings are
3 geographically limited" be excluded from the trigger. At 54, he also states "Self-
4 Providers should exhibit a ubiquity comparable to UNE-P."

5 Q. IS THERE MERIT TO MR. GILLAN'S POSITION?

6 A. No. Rather than using sound economic principles to define the relevant geographic
7 market, Mr. Gillan's suggestion to the Commission is tautological. That is, he defines a
8 geographic market based upon whether that definition would lead to policies that result
9 in the *same* level of competition that is currently being provided through the use of
10 UNE-P. Not only is this contrary to a fair reading of the *TRO* and to sound economic
11 principles, it is almost impossible to achieve. The removal of switching as an
12 unbundled network element for the mass market—and by implication the removal of
13 UNE-P—would result, by definition, in a different competitive landscape than before
14 the removal. But that does not mean it would result in any less competition.

15 Q. PLEASE EXPLAIN.

16 A. Verizon is asking for relief only in those geographic areas where it believes it has met
17 the self-provisioning triggers. In the other geographic areas of Verizon's territory,
18 UNE-P will remain and CLECs would be permitted to continue to offer their customers
19 service through UNE-P, if they so choose. In the geographic area where Verizon is
20 relieved of the obligation to provide switching, passing the trigger means that the
21 economic conditions are such that CLECs can successfully compete against the ILECs
22 without the right to purchase unbundled local switching. While the means by which

1 CLECs provide their services may change, the outcome is the same—consumers will
2 have similar competitive alternatives to what they had before UNE switching was
3 eliminated in certain areas. And nowhere in the state is there less competition because
4 of the elimination of switching in any particular geographic market.

5 Under Mr. Gillan's approach only when a competitive alternative would be able to
6 produce the same result as UNE-P in a particular area should switching be removed in
7 that area.

8 Q. SHOULD THE COMMISSION ADOPT SUCH A POSITION?

9 A. Absolutely not. Such an approach is devoid of economic support and does not serve as
10 a sound basis for defining the relevant geographic market. Mr. Gillan's analysis seems
11 to be intended to expand the scope of the *TRO* by adding additional policy variables that
12 are not to be found in the *TRO*. For example, in discussing the potential relevant
13 geographic market, while the FCC does not tell the states what the proper geographic
14 market is, it does limit acceptable market size: "...state commission shall not define the
15 relevant geographic area as the entire state," (47 CFR § 51.319(d)(2)(i)) and, "states
16 should not define the market so narrowly that a competitor serving that market alone
17 would not be able to take advantage of available scale and scope economies from
18 serving a wider market." *TRO* at ¶ 495. There is no support for Mr. Gillan's notion of
19 the relevant geographic market in the *TRO* or in sound economics.

20 Q. HAS THE OHIO COMMISSION REJECTED MR. GILLAN'S APPROACH TO
21 DEFINING THE GEOGRAPHIC MARKET?

A. Yes. In that proceeding, Mr. Gillan testified on behalf of AT&T and CoreComm and the Ohio Commission rejected his approach to defining the geographic market. The Commission stated:

> Next, we address AT&T/CoreComm's statement that is appropriate that the Commission define applicable "geographic areas" that allow it to recognize the unique competitive signature of UNE-P and test it against other entry strategies and that if only UNE-P can sustain the competition levels throughout the defined area, then the competitors would be impaired. We disagree with AT&T/CoreComm's attempt to redefine the impairment standards and the analysis that the Commission needs to perform in the next phase. The FCC, in the *Triennial Review Order*, already provided the interpretation of the "impair" standard. The FCC has established the trigger test and the economic and operational analysis to be used by state commissions in proceedings, such as the one before us, to reach a conclusion regarding the competitor's impairment. **AT&T/CoreComm's approach is an invitation to use a completely different test to assess whether competitive carriers are impaired without access to the unbundled local switching, and such and approach is inappropriate and therefore, rejected by the Commission.** [footnotes excluded, emphasis added].[43]

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

[43] *Ohio Order* at 33.

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Dr. Taylor received a B.A. *magna cum laude* in Economics from Harvard College, an M.A. in Statistics and a Ph.D. in Economics from the University of California at Berkeley. He has taught economics, statistics, and econometrics at Cornell and the Massachusetts Institute of Technology and was a post doctoral Research Fellow at the Center for Operations Research and Econometrics at the University of Louvain, Belgium.

At NERA, Dr. Taylor is a Senior Vice President, heads the Cambridge office and is Director of the Telecommunications Practice. He has worked primarily in the field of telecommunications economics on problems of state and federal regulatory reform, competition policy, terms and conditions for competitive parity in local competition, quantitative analysis of state and federal price cap and incentive regulation proposals, and antitrust problems in telecommunications markets. He has testified on telecommunications economics before numerous state regulatory authorities, the Federal Communications Commission, the Canadian Radio-Television and Telecommunications Commission, the New Zealand Commerce Commission, federal and state congressional committees and courts. Recently, he was chosen by the Mexican Federal Telecommunications Commission and Telmex to arbitrate the renewal of the Telmex price cap plan in Mexico. Other recent work includes studies of the competitive effects of major mergers among telecommunications firms and analyses of vertical integration and interconnection of telecommunications networks. He has appeared as a telecommunications commentator on PBS Radio and on The News Hour with Jim Lehrer.

He has published extensively in the areas of telecommunications policy related to access and in theoretical and applied econometrics. His articles have appeared in numerous telecommunications industry publications as well as *Econometrica*, the *American Economic Review*, the *International Economic Review*, the *Journal of Econometrics*, *Econometric Reviews*, the *Antitrust Law Journal*, *The Review of Industrial Organization*, and *The Encyclopedia of Statistical Sciences*. He has served as a referee for these journals (and others) and the National Science Foundation and has served as an Associate Editor of the *Journal of Econometrics*.

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NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC. (NERA)
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BELL COMMUNICATIONS RESEARCH, INC. (Bellcore)
1983-1988 Division Manager, Economic Analysis, formerly Central Services Organization, formerly American Telephone and Telegraph Company: theoretical and quantitative work on problems raised by the Bell System divestiture and the implementation of access charges, including design and implementation of demand response forecasting for interstate access demand, quantification of potential bypass liability, design of optimal nonlinear price schedules for access charges and theoretical and quantitative analysis of price cap regulation of access charges.

BELL TELEPHONE LABORATORIES
1975-1983 Member, Technical Staff, Economics Research Center: basic research on theoretical and applied econometrics, focusing on small sample theory, panel data and simultaneous equations systems.

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Fall 1977 Visiting Associate Professor, Department of Economics: taught graduate courses in econometrics.

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1974-1975 Post Doctoral Research Associate: basic research on finite sample econometric theory and on cost function estimation.

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PUBLICATIONS

"Smoothness Priors and Stochastic Prior Restrictions in Distributed Lag Estimation," *International Economic Review*, 15 (1974), pp. 803-804.

"Prior Information on the Coefficients When the Disturbance Covariance Matrix is Unknown," *Econometrica*, 44 (1976), pp. 725-739.

"Small Sample Properties of a Class of Two Stage Aitken Estimators," *Econometrica*, 45 (1977), pp. 497-508.

"The Heteroscedastic Linear Model: Exact Finite Sample Results," *Econometrica*, 46 (1978), pp. 663-676.

"Small Sample Considerations in Estimation from Panel Data," *Journal of Econometrics*, 13 (1980) pp. 203-223.

"Comparing Specification Tests and Classical Tests," Bell Laboratories Economics Discussion Paper, 1980 (with J.A. Hausman).

"Panel Data and Unobservable Individual Effects," *Econometrica*, 49 (1981), pp. 1377-1398 (with J.A. Hausman).

"On the Efficiency of the Cochrane-Orcutt Estimator," *Journal of Econometrics*, 17 (1981), pp. 67-82.

"A Generalized Specification Test," *Economics Letters*, 8 (1981), pp. 239-245 (with J.A. Hausman).

"Identification in Linear Simultaneous Equations Models with Covariance Restrictions: An Instrumental Variables Interpretation," *Econometrica*, 51 (1983), pp. 1527-1549 (with J.A. Hausman).

"On the Relevance of Finite Sample Distribution Theory," *Econometric Reviews*, 2 (1983), pp. 1-84.

"Universal Service and the Access Charge Debate: Comment," in P.C. Mann and H.M. Trebing (editors) *Changing Patterns in Regulation, Markets, and Technology: The Effect on Public Utility*

Pricing. The Institute of Public Utilities, Michigan State University, 1984.

"Recovery of Local Telephone Plant Costs under the St. Louis Plan," in P.C. Mann and H.M. Trebing (editors) *Impact of Deregulation and Market Forces on Public Utilities*. The Institute of Public Utilities, Michigan State University, 1985.

"Access Charges and Bypass: Some Approximate Magnitudes," in W.R. Cooke (editor) *Proceedings of the Twelfth Annual Telecommunications Policy Research Conference*, 1985.

"Federal and State Issues in Non-Traffic Sensitive Cost Recovery," in *Proceedings from the Telecommunications Deregulation Forum*, Karl Eller Center, College of Business and Public Administration, University of Arizona, Tucson, Arizona, 1986.

"Panel Data" in N.L. Johnson and S. Kotz (editors), *Encyclopedia of Statistical Sciences*, John Wiley & Sons, New York, 1986.

"An Analysis of Tapered Access Charges for End Users," in P.C. Mann and H.M. Trebing (editors) *New Regulatory and Management Strategies in a Changing Market Environment*. The Institute of Public Utilities, Michigan State University, 1987 (with D.P. Heyman, J.M. Lazorchak, and D.S. Sibley).

"Efficient Estimation and Identification of Simultaneous Equation Models with Covariance Restrictions," *Econometrica*, 55 (1987), pp. 849-874 (with J.A. Hausman and W.K. Newey).

"Alternative NTS Recovery Mechanisms and Geographic Averaging of Toll Rates," in *Proceedings of the Thirteenth Annual Rate Symposium: Pricing Electric, Gas, and Telecommunications Services*. The Institute for the Study of Regulation, University of Missouri, Columbia, 1987.

"Price Cap Regulation: Contrasting Approaches Taken at the Federal and State Level," in W. Bolter (editor), *Federal/State Price-of-Service Regulation: Why, What and How?*, Proceedings of the George Washington University Policy Symposium, December, 1987.

"Local Exchange Pricing: Is There Any Hope?", in J. Alleman (editor), *Perspectives on the Telephone Industry: The Challenge of the Future*, Ballinger Publishing Company, Cambridge, Massachusetts, 1989.

"Generic Costing and Pricing Problems in the New Network: How Should Costs be Defined and Assessed," in P.C. Mann and H.M. Trebing (editors) *New Regulatory Concepts, Issues, and Controversies*. The Institute of Public Utilities, Michigan State University, 1989.

"Telephone Penetration and Universal Service in the 1980s," in B. Cole (editor), *Divestiture Five Years Later*, Columbia University Press, New York, New York, 1989 (with L.J. Perl).

"Regulating Competition for IntraLATA Services," in *Telecommunications in a Competitive Environment*, Proceedings of the Third Biennial NERA Telecommunications Conference, 1989, pp.

35-50.

"Costing Principles for Competitive Assessment," in *Telecommunications Costing in a Dynamic Environment*, Bellcore-Bell Canada Conference Proceedings, 1989 (with T.J. Tardiff).

"Optional Tariffs for Access in the FCC's Price Cap Proposal," in M. Einhorn (ed.), *Price Caps and Incentive Regulation in the Telecommunications Industry*, Kluwer, 1991 (with D.P. Heyman and D.S. Sibley).

"Alternative Measures of Cross-Subsidization," prepared for the Florida Workshop on Appropriate Methodologies for the Detection of Cross--Subsidies, June 8, 1991.
"Predation and Multiproduct Firms: An Economic Appraisal of the Sievers-Albery Results," *Antitrust Law Journal*, 30 (1992), pp. 785-795.

"Lessons for the Energy Industries from Deregulation in Telecommunications," *Proceedings of the 46th Annual Meeting of the Federal Energy Bar Association*, May, 1992.

"Efficient Price of Telecommunications Services: The State of the Debate," *Review of Industrial Organization*, Vol. 8, pp. 21-37, 1993.

"Status and Results of Regulatory Reform in the U.S. Telecommunications Industry," in C.G. Stalon, *Regulatory Responses to Continuously Changing Industry Structures*, The Institute of Public Utilities, Michigan State University, 1992.

"Post-Divestiture Long-Distance Competition in the United States," *American Economic Review*, Vol. 83, No. 2, May 1993 (with Lester D. Taylor). Reprinted in E. Bailey, J. Hower, and J. Pack, *The Political Economy of Privatization and Deregulation*, (London: Edward Elgar), 1994.

"Comment on 'Pricing of Inputs Sold to Competitors,' by W.J. Baumol and J.G. Sidak," *Yale Journal on Regulation*, Vol. 11, Issue 1, 1994, pp. 225-240 (with Alfred E. Kahn).

"Comments on Economic Efficiency and Incentive Regulation," Chapter 7 in S. Globerman, W. Stanbury and T. Wilson, *The Future of Telecommunications Policy in Canada*, Toronto: Institute for Policy Analysis, University of Toronto, April 1995.

"Revising Price Caps: The Next Generation of Incentive Regulation Plans," Chapter 2 in M.A. Crew (ed.) *Pricing and Regulatory Innovations under Increasing Competition*, Boston: Kluwer Academic Publishers, May 1996 (with T. Tardiff).

"An Analysis of the State of Competition in Long-Distance Telephone Markets," *Journal of Regulatory Economics*, May, 1997, pp. 227-256 (with J.D. Zona).

"An Analysis of the Welfare Effects of Long Distance Market Entry by an Integrated Access and Long Distance Provider", *Journal of Regulatory Economics*, March, 1998, pp. 183-196 (with Richard Schmalensee, J.D. Zona and Paul Hinton).

"Market Power and Mergers in Telecommunications," *Proceedings of the Institute of Public Utilities; 30th Annual Conference: Competition in Crisis: Where are Network Industries Heading?*, The Institute of Public Utilities, Michigan State University, 1999.

"The Baby and the Bathwater: Utility Competition, But at What Price?," *Public Utilities Fortnightly*, Vol. 137, No.21, November 15, 1999, pp. 48-56 (with Anne S. Babineau and Matthew M. Weissman).

"Aligning Price Regulation with Telecommunications Competition," *Review of Network Economics*, December, 2003, pp. 338-354 (with Timothy Tardiff).

TESTIMONIES

1. Alabama

1. Alabama Public Service Commission (Docket No. 25677), on behalf of BellSouth Telecommunications, Inc., direct testimony regarding economic aspects of avoided costs of services supplied for resale. Filed November 26, 1996.
2. Alabama Public Service Commission, on behalf of BellSouth Long Distance, Inc., (Docket No. 25835): direct testimony regarding the probable economic benefits to consumers in Alabama from entry by BellSouth into the interLATA long distance market. Filed June 18, 1997. Rebuttal testimony filed August 8, 1997.
3. Alabama Public Service Commission, on behalf of BellSouth Telecommunications, Inc., (Docket No. 26029): rebuttal testimony of intervenor testimonies in BellSouth's cost and unbundled network element pricing docket in Alabama. Filed September 12, 1997.
4. Alabama Public Service Commission (Docket No. 25980), on behalf of BellSouth Telecommunications: rebuttal testimony regarding revenue benchmarks and other matters in universal service funding. Filed February 13, 1998.
5. Alabama Public Service Commission (Docket No. 27091), on behalf of BellSouth Telecommunications, rebuttal testimony regarding intercarrier compensation for Internet-bound traffic, filed October 14, 1999.
6. Alabama Public Service Commission (Docket No. 25835), on behalf of BellSouth Telecommunications, Inc., economic aspects of service quality penalty plans. Rebuttal testimony filed June 19, 2001.
7. Alabama Public Service Commission (Docket Nos. 15957 and 27989), on behalf of BellSouth Telecommunications, Inc.: economic support for promotional offerings. Direct testimony filed August 3, 2001, rebuttal testimony filed August 13, 2001. Additional rebuttal testimony filed August 17, 2001.
8. Alabama Public Service Commission (Docket No. 25835), on behalf of BellSouth Telecommunications, Inc., economic aspects of structural separations. Surrebuttal testimony filed July 24, 2001.

2. Alaska

9. Alaskan Public Utilities Commission, (Docket Nos. U-98-140/141/142 and U-98-173/174), testimony regarding the economic effects on competition of the acquisitions of Telephone Utilities of Alaska, Telephone Utilities of the Northland, Inc., and PTI Communications of Alaska by ALEC Acquisition Sub Corporation and of Anchorage Telephone Utility and ATU Long Distance, Inc. by Alaska Communications Systems, Inc. Filed February 2, 1999. Rebuttal testimony filed March 24, 1999.

3. Arizona

10. Arizona State Air Pollution Control Hearing Board (Docket No. A-90-02) on behalf of Arizona Public Service Company. A statistical study of SO_2 emissions entitled. "Analysis of Cholla Unit 2 SO_2 Compliance Test Data," (October 24, 1990) and an Affidavit (December 7, 1990).
11. Arizona Corporation Commission (Docket Nos. T-02432B-00-0026, T-01051B-00-0026), on behalf of US WEST Communications, Inc., direct testimony regarding intercarrier compensation for Internet-bound traffic. Filed March 27, 2000.
12. Arizona Corporation Commission (Docket No. T-01051B-99-0497), on behalf of US West Communications, Inc., rebuttal testimony regarding economic issues arising in the proposed merger between U S WEST and Qwest. Filed April 3, 2000.
13. Arizona Corporation Commission (Docket No. T-01051B-99-105), on behalf of Qwest Corporation., rebuttal testimony regarding rate design. Filed August 21, 2000.
14. Arizona Corporation Commission (Docket Nos. T-03654A-00-0882,T-01051B-00-0882), on behalf of Qwest Corporation, direct testimony regarding intercarrier compensation for internet-bound traffic. Filed January 8, 2001.
15. Arizona Corporation Commission (Docket No. T-00000A-00-0194, Phase 2), on behalf of Qwest Corporation., direct testimony regarding intercarrier compensation for Internet-bound traffic. Filed March 15, 2001.

4. Arkansas

16. Arkansas Public Service Commission (Docket No. 83-042-U) on behalf of Southwestern Bell Telephone Company: economic analysis of non-traffic sensitive cost recovery proposals. Filed October 7, 1985.

5. California

17. California Public Utilities Commission (Case 88-04-029) on behalf of Pacific Bell: commission payment practices, cross-subsidization of pay telephones, and compensation payments to competitive pay telephone suppliers. Filed July 11, 1988.
18. California Public Utilities Commission (Phase II of Case 90-07-037) on behalf of Pacific Bell: economic analysis of the effects of FAS 106, (accrual accounting for post-retirement benefits other than pensions) under state price cap regulation, (with Timothy J. Tardiff). Filed August 30, 1991. Supplemental testimony filed January 21, 1992.

19. California Public Utilities Commission, (Docket No. I.87-11-033), on behalf of Pacific Bell, "The New Regulatory Framework 1990-1992: An Economic Review," (with T.J. Tardiff). Filed May 1, 1992.
20. California Public Utilities Commission, (Docket No. I.87-11-033), on behalf of Pacific Bell, "Pacific Bell's Performance Under the New Regulatory Framework: An Economic Evaluation of the First Three Years," (with T.J. Tardiff). Filed April 8, 1993, reply testimony filed May 7, 1993.
21. California Public Utilities Commission, (Investigation No. I.95-05-047), on behalf of Pacific Bell, "Incentive Regulation and Competition: Issues for the 1995 Incentive Regulation Review," (with R.L. Schmalensee and T.J. Tardiff). Filed September 8, 1995, reply testimony filed September 18, 1995.
22. California Public Utilities Commission, (U 1015 C) on behalf of Roseville Telephone Company, testimony regarding productivity measures in Roseville's proposed new regulatory framework. Filed May 15, 1995. Rebuttal testimony filed January 12, 1996.
23. California Public Utilities Commission, on behalf of Pacific Bell: Comments on the economic principles for updating Pacific Bell's price cap plan. Filed February 2, 1998.
24. California Public Utilities Commission, on behalf of Pacific Bell: reply comments regarding proposed changes to the price cap plan, filed June 19, 1998.
25. California Public Utilities Commission on behalf of California American Water Company, RWE AG, Thames Water Aqua Holding GmbH, Thames Water Plc and Apollo Acquisition Company, economic support regarding the merger between American Water Company and Thames Water, direct testimony filed May 17, 2002, rebuttal testimony filed July 15, 2002.
26. California Public Utilities Commission (Case No. 95-04-043/I.95-04-044) on behalf of Verizon California, Inc, forecast of incremental hot cut demand, filed November 7, 2003.
27. California Public Utilities Commission (Case No. 95-04-043/I.95-04-044) on behalf of Verizon California, Inc, rebuttal testimony regarding geographic market definition for unbundled network elements. Filed January 16, 2004.

6. Colorado

28. Colorado Public Utilities Commission (Docket No. 97A-540T), on behalf of U S WEST: testimony concerning the economic effects of a proposed price regulation plan. Direct testimony filed January 30, 1998. Rebuttal testimony filed May 14, 1998.
29. Colorado Public Utilities Commission (Docket No. 99A-001T), on behalf of US WEST, regarding US WEST's interconnection arbitration with AirTouch Paging in Colorado. Rebuttal testimony filed March 15, 1999.
30. Colorado Public Utilities Commission (Docket No. 99A-407T), on behalf of US West Communications, Inc., rebuttal testimony regarding the effects of the proposed Qwest-US West merger on economic welfare, filed December 7, 1999.
31. Colorado Public Utilities Commission (Docket No. 00B-011T), on behalf of US West Communications, Inc., direct testimony regarding intercarrier compensation for Internet-bound traffic. Filed March 28, 2000.
32. Colorado Public Utilities Commission (Docket No. 00B-103T), on behalf of US West Communications, Inc., rebuttal testimony regarding intercarrier compensation for Internet-bound traffic in arbitration with ICG. Filed June 19, 2000.
33. Colorado Public Utilities Commission (Docket No. 00B-601T), on behalf of Qwest. Rebuttal

testimony regarding intercarrier compensation for internet-bound traffic in arbitration with Level 3. Filed January 16, 2001.

7. Connecticut

34. State of Connecticut. Department of Public Utility Control, (DPUC Docket No. 95-03-01) on behalf of Southern New England Telephone Company, testimony concerning productivity growth targets in a proposed state price cap regulation plan. Filed June 19, 1995.
35. State of Connecticut. Department of Public Utility Control, (DPUC Docket No. 95-06-17) on behalf of Southern New England Telephone Company: testimony concerning economic principles of costing and cost recovery. Filed July 23, 1996.
36. Connecticut Department of Public Utilities (DPUC Docket No. 96-09-22), on behalf of the Southern New England Telephone Company. Rebuttal testimony regarding alternative models of cost. Filed January 24, 1997.
37. Connecticut Department of Public Utilities (DPUC Docket No. 96-11-03), on behalf of the Woodbury Telephone Company, statement regarding the effects of resale and the provision of unbundled network elements on a rural telephone company. Filed February 11, 1997.
38. State of Connecticut. Department of Public Utility Control (Docket Nos. 95-03-01,95-06-17 and 96-09-22), on behalf of Southern New England Telephone Company: direct testimony discussing economic principles the DPUC should use in evaluating SNET's joint and common overhead and network support expenses. Filed August 29, 1997. Rebuttal testimony filed December 17, 1998.
39. State of Connecticut. Department of Public Utility Control (Docket No. 96-04-07) on behalf of Southern New England Telephone Company: direct testimony regarding economic principles guiding access charge reform. Filed October 16, 1997.
40. State of Connecticut. Department of Public Utility Control (Docket No. 98-02-33), on behalf of Southern New England Telephone Company: direct testimony regarding reclassification of custom calling services as emerging competitive. Filed February 27, 1998.
41. Connecticut Department of Public Utility Control, on behalf of SBC Communications Inc. and Southern New England Telecommunications Corporation: direct testimony regarding the SBC-SNET merger, filed June 1, 1998.
42. Connecticut Department of Public Utility Control (Docket No. 95-06-17RE02), on behalf of The Southern New England Telephone Company, rebuttal testimony regarding local competition and reseller market. Filed June 8, 1999.
43. Connecticut Department of Public Utilities (Docket No. 99-03-17), on behalf of The Southern New England Telephone Company, rebuttal testimony regarding market power and termination liabilities in contracts. Filed June 18, 1999.
44. Connecticut Department of Public Utilities (Docket No. 00-07-17), on behalf of The Southern New England Telephone Company, testimony regarding local competition and pricing. Filed November 21, 2000.
45. State of Connecticut, Department of Public Utility Control, (Docket No. 03-09-01PH01) on behalf of SBC SNET, direct testimony concerning geographic market definition for unbundled network elements. Filed December 2, 2003. Rebuttal testimony filed January 9, 2004.

8. Delaware

46. Delaware Public Service Commission (Docket No. 86-20, Phase II) on behalf of The Diamond State Telephone Company: appropriate costing and pricing methods for a regulated firm facing competition. Filed March 31, 1989. Rebuttal testimony filed November 17, 1989.
47. Delaware Public Service Commission (Docket No. 89-24T) on behalf of The Diamond State Telephone Company: rebuttal testimony describing the appropriate costing and pricing methods for the provision of contract Centrex services by a local exchange carrier. Filed August 17, 1990.
48. Delaware Public Utilities Commission, (Docket No. 33), on behalf of Diamond State Telephone Company, "Incentive Regulation of Telecommunications Utilities in Delaware," filed June 22, 1992.
49. Delaware Public Utilities Commission, (Docket No. 33), on behalf of Diamond State Telephone Company, analysis of productivity growth and a proposed incentive regulation plan: "Reply Comments," June 1, 1993, "Supplementary Statement," June 7, 1993, "Second Supplementary Statement," June 14, 1993.
50. Delaware Public Utilities Commission, (Docket No. 42), on behalf of Bell Atlantic - Delaware, rebuttal testimony concerning the historical effects of equal access competition in interstate toll markets and the likely future effects of competition under 1+ presubscription in Delaware. Filed October 21, 1994.
51. Delaware Public Utilities Commission, on behalf of Bell Atlantic - Delaware, direct testimony regarding costs and pricing of interconnection and network elements. Filed December 16,1996. Rebuttal testimony (proprietary) filed February 11, 1997.
52. Delaware Public Utilities Commission, on behalf of Bell Atlantic - Delaware: statement regarding costs and benefits from Bell Atlantic entry into interLATA telecommunications markets. Filed February 26, 1997. Rebuttal testimony filed April 28, 1997.
53. Delaware Public Service Commission (PSC Docket No. 00-205), on behalf of Bell Atlantic-Delaware, direct testimony responding to the Petition for Arbitration of Focal Communications Group. Filed April 25, 2000.

9. District of Columbia

54. Affidavit to the U.S. District Court for the District of Columbia on behalf of Bell Atlantic Corporation in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, re relief from the interLATA restrictions of the MFJ in connection with the pending merger with Tele-Communications, Inc. and Liberty Media Corporation. Filed January 14, 1994, (with A.E. Kahn).
55. Affidavit to the U.S. District Court for the District of Columbia on behalf of Southwestern Bell in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, regarding provision of telecommunications and information services across LATA boundaries outside the regions in which its local exchange operations are located. Filed May 13, 1994, (with A.E. Kahn).
56. District of Columbia, Public Service Commission (Case No. 962), on behalf of Bell Atlantic - Washington, D.C., direct testimony regarding costing and pricing of interconnection and network elements. Filed January 17, 1997. Rebuttal testimony filed May 2, 1997.
57. Public Service Commission of the District of Columbia (Case No. 962), on behalf of Bell Atlantic - Washington, D.C., direct testimony regarding costing and pricing of interconnection and

network elements. Filed July 16, 2001. Rebuttal testimony filed January 11, 2002.
58. United States District Court for the District of Columbia, (MDL No. 1285, Misc. No 99-0197 (TFH)), Declaration regarding statistical issues in measuring damages from price fixing in the vitamin industry, filed October 31, 2002. Reply Declaration filed January 15, 2003.
59. Public Service Commission of the District of Columbia on behalf of Verizon New Jersey, Direct testimony regarding forecasts of incremental hot cut demand, filed December 15, 2003.

10. Florida

60. Florida Public Service Commission (Docket No. 820537-TP) on behalf of Southern Bell Telephone and Telegraph Company: economic analysis of premium intraLATA access charges. Filed July 22, 1983.
61. Florida Public Service Commission (Docket No. 820400-TP) on behalf of Southern Bell Telephone and Telegraph Company: economic principles underlying a proposed method for calculating marginal costs for private line services. Filed June 25, 1986.
62. Florida Public Service Commission (Docket No. 880069-TL) on behalf of Southern Bell Telephone and Telegraph Company: economic incentives for firms under the proposed Florida Rate Stabilization Plan. Filed June 10, 1988.
63. Florida Public Service Commission (Docket No. 900633-TL) on behalf of Southern Bell Telephone and Telegraph Company: alternative measures of cross-subsidization. May 9, 1991.
64. Florida Public Service Commission (Docket No. 920260-TL) on behalf of Southern Bell Telephone and Telegraph Company: economic analysis of a proposed price cap regulation plan. December 18, 1992.
65. Florida Public Service Commission (Docket No. 920385-TL) on behalf of Southern Bell Telephone and Telegraph Company: the economic relationship between depreciation rates, investment, and infrastructure development. September 3, 1992.
66. Florida Public Service Commission on behalf of BellSouth, "Local Telecommunications Competition: An Evaluation of a Proposal by the Communications Staff of the Florida Public Service Commission," filed November 21, 1997 (with A. Banerjee).
67. Florida Public Service Commission (Docket No. 980000-SP) on behalf of BellSouth Telecommunications, Inc.: "Costing and Pricing Principles for Determining Fair and Reasonable Rates Under Competition," economic principles for pricing local exchange services, filed September 24, 1998.
68. Florida Public Service Commission (Docket No. 980000-SP) on behalf of BellSouth Telecommunications, Inc.: "Determining Fair and Reasonable Rates Under Competition: Response to Major Themes at the FPSC Workshop," economic principles for pricing local exchange services, filed November 13, 1998.
69. Florida Public Service Commission (Docket No. 980696-TP) on behalf of BellSouth Telecommunications, Inc.: rebuttal testimony regarding measurements of cost for sizing a universal-service fund, filed September 2, 1998.
70. Florida Public Service Commission (Docket No. 990750-TP), on behalf of BellSouth Telecommunications, rebuttal testimony regarding intercarrier compensation for Internet-bound traffic, filed September 13, 1999.
71. Florida Public Service Commission (Docket No. 000075-TP) on behalf BellSouth Telecommunications, Inc.: rebuttal testimony regarding intercarrier compensation for Internet-

bound traffic, filed January 10. 2001.
72. Florida Public Service Commission (Docket No000121-TP) on behalf BellSouth Telecommunications, Inc.: direct testimony regarding properties of a service quality performance assurance plan. Filed March 1. 2001. Rebuttal filed March 21, 2001.
73. Florida Public Service Commission (Docket No. 000075-TP) on behalf BellSouth Telecommunications, Inc., rebuttal testimony regarding efficient intercarrier compensation, filed April 12, 2001.
74. Florida Public Service Commission (Docket No. 960786-TL) on behalf BellSouth Telecommunications, Inc.: surrebuttal testimony regarding the state of local competition in Florida, filed August 20, 2001.
75. Florida Public Service Commission (Docket Nos. 020119-TP and 020578-TP) on behalf of BellSouth Telecommunications. Inc., regarding competitive promotional offerings. Direct testimony filed October 23, 2002, rebuttal filed November 25, 2002.
76. Florida Public Service Commission (Docket No. 020507-TP) on behalf of BellSouth Telecommunications, Inc., regarding bundling of basic and non-basic services. Rebuttal testimony filed December 23, 2002.
77. U.S. District Court, Southern District of Florida (Case No. 99-1706), on behalf of BellSouth Telecommunications, Confidential Reply Affidavit ("Economic Assessment of Damages"). Filed April 25, 2003.
78. Florida Public Service Commission (Docket No. 030869-TL), on behalf of BellSouth Telecommunications, Inc., regarding rate rebalancing in the Florida Statutes. Direct testimony filed August 27, 2003.
79. Florida Public Service Commission, (Docket No. 030851-TP) on behalf of Verizon Florida, Direct Testimony regarding forecasts of incremental hot cut demand, filed December 4, 2003.
80. Florida Public Service Commission, (Docket No. 030851-TP) on behalf of Verizon Florida, Rebuttal Testimony regarding geographic market definition for unbundled network elements, filed January 7, 2004.

11. Georgia

81. Georgia Public Service Commission (Docket No. 3882-U) on behalf of Southern Bell Telephone and Telegraph Company: analysis of incentive regulation plans. Filed September 29, 1989.
82. Georgia Public Service Commission (Docket No. 6863-U) on behalf of BellSouth Long Distance, Inc., direct testimony concerning benefits from BellSouth participation in long distance service markets. Filed January 3, 1997. Rebuttal testimony filed February 24, 1997.
83. Georgia Public Service Commission (Docket No. 10767-U), on behalf of BellSouth Telecommunications, rebuttal testimony regarding intercarrier compensation for Internet-bound traffic, filed October 25, 1999.
84. Georgia Public Service Commission (Docket No. 10854-U), on behalf of BellSouth Telecommunications, direct testimony regarding intercarrier compensation for Internet-bound traffic, filed November 15, 1999, rebuttal testimony filed November 22, 1999.
85. Georgia Public Service Commission (Docket No. 7892-U), on behalf of BellSouth Telecommunications, rebuttal testimony regarding implementation of service quality standards, filed June 27, 2000.

86. CPR Institute for Dispute Resolution Arbitral Tribunal, Rebuttal Affidavit in Arbitrations III and IV between BellSouth Telecommunications and Supra Telecommunications & Information Systems. Filed November 5, 2001.
87. Georgia Public Service Commission (Docket No. 11901-U) on behalf of BellSouth Telecommunications. Inc., regarding the provision of DSL service to competitors' voice customers. Rebuttal testimony filed November 8, 2002.
88. CPR Institute for Dispute Resolution Arbitral Tribunal, Rebuttal Affidavit in Arbitration V between BellSouth Telecommunications and Supra Telecommunications & Information Systems. Filed November 21, 2003.

12. Idaho

89. Idaho Public Utilities Commission (Case No. GST-T-99-1), on behalf of US West Communications, Inc., direct testimony regarding intercarrier compensation for ISP-bound traffic, November 22, 1999, rebuttal testimony filed December 2, 1999.

13. Illinois

90. Illinois Commerce Commission (Docket No. 88-0412) on behalf of Illinois Bell Telephone Company: analysis of pricing issues for public telephone service. Filed August 3, 1990. Surrebuttal testimony filed December 9, 1991.
91. United States Bankruptcy Court, Northern District of Illinois, Eastern Division Telesphere Liquidating Trust vs. Francesco Galesi, Adv. Proc. Nos. 95 A 1051 & 99 A 131: expert opinion regarding the condition of alternative operator service provider and 900 service markets. Report filed August 23, 2002.
92. Illinois Commerce Commission (Docket No. 03-0595) on behalf of SBC Illinois. Direct testimony concerning geographic market definition for unbundled network elements. Filed December 2, 2003.

14. Iowa

93. Iowa Utilities Board, on behalf of US West Inc. & Qwest Communications Intl, Inc., rebuttal testimony regarding public interest effects of the proposed merger, filed December 23, 1999.

15. Kentucky

94. Kentucky Public Service Commission on behalf of South Central Bell Telephone Company, testimony concerning telecommunications productivity growth and price cap plans, April 18, 1995.
95. Kentucky Public Service Commission (Administrative Case No. 96-608) on behalf of BellSouth Long Distance, Inc., testimony regarding the economic effects of BellSouth entry into interLATA services. Filed April 14, 1997. Rebuttal testimony filed April 28, 1997, supplemental rebuttal testimony filed August 15, 1997.
96. Kentucky Public Service Commission (Docket No. 98-292), on behalf of Cincinnati Bell Telephone Company, direct testimony regarding proposed price regulation plan containing earnings

sharing requirements. Filed April 5, 1999.
97. Kentucky Public Service Commission (Docket No. 99-218), on behalf of BellSouth Telecommunications, direct testimony regarding intercarrier compensation for Internet-bound traffic, filed October 21, 1999. Rebuttal testimony filed November 19, 1999.
98. Kentucky Public Service Commission (Docket No. 99-296), on behalf of GTE & Bell Atlantic, direct testimony on the effects of the Bell Atlantic-GTE merger on competition in Kentucky and on the benchmarking abilities of regulators. Filed July 9, 1999, rebuttal testimony filed August 20, 1999.
99. Kentucky Public Service Commission (Docket No. 2001-105), on behalf of BellSouth Telecommunications, Inc.: local competition in Kentucky and BellSouth's performance measurements plan to support its application for interLATA authority. Rebuttal testimony filed July 30, 2001. Surrebuttal testimony filed September 10, 2001.

16. Louisiana

100. Louisiana Public Service Commission (Docket No. U-17949, Subdocket E) on behalf of South Central Bell Telephone Company, rebuttal testimony concerning productivity growth accounting and other aspects of a price regulation plan, July 24, 1995.
101. Louisiana Public Service Commission (Docket No. U-17949, Subdocket E) on behalf of South Central Bell Telephone Company, supplemental and rebuttal testimony concerning economic issues in depreciation accounting in the presence of competition and price cap regulation, November 17, 1995. Surrebuttal testimony, December 13, 1995, Further Surrebuttal testimony, January 12, 1996.
102. Louisiana Public Service Commission (Docket No. U-20883) on behalf of South Central Bell Telephone Company, "Price Regulation and Local Competition in Louisiana," affidavit evaluating a framework for local competition and price regulation in Louisiana, November 21, 1995.
103. Louisiana Public Service Commission (Docket No. U-20883, Subdocket A) on behalf of South Central Bell Telephone Company, rebuttal testimony concerning methods for measuring the cost of providing universal service, August 16, 1995.
104. Louisiana Public Service Commission (Docket No. U-U-22020) on behalf of South Central Bell Telephone Company, testimony concerning economic principles determining wholesale prices for resold services. Filed August 30 1996. Rebuttal testimony filed September 13, 1996.
105. Louisiana Public Service Commission, on behalf of BellSouth Long Distance, Inc. (Docket No. U-22252), direct testimony regarding the probable economic benefits to consumers in Louisiana from entry by BellSouth into the interLATA long distance market. Filed March 14, 1997. Rebuttal testimony filed May 2, 1997. Supplemental testimony filed May 27, 1997.
106. Louisiana Public Service Commission (Docket No. U-24206), on behalf of BellSouth Telecommunications, direct testimony regarding intercarrier compensation for Internet-bound traffic. Filed September 3, 1999, rebuttal filed September 17, 1999.
107. Louisiana Public Service Commission (Docket No. U-22632) on behalf of BellSouth Telecommunications, rebuttal testimony concerning payphone access services, July 17,2000.
108. Louisiana Public Service Commission (Docket No. U-22252, Subdocket E), on behalf of BellSouth Telecommunications, economic properties of service quality penalty plans. Reply affidavit filed June 25, 2001.
109. United States District Court, Eastern District of Louisiana, Civil Action No. 02-0481:

Dwayne P. Smith, Trustee v. Lucent Technologies, Inc., on behalf of Lucent Technologies, Inc., damage calculation from alleged equipment failure. Expert Report filed June 16, 2003.

17. Maine

110. State of Maine Public Utilities Commission (Docket No. 89-397) on behalf of New England Telephone & Telegraph Company: theoretical and historical analysis of incentive regulation in telecommunications, entitled "Incentive Regulation in Telecommunications." filed June 15, 1990.
111. State of Maine Public Utilities Commission (Docket Nos. 94-123/94-254) on behalf of New England Telephone & Telegraph Company: analysis of appropriate parameters for a price regulation plan. Filed December 13, 1994. Rebuttal testimony filed January 13, 1995.
112. Maine Public Utilities Commission (Docket No. 96-388) on behalf of NYNEX, testimony regarding the economic effects of the proposed merger between Bell Atlantic and NYNEX, Direct Testimony filed September 6, 1996. Rebuttal Testimony filed October 30, 1996.
113. Maine Public Utilities Commission (Docket No. 97-505) on behalf of NYNEX: direct testimony regarding economic principles for setting prices and estimating costs for interconnection. Filed April 21, 1997. Rebuttal testimony filed October 21, 1997.
114. Maine Public Utilities Commission on behalf of NYNEX: affidavit regarding competitive effects of NYNEX entry into interLATA markets. Filed May 27,1997 (with Kenneth Gordon, Richard Schmalensee and Harold Ware).
115. Maine Public Utilities Commission (Docket No. 99-851) on behalf of Verizon: direct testimony regarding the review of Maine's alternative regulation plan. Filed January 8, 2001. Rebuttal filed February 12, 2001.
116. Maine Public Utilities Commission (Docket No. 99-851), on behalf of Verizon- Maine, affidavit regarding economics pf price cap regulation. Filed April 29, 2003.

18. Maryland

117. Maryland Public Service Commission (Case No. 8462) on behalf of The Chesapeake and Potomac Telephone Company of Maryland: competition and the appropriate regulatory treatment of Yellow Pages. Filed October 2, 1992.
118. Maryland Public Service Commission (Case No. 8584) on behalf of The Chesapeake and Potomac Telephone Company of Maryland: appropriate pricing and regulatory treatment of interconnection to permit competition for local service. Filed November 19, 1993, (with A.E. Kahn). Rebuttal testimony filed January 10, 1994, surrebuttal testimony filed January 24, 1994.
119. Maryland Public Service Commission (Case No. 8584, Phase II) on behalf of Bell Atlantic - Maryland: geographically deaveraged incremental and embedded costs of service. Filed December 15, 1994. Additional direct testimony concerning efficient rate structures for interconnection pricing filed May 5, 1995. Rebuttal testimony filed June 30, 1995.
120. Maryland Public Service Commission (Case No. 8659) on behalf of Bell Atlantic - Maryland: appropriate pricing of interconnection among competing local exchange carriers. Filed November 9, 1994.
121. *FreBon International Corp. vs. BA Corp. Civil Action*, No. 94-324 (GK): Defendants' Amended Expert Disclosure Statement, regarding markets for teleconferencing services. Filed under

seal February 15, 1996.

122. Maryland Public Service Commission (Case No. 8715), on behalf of Bell Atlantic - Maryland: rebuttal testimony on the economic criteria for the reclassification of telecommunications services. Filed March 14, 1996, surrebuttal testimony filed April 1, 1996.

123. Maryland Public Service Commission, on behalf of Bell Atlantic-Maryland, (Case No. 8731-II), statement regarding costing and pricing of interconnection and unbundled network elements. Filed January 10, 1997. Rebuttal testimony filed April 4, 1997.

124. Maryland Public Service Commission, on behalf of Bell Atlantic - Maryland: statement regarding consumer benefits from Bell Atlantic's provision of interLATA service, filed March 14, 1997.

125. Maryland Public Service Commission (Case No. 8786), on behalf of Bell Atlantic - Maryland: rebuttal testimony regarding economic principles underlying costs and prices for non-recurring services and access to operations support systems. Filed November 16, 1998.

126. Maryland Public Service Commission (Case No. 8745), direct testimony on behalf of Verizon Maryland Inc. regarding efficient pricing of carrier access charges. Filed March 23, 2001. Rebuttal filed May 21, 2001. Surrebuttal filed June 11, 2001.

127. Before the Public Service Commission of Maryland (Case No. 8879), direct testimony on behalf of Verizon Maryland Inc. regarding costing principles for network elements. Filed May 25, 2001. Rebuttal testimony filed September 5, 2001. Surrebuttal filed October 15, 2001.

128. Circuit Court For Prince George's County, Maryland. Case No: CAL 99-21004, Jacqueline Dotson, et al. v. Bell Atlantic – Maryland, Inc. and Maryland Public Service Commission, affidavit on behalf of Bell Atlantic Maryland regarding late payment fees. Filed October 14, 2002.

129. Maryland Public Service Commission (Case No. 8927), on behalf of Verizon Maryland, rebuttal testimony regarding complaint by CloseCall America alleging anti-competitive tying of Verizon's residential and small business local service with voice messaging and high-speed Internet access, filed September 24, 2002. Supplemental rebuttal testimony filed March 3, 2003. Surrebuttal testimony filed April 11, 2003.

19. Massachusetts

130. Massachusetts Department of Public Utilities (Docket No. D.P.U. 94-50), on behalf of NYNEX: analysis of appropriate parameters for a price regulation plan. Filed April 14, 1994. Rebuttal testimony filed October 26, 1994.

131. Massachusetts Department of Public Utilities (Docket No. D.P.U. 94-185) on behalf of NYNEX: economic analysis of terms and conditions for efficient local competition. Filed May 19, 1995. Rebuttal testimony filed August 23, 1995.

132. Affidavit to the Superior Court Department of the Trial Court (Civil Action No. 95-6363F), on behalf of New England Telephone and Telegraph Company, d/b/a NYNEX: in opposition to Plaintiffs' Motion for Class Certification. Filed July 1996.

133. Massachusetts Department of Public Utilities (Docket Nos. D.P.U. 96-73/74, 96-75, 96-80/81, 96-83, 96-94) on behalf of NYNEX: economic analysis of costs avoided from resale of local exchange services. Testimony filed September 27, 1996. Rebuttal Testimony filed October 16, 1996.

134. Massachusetts Department of Public Utilities (Docket Nos. D.P.U. 96-73/74, 96-75, 96-

80/81, 96-83, 96-94) on behalf of NYNEX: Arbitration of interconnection agreements under the Telecommunications Act of 1996. Filed October 11, 1996. Rebuttal Testimony filed October 30, 1996.

135. Massachusetts Department of Public Utilities (Docket No. DTE 98-15), on behalf of Bell Atlantic – MA: direct testimony regarding the method used to determine wholesale (avoided cost) discount that applies to resold retail services. Filed January 16, 1998.

136. Massachusetts Department of Public Utilities (Docket No. D.P.U./D.T.E. 94-185-C) on behalf of Bell Atlantic: economic analysis of the usefulness of a regulatory price floor for wholesale services. Affidavit filed February 6, 1998. Reply Affidavit filed February 19, 1998.

137. Massachusetts Department of Telecommunications and Energy (D.P.U. 96-3/74, 96-75, 96-80/81, 96-83, & 96-94), on behalf of Bell Atlantic – Massachusetts: rebuttal testimony discussing the types of costs for OSSs, filed April 29, 1998.

138. Massachusetts Department of Telecommunications and Energy (Docket No. 85-15, Phase III, Part 1), on behalf of Bell Atlantic – Massachusetts: rebuttal testimony discussing appropriate forward-looking technology for costing network elements, filed August 31, 1998.

139. Massachusetts Department of Telecommunications and Energy (Docket No. 98-15, Phase II), on behalf of Bell Atlantic – Massachusetts: rebuttal testimony concerning the avoided costs of resold services, filed September 8, 1998.

140. Massachusetts Department of Telecommunications and Energy (Docket No. 98-67), on behalf of Bell Atlantic-Massachusetts: direct testimony regarding regulatory rules/economic principles pertaining to exogenous adjustment factors in Bell Atlantic's price cap formula, filed September 25, 1998.

141. Massachusetts Department of Telecommunications and Energy (Docket No. 98-85), on behalf of Bell Atlantic-Massachusetts: direct testimony regarding efficiency changes from intraLATA presubscription, filed October 20, 1998.

142. Massachusetts Department of Telecommunications and Energy (Docket No. D.T.E. 97-116-B), on behalf of Bell Atlantic-Massachusetts, affidavit regarding consequences for economic efficiency of different intercarrier compensation rules for ISP-bound traffic. Filed March 29, 1999.

143. Massachusetts Department of Telecommunications & Energy (Docket No. 94-185-E), on behalf of Bell Atlantic, rebuttal testimony re: inclusion of overhead costs in the calculation of price floors for BA-MA services. Filed July 26, 1999.

144. Massachusetts Department of Telecommunications and Energy (Docket DTE –1-20), on behalf of Verizon New England Inc., D/B/A/ Verizon Massachusetts, direct testimony regarding cost concepts and pricing principals for UNEs, filed May 4, 2001. Rebuttal testimony filed December 17, 2001.

145. Massachusetts Department of Telecommunications and Energy, testimony on behalf of Verizon New England Inc. d/b/a/ Verizon Massachusetts, regarding benefits of alternative regulation in Massachusetts since adoption of price cap plan.. Filed April 12, 2001. Rebuttal testimony filed September 21, 2001. Reply filed November 14, 2001.

146. Massachusetts Department of Telecommunications and energy (Docket No. 03-60) on behalf of Verizon Massachusetts, forecast of incremental hot cut demand, filed November 12, 2003.

20. Michigan

147. Testimony before the Michigan Circuit Court (Case No. 87-709234-CE and 87-709232-CE) on behalf of Combustion Engineering, Inc., in *Her Majesty the Queen, et al., v. Greater Detroit Resource Recovery Authority, et al.*, re statistical analysis of air pollution data to determine emissions limits for the Detroit municipal waste-to-energy facility, February, 1992.
148. Michigan Public Service Commission (Case No. U-11756), on behalf of Ameritech Michigan: direct testimony regarding efficient prices for services supplied to independent phone payers, filed October 9, 1998.
149. Michigan Public Service Commission (Case No. U-13796), on behalf of SBC Michigan: direct testimony regarding geographic markets for local exchange services, filed December 19, 2003.

21. Minnesota

150. Minnesota Public Utilities Commission (Docket No. P3009, 3052, 5096, 421, 3017/PA-99-1192), on behalf of US WEST Communications, Inc., rebuttal affidavit regarding the effects of the proposed Qwest-US West merger on economic welfare. Filed January 14, 2000.
151. Minnesota Public Utilities Commission (Docket No. P3009, 3052, 5096, 421, 3017/PA-99-1192), direct testimony regarding the effects of the proposed Qwest-US West merger on economic welfare. Filed March 29, 2000.
152. Minnesota Public Utilities Commission (PUC Docket No. P-421/C1-01-1372, OAH Docket No. 7-2500-14487-2) on behalf of Qwest Corporation, economic aspects of separate affiliate requirements, affidavit filed December 28, 2001, Surrebuttal Affidavit filed January 16, 2002.

22. Mississippi

153. Mississippi Public Service Commission (Docket No. 95-UA-313) on behalf of BellSouth Telecommunications, Inc. d/b/a South Central Bell Telephone Company, rebuttal testimony addressing cost issues, as they pertain to price regulation raised in the direct testimony by intervenors. Filed October 13, 1995.
154. Mississippi Public Service Commission (Docket No. 95-UA-358) on behalf of BellSouth Telecommunications, Inc. d/b/a South Central Bell Telephone Company, testimony regarding universal service fund issues. Filed January 17, 1996. Rebuttal testimony filed February 28, 1996.
155. Mississippi Public Service Commission (Docket No. 97-AD-0321), on behalf of BellSouth Long Distance, Inc., direct testimony regarding the likely economic benefits to consumers in Mississippi from entry by BellSouth into the interLATA long distance market. Filed July 1, 1997. Rebuttal testimony filed September 29, 1997.
156. Mississippi Public Service Commission (Docket No. 97-AD-544), on behalf of BellSouth Telecommunications: rebuttal testimony regarding economic issues of costing and pricing unbundled network elements. Filed March 13, 1998.
157. Mississippi Public Service Commission (Docket No. 98-AD-035), on behalf of BellSouth Telecommunications: direct testimony regarding universal service funding and price benchmark issues. Filed February 23, 1998, rebuttal testimony filed March 6, 1998.
158. Mississippi Public Service Commission (Docket No. 99-AD-421), on behalf of BellSouth

Telecommunications, direct testimony regarding intercarrier compensation for Internet-bound traffic, filed October 20, 1999. Rebuttal testimony filed November 12, 1999.

159. Mississippi Public Service Commission (Docket No. 97-AD-321), on behalf of BellSouth Telecommunications, Inc.: local competition in Mississippi and BellSouth's performance measurements plan to support its application for interLATA authority. Rebuttal testimony filed August 2, 2001.

23. Montana

160. Montana Public Service Commission (Docket No. 90.8.46) on behalf of US West Communications: theoretical and historical analysis of incentive regulation plans in telecommunications. Filed October 4, 1990.

161. Montana Public Service Commission (Docket No. 90.12.86) on behalf of US West Communications: economic analysis of a proposed incentive regulation plan. Filed November 4, 1991. Additional testimony filed January 15, 1992.

162. Montana Public Service Commission (Docket No. D99.8.200), on behalf of US West Communications, Inc., rebuttal testimony regarding the effects of the proposed Qwest-US West merger on economic welfare. Filed February 22, 2000.

163. Montana Department of Public Service Regulation (Docket No. D2000.6.89), on behalf of US West Communications, Inc., direct testimony regarding efficient intercarrier compensation for Internet-bound traffic. Filed July 24, 2000. Rebuttal testimony filed February 7, 2001.

164. Montana Department of Public Service Regulation (Docket No. D2000.8.124), on behalf of Qwest Corporation., direct testimony in arbitration with TouchAmerica regarding efficient intercarrier compensation for Internet-bound traffic. Filed October 20, 2000. Rebuttal testimony filed December20, 2000.

165. Montana Public Service Commission (Docket No. D2002.12.153) on behalf of Qwest Long Distance Corp.: rebuttal testimony regarding alleged anticompetitive practices in long distance services. Filed July 18, 2003.

24. Nebraska

166. Nebraska Public Service Commission, on behalf of US WEST, (Application No. C-1628), economic analysis of local exchange and exchange access pricing, direct testimony filed October 20, 1998; reply testimony filed November 20, 1998.

167. Nebraska Public Service Commission, *In the Matter of the Petition of Sprint Communications Company L.P. for Arbitration of Interconnection Rates, Terms, Conditions, and Related Arrangements with U S WEST Communications, Inc. N/K/A Qwest Corporation,* (Docket No. C-2328), Direct testimony regarding intercarrier compensation for Internet-bound traffic filed September 25, 2000. Rebuttal testimony filed October 4, 2000.

25. Nevada

168. United States District Court, District of Nevada (Case No. CV-S-99-1796-KJD(RJJ) on behalf of Broadwing Communications Services, Inc., affidavit regarding damages from alleged

misuse of trade secret information. Filed December 28, 2000.

26. New Hampshire

169. New Hampshire Public Service Commission (Docket 89-010)) on behalf of New England Telephone & Telegraph Company: appropriate level and structure of productivity adjustments in a proposed price regulation plan. Filed March 3, 1989.
170. New Hampshire Public Service Commission, (Docket DE 90-002), on behalf of New England Telephone & Telegraph Company: the appropriate relationship between carrier access and toll prices. Filed May 1, 1992. Reply testimony filed July 10, 1992. Rebuttal testimony filed August 21, 1992.
171. Science, Technology and Energy Committee of the New Hampshire House of Representatives on behalf of New England Telephone Company, "An Economic Perspective on New Hampshire Senate Bill 77," an analysis of resale of intraLATA toll services. April 6, 1993
172. New Hampshire Public Service Commission, (Docket DE 96-252) on behalf of NYNEX: economic analysis of costs avoided from resale of local exchange services. Filed October 1, 1996.
173. New Hampshire Public Service Commission (Docket DE 96-220) on behalf of NYNEX, testimony regarding the economic effects of the proposed merger between Bell Atlantic and NYNEX. Filed October 10, 1996.
174. New Hampshire Public Service Commission, (Docket DE 96-252) on behalf of NYNEX: Arbitration of interconnection agreements under the Telecommunications Act of 1996. Filed October 23, 1996.
175. New Hampshire Public Service Commission (Docket No. 97-171, Phase II), on behalf of Bell Atlantic – New Hampshire: direct testimony discussing the basic economic principles regarding costs and prices of interconnection and unbundled network elements, filed March 13, 1998. Rebuttal filed April 17, 1998.
176. New Hampshire Public Utilities Commission (Docket No. 99-018), on behalf of Bell Atlantic, direct testimony regarding the use of Total Element Long Run Incremental Cost (TELRIC) methodology as the basis for prices in special contracts. Filed April 7, 1999. Rebuttal testimony filed April 23, 1999.
177. New Hampshire Public Utilities Commission (Docket No. DT 02-111) on behalf of Verizon – New Hampshire, rebuttal testimony regarding private line pricing. Filed May 2, 2003.
178. New Hampshire Public Utilities Commission (Docket No. DT 02-165) on behalf of Verizon – New Hampshire, rebuttal testimony regarding Yellow Pages revenue imputation. Filed June 4, 2003. Surrebuttal filed November 10, 2003.

27. New Jersey

179. New Jersey Board of Public Utilities (Docket No. TX90050349) on behalf of New Jersey Bell Telephone Company: theoretical and empirical analysis of the Board's intraLATA compensation policy. Filed December 6, 1990.
180. New Jersey Board of Regulatory Commissioners, (Docket No. TX93060259), Affidavit analyzing statistical evidence regarding the effect of intraLATA competition on telephone prices. Filed October 1, 1993.

181. New Jersey Board of Public Utilities (Docket Nos. TX90050349, TE92111047, TE93060211) on behalf of Bell Atlantic-New Jersey: economic impacts of intraLATA toll competition and regulatory changes required to accommodate competition. Filed April 7, 1994. Rebuttal testimony filed April 25, 1994. Summary Affidavit and Technical Affidavit filed April 19, 1994.

182. New Jersey Board of Public Utilities (Docket No. TX94090388) on behalf of Bell Atlantic - New Jersey: economic analysis of issues regarding proposed presubscription for intraLATA toll traffic in New Jersey. Amended direct testimony filed April 17, 1995. Rebuttal Testimony filed May 31, 1995.

183. New Jersey Board of Public Utilities on behalf of Bell Atlantic - New Jersey: "Economic Competition in Local Exchange Markets," position paper on the economics of local exchange competition filed in connection with arbitration proceedings, August 9, 1996 (with Kenneth Gordon and Alfred E. Kahn).

184. New Jersey Board of Public Utilities (Docket No. TX95120631) on behalf of Bell Atlantic - New Jersey, incremental costs of residential basic exchange service. Filed August 15, 1996. Rebuttal testimony filed August 30, 1996.

185. New Jersey Board of Public Utilities (Docket No. TO96070519) on behalf of Bell Atlantic - New Jersey: evaluation of proxy models of the incremental cost of unbundled network elements, testimony filed September 18, 1996.

186. New Jersey Board of Public Utilities (Docket No. TX95120631) on behalf of Bell Atlantic - New Jersey: economic analysis of the avoided costs from resale of local exchange services. Rebuttal testimony filed September 27, 1996.

187. New Jersey Board of Public Utilities (Docket No. T096080621: MCI/Bell Atlantic Arbitration) on behalf of Bell Atlantic-New Jersey. Rebuttal testimony concerning the pricing of unbundled network elements, November 7, 1996.

188. New Jersey Board of Public Utilities on behalf of Bell Atlantic - New Jersey (Docket No. T097030166) economic analysis of costs and benefits from Bell Atlantic provision of interLATA services, statement filed March 3, 1997, reply affidavit filed May 15, 1997.

189. New Jersey Board of Public Utilities (Docket No. TX95120631) on behalf of Bell Atlantic - New Jersey: economic analysis of proposed universal service funds. Direct testimony filed September 24, 1997. Rebuttal testimony filed October 18, 1997.

190. New Jersey Board of Public Utilities (BPU Docket No. TO97100808, OAL Docket No. PUCOT 11326-97N) on behalf of Bell Atlantic - New Jersey: economic analysis of imputation rules for long distance services. Direct testimony filed July 8, 1998, rebuttal testimony filed September 18, 1998.

191. The New Jersey Board of Public Utilities (OAL DOCKET Nos. PUCOT 11269-97N, PUCOT 11357-97N, PUCOT 01186-94N AND PUCOT 09917-98N) on behalf of Bell Atlantic - New Jersey: economic issues regarding alleged subsidization of payphone services. Rebuttal testimony filed March 8, 1999; surrebuttal testimony filed June 21, 1999.

192. New Jersey Board of Public Utilities (Docket No. TO 00031063), on behalf of Bell Atlantic-New Jersey, direct testimony regarding the measurement of economic costs of ISP-bound traffic and economic issues concerning intercarrier compensation for such traffic. Filed April 28, 2000. Rebuttal testimony filed May 5, 2000.

193. New Jersey Board of Public Utilities (Docket No. TO 99120934), on behalf of Bell Atlantic-New Jersey, direct testimony regarding reclassification of services as competitive. Filed May 18,

2000.

194. New Jersey Board of Public Utilities (Docket No. TO00060356), on behalf of Bell Atlantic-New Jersey, affidavit regarding the measurement of economic costs for unbundled network elements. Filed July 28, 2000.

195. The New Jersey Board of Public Utilities (Docket No. TO01020095), on behalf of Verizon-New Jersey, panel testimony regarding parameters in an incentive regulation plan. Filed February 15, 2001. Rebuttal filed June 15, 2001. Supplemental rebuttal filed September 25, 2001.

196. The New Jersey Board of Public Utilities (Docket No. TO01020095), on behalf of Verizon-New Jersey, panel testimony regarding measurement of cross-subsidies. Filed February 15, 2001. Rebuttal filed June 15, 2001.

197. The New Jersey Board of Public Utilities (Docket No. TO01020095), on behalf of Verizon-New Jersey, panel testimony regarding reclassification of business services as competitive. Filed February 15, 2001. Rebuttal filed June 15, 2001.

198. New Jersey Board of Public Utilities (Docket No. TT97120889), on behalf of Verizon – New Jersey, updated rebuttal testimony (with Michael Falkiewicz) regarding reclassification of directory assistance services as competitive, filed February 13, 2003.

199. New Jersey Public Utilities Commission on behalf of Verizon New Jersey. Direct Testimony regarding forecasts of incremental hot cut demand, filed December 10, 2003.

28. New Mexico

200. New Mexico Public Regulation Commission (Case No. 3131), On behalf of U S WEST Communications, direct testimony regarding intercarrier compensation for Internet-bound traffic, filed October 14, 1999. Rebuttal testimony filed October 18, 1999.

201. New Mexico Public Regulation Commission (Utility Case No. 3147), on behalf of US West Communications, Inc., direct testimony regarding efficient pricing and policies towards investment and new service implementation, filed December 6, 1999, rebuttal testimony filed December 28, 1999.

202. New Mexico Public Regulation Commission, on behalf of US West Communications, Inc., direct testimony regarding pricing flexible and alternatives to rate of return regulation, filed December 10, 1999.

203. New Mexico Public Regulation Commission (Case No. 3008), On behalf of U S WEST Communications, rebuttal testimony regarding local exchange rate levels and structure, filed May 19, 2000.

204. New Mexico Public Regulation Commission (Case No. 3225), on behalf of Qwest Corporation, direct testimony regarding the subsidy in existing telephone rates. Filed August 18, 2000.

205. New Mexico Public Regulation Commission (Case No. 3300), on behalf of Valor Telecommunications of New Mexico, LLC, rebuttal testimony regarding the subsidy in existing telephone rates. Filed October 19, 2000.

29. New York

206. New York State Public Service Commission (Case 28961 - Fifth Stage) on behalf of New

York Telephone Company: appropriate level and structure of productivity adjustments in a proposed price regulation plan. Filed September 15, 1989.
207. Testimony before the United States District Court, Eastern District of New York on behalf of Jancyn Manufacturing Corp., in *Jancyn Manufacturing Corp. v. The County of Suffolk.* Commercial damages. Depositions: September 19, 1991, November 22, 1993; Testimony and Cross-Examination: January 11, 1994.
208. New York Public Service Commission (Case No. 28425) on behalf of New York Telephone Company, "Costs and Benefits of IntraLATA Presubscription," (with T.J. Tardiff). Filed May 1, 1992.
209. New York State Public Service Commission (Case 92-C-0665, Proceeding on Motion of the Commission to Investigate Performance-Based Incentive Regulatory Plans for New York Telephone Company) on behalf of New York Telephone Company: appropriate level and structure of productivity adjustments and competitive pricing safeguards in a proposed incentive regulation plan. Filed as part of panel testimony, October 3, 1994.
210. New York Public Service Commission (Case 94-C-0017) on behalf of New York Telephone Company, testimony regarding competition and market power in intrastate toll markets. Filed August 1, 1995.
211. New York Public Service Commission (Case Nos. 95-C-0657, 94-C-0095, 91-C-1174) on behalf of New York Telephone Company, costing principles for resold services. Filed May 31, 1996. Costing and pricing principles for unbundled network elements. Filed June 4, 1996. Rebuttal testimony filed July 15, 1996.
212. New York Public Service Commission (Case Nos. 93-C-0451 and 91-C-1249) on behalf of New York Telephone Company, statistical issues in the calculation of damages in the provision of Mass Announcement Services: Rebuttal testimony filed July 23, 1996.
213. New York Public Service Commission (Case 96-C-0603) on behalf of NYNEX and Bell Atlantic, *Initial Panel Testimony,* regarding the economic effects of the proposed merger between Bell Atlantic and NYNEX. Filed November 25, 1996. *Reply Panel Testimony* filed December 12, 1996.
214. Affidavit to the U.S. District Court, Southern District of New York, on behalf of Multi Communication Media Inc., *Multi Communications Media Inc., v. AT&T and Trevor Fischbach,* (96 Civ. 2679 (MBM)) regarding the application of the filed tariff doctrine to contract tariffs in telecommunications. Filed December 27, 1996.
215. New York Public Service Commission on behalf of New York Telephone Company, "Competitive Effects of Allowing NYNEX To Provide InterLATA Services Originating In New York State," public interest analysis of NYNEX's proposed entry into in-region long distance service. Filed February 18, 1997 (with Harold Ware and Richard Schmalensee).
216. State of New York Public Service Commission (Case 94-C-0095 and 28425), on behalf of NYNEX, *Initial Panel Testimony*: direct testimony regarding InterLATA Access Charge Reform. Filed May 8, 1997. *Rebuttal Panel Testimony* filed July 8, 1997.
217. State of New York Public Service Commission (Cases 95-C-0657, 94-C-0095, 91-C-1174 and 96-C-0036), on behalf of Bell Atlantic, *Panel Testimony of Bell Atlantic – New York on Costs and Rates for Miscellaneous Phase 3 Services*: panel testimony regarding statistical sampling issues in cost studies for non-recurring charges. Filed March 18, 1998. Rebuttal filed June 3, 1998.
218. New York Public Service Commission, (Case 98-C-1357), on behalf of Bell Atlantic-New York, Panel Testimony on costs for wholesale services, Panel Testimony filed February 7, 2000.

Panel Rebuttal Testimony filed October 19, 2000.

219. New York Public Service Commission, (Case 00-C-1945), on behalf of Verizon-New York, Panel Testimony on price regulation, filed May 15, 2001.

220. New York Public Service Commission, (Case 00-C-1945), on behalf of Verizon-New York, Panel Testimony on the New York competitive marketplace, filed May 15, 2001.

221. American Arbitration Association, New York, MCI WorldCom Communications Inc. v. Electronic Data Systems. Corporation, Expert Report on prices and incentives in a disputed contract filed June 25, 2001. Supplemental Expert Report filed July 13, 2001.

222. New York Public Service Commission (Case 01-C-0767), on behalf of Verizon-New York, panel testimony regarding incremental costs and pricing of mobile interconnection services. Filed October 31, 2001.

223. New York Public Service Commission, (Case 00-C-1945), economic issues in renewing the New York incentive regulation plan, (panel testimony), filed February 11, 2002.

224. American Arbitration Association, on behalf of Verizon – New York, direct testimony regarding events in telecommunications markets affecting employment. February 2003.

225. American Arbitration Association (Case No: 50-T-180-00458-02), *Global Crossing USA, Inc. v. Softbank Corp.*, on behalf of Softbank Corp., damage calculations regarding undersea optical fiber capacity. Direct and Supplemental direct testimonies filed July 2003.

226. New York Public Service Commission, (Case 02-C-1425), on behalf of Verizon New York, forecasts of incremental hot cut demand (panel testimony), filed October 24,2003.

30. North Carolina

227. North Carolina Utilities Commission (Docket No. P-7, Sub 825; P-10, Sub 479) on behalf of Carolina Telephone and Telegraph Company and Central Telephone Company, direct and rebuttal testimony regarding price cap regulation for small telephone companies, February 9, 1996.

228. North Carolina Utilities Commission (Docket No. P-55, Sub1022) on behalf of BellSouth Long Distance, Inc.: direct testimony regarding the likely economic benefits to consumers in North Carolina from entry by BellSouth into the interLATA long distance market. Filed August 5, 1997. Rebuttal testimony filed September 15, 1997.

229. North Carolina Utilities Commission (Docket No. P-100, SUB 133d), on behalf of BellSouth Telecommunications: direct testimony on the proper economic basis for determining costs and prices of interconnection, unbundled network elements, and operating support systems. Filed December 15, 1997. Rebuttal filed March 9, 1998.

230. North Carolina Utilities Commission (Docket No. P-100, SUB 133g), on behalf of BellSouth Telecommunications: direct testimony on appropriate economic principles for sizing the state universal service fund. Filed February 16, 1998. Rebuttal filed April 13, 1998.

231. North Carolina Utilities Commission, *In re: Petition for Arbitration of ITC^DELTACOM Communications, Inc., with BellSouth Telecommunications, Inc., Pursuant to the Telecommunications Act of 1996*, (Docket No. P-500, Sub 10), testimony regarding economic interconnection issues, filed July 9, 1999.

232. North Carolina Utilities Commission, *In the Matter of Bell South Telecommunications, Inc., Complainant vs. US LEC of North Carolina, Respondent*, (Docket No. P-561, Sub 10), rebuttal testimony regarding economic efficiency and reciprocal compensation. Filed July 30, 1999.

233. North Carolina Utilities Commission (Docket No. P-100, SUB 133k), on behalf of BellSouth Telecommunications: rebuttal testimony regarding properties of a service quality performance assurance plan. Filed May 21, 2001.

234. North Carolina Utilities Commission (Docket No. P-55, SUB 1022), on behalf of BellSouth Telecommunications: rebuttal testimony regarding status of local competition in North Carolina. Filed October 8, 2001.

31. North Dakota

235. North Dakota Public Service Commission, on behalf of US WEST Communications, rebuttal testimony in support of US WEST's filing for a residential basic local service rate increase, filed May 30, 2000.

32. Ohio

236. The Public Utilities Commission of Ohio (Case No. 94-1695-TP-ACE) on behalf of Cincinnati Bell Telephone Company: economic analysis of terms and conditions for efficient local competition. Filed May 24, 1995.

237. Ohio Public Utility Commission (Case No. 96-899-TP-ALT) on behalf of Cincinnati Bell Telephone Company: direct testimony regarding CBT's proposed rate rebalancing and price regulation plan. Filed February 19, 1997.

238. Ohio Public Utility Commission (Case No. 97-152-TP-ARB), on behalf of Cincinnati Bell Telephone Company: direct testimony regarding the application of MCI Telecommunications Corporation Petition for Arbitration Pursuant to Section 252 (b) of the Telecommunications Act of 1996. Filed April 2, 1997.

239. Ohio Public Utility Commission (Docket No. 98-1398-TP-AMT), on behalf of Bell Atlantic and GTE, rebuttal testimony concerning economic effects of the proposed merger of Bell Atlantic and GTE. Filed June 16, 1999, substitute rebuttal testimony filed October 12, 1999.

33. Oregon

240. Oregon Public Utility Commission (ARB 154) on behalf of US WEST Communications, direct testimony regarding intercarrier compensation for ISP-bound traffic, November 1, 1999, rebuttal testimony filed November 5, 1999.

34. Pennsylvania

241. Pennsylvania Public Utility Commission, (Docket No. P-009350715), on behalf of Bell Atlantic: a study of inflation offsets in a proposed price regulation plan. Filed October 1, 1993. Rebuttal testimony filed January 18, 1994.

242. Pennsylvania Public Utility Commission, (Docket No. I-940034) on behalf of Bell Atlantic: issues regarding proposed presubscription for intraLATA toll traffic. Filed as part of panel testimony, December 8, 1994. Reply testimony filed February 23, 1995. Surrebuttal testimony filed

March 16, 1995.

243. *US WATS v. AT&T*: Retained by counsel for US WATS, a reseller of AT&T long distance services, plaintiff in an antitrust suit alleging monopolization and conspiracy in business long distance markets. Antitrust liability and damages. Confidential Report. August 22, 1995. Depositions September 30, October 1, October 12, December 3, 1995. Testimony October 18-20, 25-27, 30, 1995. Rebuttal testimony December 4, December 11, 1995.

244. Pennsylvania Public Utility Commission (Docket Nos. A-310203F0002, A-310213F0002, A-310236F0002 and A-310258F0002), on behalf of Bell Atlantic - Pennsylvania: rebuttal testimony to evaluate costing and pricing principles and cost models. Filed March 21, 1996.

245. Pennsylvania Public Utility Commission (Docket No. P-00961024), on behalf of Commonwealth Telephone Company: economic appraisal of a price cap regulation proposal, Direct testimony filed April 15, 1996. Rebuttal testimony filed July 19, 1996.

246. Pennsylvania Public Utility Commission (Docket No. R-00963550), on behalf of Bell Atlantic - Pennsylvania: economic consequences of rate rebalancing. Direct testimony filed April 26, 1996. Rebuttal testimony filed July 5, 1996.

247. Pennsylvania Public Utility Commission (Docket No. R-963550 C0006), on behalf of Bell Atlantic - Pennsylvania: economic consequences of rate rebalancing. Direct testimony filed August 30, 1996.

248. Pennsylvania Public Utility Commission (Docket No. A-310258F0002 - Interconnection Arbitration, Eastern Telelogic Corporation/Bell Atlantic) on behalf of Bell Atlantic-Pennsylvania, direct and rebuttal testimony on economic costs of interconnection and unbundled network elements, September 23, 1996.

249. Pennsylvania Public Utility Commission, on behalf of Bell Atlantic-Pennsylvania, statement regarding costs and benefits from Bell Atlantic entry into interLATA telecommunications markets. Filed February 10, 1997. Rebuttal testimony filed March 21, 1997.

250. Pennsylvania Public Utility Commission (Docket No. I-00960066), on behalf of Bell Atlantic: direct testimony providing an economic framework for the intrastate carrier switched access rates charged by Bell Atlantic. Filed June 30, 1997. Rebuttal testimony filed July 29, 1997. Surrebuttal testimony filed August 27, 1997.

251. Pennsylvania Public Utility Commission (Docket No. I-00940035), on behalf of Bell Atlantic: direct testimony regarding the relationship between access charge reform and universal service funding. Filed October 22, 1997.

252. Pennsylvania Public Utility Commission (Docket No. P-00971307), on behalf of Bell Atlantic: direct testimony concerning the classification of Bell Atlantic's business services in Pennsylvania as competitive and the calculation of an imputation price floor for those services. Filed February 11, 1998. Rebuttal filed February 18, 1998.

253. Pennsylvania Public Utility Commission (Docket No. P-00981410), on behalf of The United Telephone Company of Pennsylvania: direct testimony regarding role of productivity offset in a price cap plan, filed October 16, 1998. Rebuttal testimony filed February 4, 1999.

254. Pennsylvania Public Utility Commission, on behalf of Bell Atlantic-Pennsylvania: A report entitled "Promises Fulfilled; Bell Atlantic-Pennsylvania's Infrastructure Development." Filed January 15, 1999 (with Charles J. Zarkadas, Agustin J. Ros, and Jaime C. d'Almeida).

255. Pennsylvania Public Utility Commission (Docket Nos. A-310200F0002, A-311350F0002, A-310222F0002, A-310291F0003), on behalf of Bell Atlantic Corporation and GTE Corporation, rebuttal testimony regarding economic issues raised in the proposed merger of Bell Atlantic and

GTE. Filed April 22, 1999.
256. Pennsylvania Public Utility Commission (Docket No. A-310630F0002), on behalf of Bell Atlantic, direct testimony regarding the measurement of economic costs of ISP-bound traffic and economic issues concerning intercarrier compensation for such traffic. Filed April 14, 2000. Rebuttal testimony filed April 21, 2000.
257. Pennsylvania Public Utility Commission, (Docket No. M-00001435) on behalf of Verizon-Pennsylvania, Inc.: affidavit regarding the public interest benefits of Verizon entry into interLATA services. Filed January 8, 2001.
258. Pennsylvania Public Utility Commission (Docket No. P-00981449), on behalf of Verizon North, testimony regarding parameters in a Chapter 30 price cap plan. Filed October 31, 2000. Rebuttal testimony filed February 20, 2001.
259. Pennsylvania Public Utility Commission, (Docket No. P-00032020), on behalf of Commonwealth Telephone Company. Affidavit regarding exogenous events in price cap plans. Filed February 3, 2003.
260. Pennsylvania Public Utility Commission, (Docket No. P-00930715F0002), on behalf of Verizon – Pennsylvania. Rebuttal testimony regarding broadband development and productivity growth in the context of a price cap plan. Filed February 4, 2003.
261. Pennsylvania Public Utility Commission on behalf of Verizon-PA Inc. and Verizon North Inc., surrebuttal testimony (proprietary) to support Verizon-PA rate rebalancing plan. Filed August 4, 2003.
262. Pennsylvania Public Utility Commission (Docket No. P-00951005) on behalf of the Frontier Companies, testimony regarding a price regulation plan. November 7, 2003.
263. Pennsylvania Public Utility Commission (Docket No. I-00030099) on behalf of Verizon Pennsylvania, rebuttal testimony regarding geographic market definition for unbundled network elements. January 20, 2004.

35. Rhode Island

264. Rhode Island Public Utilities Commission (Docket No. 1997) on behalf of New England Telephone & Telegraph Company, "Rhode Island Price Regulation Plan," analysis of proposed price regulation plan and evidence of the effects of incentive regulation on prices and infrastructure development. Filed September 30, 1991.
265. Rhode Island Public Utilities Commission on behalf of NYNEX (Docket No. 2252), testimony addressing the economic conditions under which competition in the local exchange and intraLATA markets will bring benefits to customers. Direct testimony, November 17, 1995.
266. Rhode Island Public Utilities Commission (Docket No. 2370), on behalf of New England Telephone and Telegraph Company, D/B/A NYNEX: economic review and revision of the Rhode Island price cap plan. Direct testimony, February 23, 1996. Rebuttal testimony filed June 25, 1996.
267. Rhode Island Public Utilities Commission, on behalf of Bell Atlantic – Rhode Island: direct testimony discussing basic economic principles regarding costs and prices of interconnection and unbundled network elements. Filed November 25, 1997.
268. Rhode Island Public Utilities Commission (Docket No. 2681), on behalf of Bell Atlantic-Rhode Island: rebuttal testimony regarding costs for OSSs, filed September 18, 1998.
269. Rhode Island Public Utilities Commission (Docket No. 2681), on behalf of Bell Atlantic:

rebuttal testimony regarding entry into the local services telecommunications market. Filed January 15, 1999.
270. Rhode Island Public Utilities Commission (Docket No. 2681), on behalf of Bell Atlantic Rhode Island, direct testimony regarding incremental costs and switched access rates. Filed October 22, 1999.
271. Rhode Island Public Utilities Commission (Docket No. 2681), on behalf of Verizon Rhode Island, direct testimony regarding incremental costs and switched access rates. Filed May 1, 2002.
272. Rhode Island Public Utilities Commission (Docket No. 3179), on behalf of Verizon Rhode Island, direct testimony regarding alternative regulation. Filed July 1, 2002. Rebuttal Testimony filed October 22, 2003.
273. Rhode Island Public Utilities Commission on behalf of Verizon Rhode Island, Direct Testimony regarding forecasts of incremental hot cut demand, filed December 8, 2003.

36. South Carolina

274. South Carolina Public Service Commission, on behalf of BellSouth Long Distance, Inc., (Docket No. 97-101-C) : direct testimony regarding the probable economic benefits to consumers in South Carolina from entry by BellSouth into the interLATA long distance market. Filed April 1, 1997. Rebuttal testimony filed June 30, 1997.
275. South Carolina Public Service Commission (Docket No. 97-374-C), on behalf of BellSouth Telecommunications, Inc.: rebuttal testimony concerning general economic principles for the pricing and costing of interconnection and unbundled network elements. Filed November 25, 1997.
276. South Carolina Public Service Commission (Docket No. 97-124-C), on behalf of BellSouth Telecommunications, Inc.: rebuttal testimony concerning economic principles for pricing interconnection services supplied to payphone providers. Filed December 7, 1998.
277. South Carolina Public Service Commission, *In re: Petition for Arbitration of ITC^DELTACOM Communications, Inc., with BellSouth Telecommunications, Inc., Pursuant to the Telecommunications Act of 1996*, (Docket No1999-259-C), on behalf of BellSouth Telecommunications, testimony regarding economic interconnection issues. Filed August 25, 1999.
278. South Carolina Public Service Commission (Docket No. 2001-209-C), on behalf of BellSouth Telecommunications, Inc.: economic aspects of BellSouth's application to provide long distance services in South Carolina. Rebuttal testimony filed July 16, 2001.
279. South Carolina Public Service Commission (Docket No. 2001-209-C), on behalf of BellSouth Telecommunications, Inc.. Direct testimony regarding statistical issues in performance penalty plans, filed March 5, 2003.
280. Public Service Commission of South Carolina, Docket Nos. 2002-367-C and 2002-408-C on behalf of BellSouth Telecommunications, Inc.. Economic interpretation of "abuse of market position" and "inflation-based index" in legislation. Direct testimony filed July 23, 2003, Responsive testimony filed July 30, 2003.

37. Tennessee

281. Tennessee Public Service Commission (*In re*: The Promulgation of Agency Statements of General Applicability to Telephone Companies That Prescribe New Policies and Procedures for

Their Regulation) on behalf of South Central Bell Telephone Company: theoretical analysis and appraisal of the proposed Tennessee Regulatory Reform Plan. Filed February 20, 1991.

282. Tennessee Public Service Commission (Docket No. 95-02499) on behalf of BellSouth Telecommunications, Inc. d/b/a BellSouth Telephone Company, testimony addressing the definition and measurement of the cost of supplying universal service. (Direct testimony filed October 20, 1995. Rebuttal testimony filed October 25, 1995). Additional testimony regarding economic principles underlying the creation of a competitively-neutral universal service fund: direct testimony filed October 30, 1995. Rebuttal testimony filed November 3, 1995.

283. Tennessee Public Service Commission (In re: The Avoidable Costs of Providing Bundled Services for Resale by Local Exchange Telephone Companies) on behalf of BellSouth Telecommunications, Inc. (Docket No. 96-00067): economic costing and pricing principles for resold and unbundled services. May 24, 1996. Refiled with the Tennessee Regulatory Authority (Docket No. 96-00067), August 23, 1996.

284. Tennessee Regulatory Authority (In re: The Avoidable Costs of Providing Bundled Services for Resale by Local Exchange Telephone Companies) on behalf of BellSouth Telecommunications. Inc. (Docket No. 96-01331): economic costing and pricing principles for resold and unbundled services. Filed September 10, 1996. Rebuttal testimony filed September 20, 1996.

285. Tennessee Regulatory Authority (In re: Petition to Convene a Contested Case Proceeding to Establish "Permanent Prices" for Interconnection and Unbundled Network Elements) on behalf of BellSouth Telecommunications, Inc. (Docket No. 97-01262): rebuttal testimony regarding costing principles on which to base prices of unbundled network elements. Filed October 17, 1997.

286. Tennessee Regulatory Authority (Docket No. 97-00888), on behalf of BellSouth Telecommunications, Inc.: direct testimony regarding appropriate economic principles for sizing the state universal service fund, Filed April 3, 1998. Rebuttal filed April 9, 1998.

287. Tennessee Regulatory Authority (Docket No. 99-00377), on behalf of BellSouth Telecommunications, direct testimony regarding intercarrier compensation for Internet-bound traffic in Arbitration with ICG Telecom Group, filed October 15, 1999. Rebuttal testimony filed October 25, 1999.

288. Tennessee Regulatory Authority (Docket No. 99-00430), on behalf of BellSouth Telecommunications, direct testimony regarding intercarrier compensation for Internet-bound traffic in Arbitration with ITC-DeltaCom, filed October 15, 1999. Rebuttal testimony filed October 25, 1999.

289. Tennessee Regulatory Authority, (Docket No. 97-00409), on behalf of BellSouth Telecommunications, rebuttal testimony regarding efficient pricing for pay telephone services. Filed October 6, 2000.

290. Tennessee Regulatory Authority, (Docket No. 01-00193), on behalf of BellSouth Telecommunications: rebuttal testimony regarding performance measurements and self-effectuating penalties. Filed August 10, 2001.

38. Texas

291. *Darren B. Swain, Inc. d/b/a U.S. Communications v. AT&T Corp.*, United States District Court for the Northern District of Texas, Dallas Division, Civil Action 394CV-1088D: Retained by counsel for U.S. Communications, a reseller of AT&T long distance services, plaintiff in an antitrust

suit alleging monopolization in inbound business long distance markets. Antitrust liability and damages. Confidential Report, November 17, 1995.

292. Public Utility Commission of Texas (Docket No. 8585) on behalf of Southwestern Bell Telephone Company: analysis of Texas intrastate switched access charges and bypass of switched access. Filed December 18, 1989.

293. Texas Public Utility Commission (Docket No. 21982), on behalf of Southwestern Bell Telephone Company, direct testimony regarding CLEC's rate for transport and termination of ISP-bound traffic. Filed March 13, 2000. Rebuttal testimony filed March 31, 2000.

39. Utah

294. Utah Public Service Commission (Docket No. 99-049-41), on behalf of US West Communications, Inc., rebuttal testimony regarding the effects of the proposed Qwest-US West merger on economic welfare. Filed February 28, 2000.

295. Utah Public Service Commission (Docket No. 00-999-05), on behalf of Qwest Corporation, direct testimony regarding intercarrier compensation for Internet-bound traffic. Filed February 2, 2001. Rebuttal testimony filed March 9, 2001.

296. Utah Public Service Commission on behalf of Qwest Corporation, direct testimony regarding productivity offsets in a price cap plan. Filed October 5, 2001. Rebuttal testimony filed November 22, 2001.

40. Vermont

297. Vermont Public Service Board, Petition for Price Regulation Plan of New England Telephone on behalf of New England Telephone Company, Dockets 5700/5702: analysis of appropriate parameters for a price regulation plan. Filed September 30, 1993. Rebuttal testimony filed July 5, 1994.

298. Vermont Public Service Board, (Open Network Architecture Docket No. 5713) on behalf of New England Telephone Company, economic principles for local competition, interconnection and unbundling, direct testimony filed June 7, 1995. Rebuttal testimony filed July 12, 1995.

299. Vermont Public Service Board (Docket No. 5713), on behalf of Bell Atlantic – Vermont, direct testimony regarding economic principles for setting prices and estimating costs for interconnection. Filed July 31, 1997. Rebuttal testimony filed January 9, 1998. Surrebuttal testimony filed February 26, 1998. Supplemental rebuttal testimony filed March 4, 1998.

300. Vermont Public Service Board (Docket No. 5900) on behalf of NYNEX, testimony regarding the economic effects of the proposed merger between Bell Atlantic and NYNEX. Filed September 6, 1996.

301. Vermont Public Service Board (Docket no. 6000), on behalf of Bell Atlantic: direct testimony examining the likely benefits from adopting a price regulation plan. Filed January 19, 1998.

302. Vermont Public Service Board (Docket No. 6077), on behalf of Bell Atlantic-Vermont: rebuttal testimony regarding application of imputation standard, filed November 4, 1998.

303. Vermont Public Service Board (Docket No. 6167), on behalf of Bell Atlantic, rebuttal testimony regarding reduction of access charges & pricing of new services. Filed May 20, 1999. Supplemental testimony filed May 27, 1999.

41. Virginia

304. Affidavit to the U.S. District Court for the Eastern District of Virginia (Alexandria Division) on behalf of United States Telephone Association. *United States Telephone Association, et al., v. Federal Communications Commission, et al.*, (Civil Action No. 95-533-A) regarding the Section 214 process for local exchange companies providing cable television services. Filed October 30, 1995, (with A.E. Kahn).

305. State Corporation Commission of Virginia (Case No. PUC 950067) on behalf of Bell Atlantic - Virginia, Inc., rebuttal testimony concerning economic standards for the classification of services as competitive for regulatory purposes. January 11, 1996.

306. State Corporation Commission of Virginia, on behalf of Bell Atlantic-Virginia, (Case No. PUC960), direct testimony regarding costing and pricing of interconnection and unbundled network elements. Filed December 20 ,1996. Rebuttal testimony filed June 10, 1997 (Case No. PUC970005).

307. State Corporation Commission of Virginia *In re: Joint Petition of Bell Atlantic Corporation and GTE Corporation for approval of agreement and plan of merger*, economic effects of the proposed merger of Bell Atlantic and GTE. File May 28, 1999, rebuttal testimony filed October 8, 1999.

308. Virginia State Corporation Commission. (Case No. PUC000079) on behalf of Bell Atlantic-Virginia, direct testimony regarding intercarrier compensation for Internet-bound traffic in arbitration with Focal Communications Group. Filed April 25, 2000.

309. Virginia State Corporation Commission. (Case No. PUC 000003) on behalf of Bell Atlantic-Virginia, direct testimony regarding efficient pricing of carrier access charges. Filed May 30, 2000.

42. Washington

310. Washington Public Utilities Commission (Docket No. UT-990300), on behalf of US WEST, regarding US WEST's interconnection arbitration with AirTouch Paging in Washington. Direct testimony filed February 24, 1999; rebuttal testimony filed March 8, 1999.

311. Washington Utilities and Transportation Commission (Docket No. UT-991358), on behalf of US West Communications, Inc., rebuttal testimony regarding the effects of the proposed Qwest-US West merger on economic welfare. Filed February 22, 2000.

312. Washington Utilities and Transportation Commission (Docket No. UT-003006), on behalf of US West Communications, Inc., direct testimony regarding intercarrier compensation for internet-bound traffic. Filed April 26, 2000. Rebuttal testimony filed May 10, 2000.

313. Washington Transportation and Utilities Commission, *In the Matter of the Petition of Qwest Corporation for Competitive Classification of Business Services in Specified Wire Centers*, Docket No. UT-000883. Rebuttal testimony regarding economic criteria for classification of services as competitive. Filed October 6, 2000.

314. Washington Utilities and Transportation Commission (Docket No. UT-02-11-20), on behalf of Qwest, rebuttal testimony regarding economic aspects of the sale of Qwest Dex (Yellow Pages). Filed April 17, 2003.

43. West Virginia

315. Public Service Commission of West Virginia (Case No. 94-1103-T-GI) on behalf of Bell Atlantic - West Virginia: economic analysis of issues regarding proposed presubscription for intraLATA toll traffic in West Virginia, March 24, 1995.
316. Public Service Commission of West Virginia (Case Nos. 96-1516-T-PC, 96-1561-T-PC, 96-1009-T-PC, and 96-1533-T-T) on behalf of Bell Atlantic - West Virginia: direct testimony regarding costing and pricing of interconnection and unbundled network elements. Filed February 13, 1997. Rebuttal testimony filed February 20, 1997.
317. Public Service Commission of West Virginia on behalf of Bell Atlantic - West Virginia: economic analysis of issues regarding Bell Atlantic's entry into the interLATA long distance market. Filed March 31, 1997.

44. Wisconsin

318. Wisconsin Public Service Commission, (Docket No. 6720-TI-173) on behalf of SBC Wisconsin, economic analysis of competition for small business customers. Filed October 31, 2003.

45. Wyoming

319. Wyoming Public Service Commission (Docket No. 70000-TR-99), on behalf of US West Communications, direct testimony evaluating proposed prices of non-competitive US West services with regards to cost, pricing, competition, & regulation. Filed April 26, 1999.
320. Wyoming Public Service Commission (Docket Nos. 74142-TA-99-16, 70000-TA-99-503, 74037-TA-99-8, 70034-TA-99-4, 74089-TA-99-9, 74029-TA-99-43, 74337-TA-99-2, Record No. 5134), on behalf of US West Communications, rebuttal testimony regarding economic issues arising in the proposed merger between U S WEST and Qwest. Filed April 4, 2000.

1. Canada

321. Canadian Radio-Television and Telecommunications Commission (Docket No. 1990-73) on behalf of Bell Canada: "The Effect of Competition on U.S. Telecommunications Performance," (with L.J. Perl). Filed November 30, 1990.
322. Canadian Radio-Television and Telecommunications Commission (Docket No. 92-78) on behalf of Alberta General Telephone: "Lessons for the Canadian Regulatory Structure from the U.S. Experience with Incentive Regulation," and "Performance Under Alternative Forms of Regulation in the U.S. Telecommunications Industry," (with T.J. Tardiff). Filed April 13, 1993.
323. Canadian Radio-Television and Telecommunications Commission (Application of Teleglobe Canada for Review of the Regulatory Framework of Teleglobe Canada Inc.): on behalf of Teleglobe Canada, Inc., structure of a price regulation plan for the franchised supplier of overseas telecommunications services in Canada. Filed December 21, 1994.
324. Canadian Radio-Television and Telecommunications Commission, Response to Interrogatory SRCI(CRTC) 1Nov94-906, "Economies of Scope in Telecommunications," on behalf of Stentor. Filed January 31, 1995.

325. Canadian Radio-Television and Telecommunications Commission, Implementation of Regulatory Framework and Related Issues, Telecom Public Notices CRTC 94-52, 94-56 and 94-58, "Economic Welfare Benefits from Rate Rebalancing," on behalf of Stentor. Filed February 20, 1995.

326. Canadian Radio-Television and Telecommunications Commission, "Imputation Test to be Applied to Competitive Local Exchange Services," position paper on imputation for local exchange services filed in response to Telecom Public Notice CRTC 95-36 on behalf of Stentor on August 18, 1995.

327. Canadian Radio-Television and Telecommunications Commission, in response to CRTC Telecom Public Notice CRTC 96-8, "Economic Aspects of Canadian Price Cap Regulation," on behalf of the Stentor companies. Filed June 10, 1996.

328. Canadian Radio-Television and Telecommunications Commission, in response to CRTC Telecom Public Notice CRTC 96-8, "Economic Aspects of Price Cap Regulation for MTS NetCom Inc.," on behalf of MTS Net Com, Inc. Filed June 10, 1996.

329. Canadian Radio-Television and Telecommunications Commission, in response to CRTC Telecom Public Notice CRTC 2000-108, "MTS Communications Inc., Recovery of 2000 and 2001 Income Tax Expense" on behalf of MTS Communications, Inc. Oral panel testimony, January 11, 2001.

330. Canadian Radio-Television and Telecommunications Commission (Public Notice CRTC 2001-37) on behalf of Aliant Telecom Inc., Bell Canada, MTS Communications Inc., and Saskatchewan Telecommunications: "Price Cap Review and Related Issues," filed May 31, 2001. Rebuttal evidence filed September 20, 2001.

2. Federal Communications Commission

1988

331. Federal Communications Commission (Docket No. 87-313) on behalf of Bell Communications Research, Inc.: empirical analysis of price cap regulation of interstate access service, entitled "The Impact of Federal Price Cap Regulation on Interstate Toll Customers." Filed March 17, 1988.

332. Federal Communications Commission (Docket No. 87-313) on behalf of Bell Communications Research, Inc.: "The Impact of the FCC Proposed Price Cap Plan on Interstate Consumers," Filed August 18, 1988. Rebuttal analysis filed November 18, 1988.

1989

333. Federal Communications Commission (Docket No. 87-313) on behalf of Cincinnati Bell Telephone Company, "Incentive Regulation and Estimates of Productivity," (with J. Rohlfs). June 9, 1989.

334. Federal Communications Commission (Docket No. 87-313) on behalf of the United States Telephone Association: "Analysis of AT&T's Comparison of Interstate Access Charges Under Incentive Regulation and Rate of Return Regulation." Filed as Reply Comments regarding the FCC's Report and Order and Second Further Notice of Proposed Rulemaking in CC Docket 87-313, August 3, 1989.

335. Federal Communications Commission (Docket No. 87-313) on behalf of Southwestern Bell Telephone Company, "Taxes and Incentive Regulation," filed as Exhibit 3 to the Reply Comments of Southwestern Bell regarding the FCC's Report and Order and Second Further Notice of Proposed

Rulemaking in CC Docket 87-313, August 3, 1989.

1990

336. Federal Communications Commission (Docket 87-313) on behalf of the United States Telephone Association: "Local Exchange Carrier Productivity Offsets for the FCC Price Cap Plan," May 3, 1990.

337. Federal Communications Commission (Docket 87-313) on behalf of the United States Telephone Association: "Productivity Offsets for LEC Interstate Access," June 8, 1990.

338. Federal Communications Commission (Docket 87-313) on behalf of the United States Telephone Association: "Interstate Access Productivity Offsets for Mid-Size Telephone Companies," June 8, 1990.

339. Federal Communications Commission (Docket 87-313) on behalf of the United States Telephone Association: analysis of total factor productivity calculations, entitled "Productivity Measurements in the Price Cap Docket," December 21, 1990.

1991

340. Federal Communications Commission (Docket 87-313) on behalf of BellSouth Corporation, "The Treatment of New Services under Price Cap Regulation," (with Alfred E. Kahn), June 12, 1991.

341. Federal Communications Commission (Docket 91-141, Expanded Interconnection with Local Telephone Company Facilities) on behalf of Bell Atlantic, "Effects of Competitive Entry in the U.S. Interstate Toll Markets." August 6, 1991.

342. Federal Communications Commission (Docket 91-141, Expanded Interconnection with Local Telephone Company Facilities) on behalf of Southwestern Bell, "Economic Effects of the FCC's Tentative Proposal for Interstate Access Transport Services." Filed September 20, 1991.

1992

343. Federal Communications Commission, (Pacific Bell Tariff F.C.C. No. 128, Transmittal No. 1579) on behalf of Pacific Bell, "The Treatment of FAS 106 Accounting Changes Under FCC Price Cap Regulation," (with T.J. Tardiff). Filed April 15, 1992. Reply comments filed July 31, 1992.

344. Federal Communications Commission, (CC Docket 92-141, In the Matter of 1992 Annual Access Tariff Filings) on behalf of Bell Atlantic, "Effects of Competitive Entry in the U.S. Interstate Toll Markets: An Update," filed July 10, 1992.

345. Federal Communications Commission (ET Docket 92-100) on behalf of BellSouth Corporation, "Assigning PCS Spectrum: An Economic Analysis of Eligibility Requirements and Licensing Mechanisms," (with Richard Schmalensee). Filed November 9, 1992.

1993

346. Federal Communications Commission (Petition for Declaratory Ruling and Related Waivers to Establish a New Regulatory Model for the Ameritech Region) on behalf of Ameritech: "Price Cap Regulation and Enhanced Competition for Interstate Access Services," filed April 16, 1993, Reply Comments, July 12, 1993.

347. Federal Communications Commission (Amendment of Part 90 of the Commission's Rules to Adopt Regulations for Automatic Vehicle Monitoring Systems) PR Docket No. 93-61 on behalf of PacTel Teletrac, "The Economics of Co-Channel Separation for Wideband Pulse Ranging Location Monitoring Systems," (with R. Schmalensee). Filed June 29, 1993.

348. Federal Communications Commission (In the Matter of Policy and Rules Concerning Rates

for Competitive Common Carrier Services and Facilities Authorization Therefor) on behalf of four Regional Bell Holding Companies, Affidavit "Interstate Long Distance Competition and AT&T's Motion for Reclassification as a Nondominant Carrier," filed November 12, 1993, (with A.E. Kahn).

1994

349. Federal Communications Commission (CC Docket 94-1) on behalf of the United States Telephone Association: "Economic Performance of the LEC Price Cap Plan," filed as Attachment 5 to the United States Telephone Association Comments, May 9, 1994, "Economic Performance of the LEC Price Cap Plan: Reply Comments," filed as Attachment 4 to the United States Telephone Association Reply Comments, June 29, 1994.

350. Federal Communications Commission (CC Docket 94-1) on behalf of the United States Telephone Association: "Comments on the USTA Pricing Flexibility Proposal," filed as Attachment 4 to the United States Telephone Association Comments, May 9, 1994, "Reply Comments: Market Analysis and Pricing Flexibility for Interstate Access Services," filed as Attachment 3 to the United States Telephone Association Reply Comments, June 29, 1994 (with Richard Schmalensee).

351. Federal Communications Commission (File Nos. W-P-C 6912 and 6966) on behalf of Bell Atlantic Corporation, affidavit supporting Section 214 applications to provide video dialtone services, August 5, 1994.

352. Federal Communications Commission (File Nos. W-P-C 6982 and 6983) on behalf of NYNEX: affidavit supporting Section 214 applications to provide video dialtone services in Massachusetts and Rhode Island, September 21, 1994.

1995

353. Federal Communications Commission on behalf of Bell Atlantic Corporation, affidavit examining cost support for Asymmetric Digital Subscriber Loop (ADSL) video dialtone market trial. Filed February 21, 1995.

354. Federal Communications Commission on behalf of Bell Atlantic Corporation, affidavit examining cost support for Bell Atlantic's video dialtone tariff. Filed March 6, 1995.

355. Federal Communications Commission on behalf of the United States Telephone Association, study entitled "Competition in the Interstate Long-Distance Markets: Recent Evidence from AT&T Price Changes," *ex parte* filing in CC Docket No. 94-1, March 16, 1995.

356. Federal Communications Commission (CC Docket No. 79-252) on behalf of Bell Atlantic, BellSouth, SBC, and Pacific Telesis, "An Analysis of the State of Competition in Long-Distance Telephone Markets," study attached to *ex parte* comments examining the competitiveness of interstate long-distance telephone markets, (with J. Douglas Zona), April 1995.

357. Federal Communications Commission (File Nos. W-P-C 7074) on behalf of Southern New England Telephone Company, affidavit supporting Section 214 applications to provide video dialtone services, July 6, 1995.

358. Federal Communications Commission (CC Docket No. 95-145) on behalf of Bell Atlantic Corporation, affidavit examining economic issues raised in the investigation of Bell Atlantic's video dialtone tariff. Filed October 26, 1995. Supplemental Affidavit filed December 21, 1995.

359. Federal Communications Commission (CC Docket No. 94-1) on behalf of the United States Telephone Association, "Economic Evaluation of Selected Issues from the Fourth Further Notice of Proposed Rulemaking in the LEC Price Cap Performance Review," Attachment C to the United States Telephone Association "Comments," filed December 18, 1995 (with T. Tardiff and C. Zarkadas). Reply Comments filed March 1, 1996.

1996

360. Federal Communications Commission (CC Docket No. 95-185) on behalf of NYNEX, "Affidavit Concerning Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers," filed March 4, 1996.

361. Federal Communications Commission (CC Docket No. 96-45) on behalf of BellSouth Corporation, "Comments on Universal Service," (with Kenneth Gordon) , analysis of proposed rules to implement the universal service requirements of the Telecommunications Act of 1996, filed April 12, 1996.

362. Federal Communications Commission (CC Docket No. 96-46), on behalf of Bell Atlantic, BellSouth, GTE, Lincoln, Pacific Bell and SBC Communications, Inc., ex parte affidavit on costing principles and cross-subsidization in broadband, joint-use networks, April 26, 1996.

363. Federal Communications Commission (CC Docket No. 96-98) videotaped presentation on economic costs for interconnection, FCC Economic Open Forum, May 20, 1996.

364. Federal Communications Commission (CC Docket No. 96-112), on behalf of the Southern New England Telephone Company: cost allocation between telephony and broadband services, Affidavit filed May 31, 1996.

365. Federal Communications Commission (CC Docket No. 96-112), on behalf of Bell Atlantic: reply comments concerning cost allocations between telephony and broadband services, Affidavit filed June 12, 1996.

366. Federal Communications Commission (CC Docket No. 96-46), on behalf of Bell Atlantic, BellSouth, GTE, Lincoln, Pacific and SBC, Declaration concerning the use of efficient component pricing in open video systems. Filed July 5, 1996.

367. Federal Communications Commission (CC Docket No. 96-98), on behalf of the United States Telephone Association, Affidavit concerning technical qualities of the Staff Industry Demand and Supply Simulation Model. Filed July 8, 1996; *ex parte* letters filed July 22, 1996 and July 23, 1996.

368. Federal Communications Commission (CC Docket No. 96-45), on behalf of BellSouth Corporation, comments concerning the use of proxy cost models for measuring the cost of universal service. Filed August 9, 1996 (with Aniruddha Banerjee).

369. Federal Communications Commission (CC Docket No. 96-149), on behalf of Bell Atlantic, Affidavit concerning safeguards for in-region supply of interexchange services by local exchange carriers. Filed August 15, 1996.

370. Federal Communications Commission (CC Docket No. 96-45), on behalf of the United States Telephone Association, "Not the Real McCoy: A Compendium of Problems with the Hatfield Model." Filed October 15, 1996

371. Federal Communications Commission (Tracking No. 96-0221) on behalf of NYNEX and Bell Atlantic, affidavit concerning the competitive effects of the proposed NYNEX-Bell Atlantic merger. Filed October 23, 1996 (with Richard Schmalensee).

372. Affidavit to the Federal Communications Commission, on behalf of SBC Communications, Inc., (Docket No. 96-149), regarding Commission's proposed rules and their impact on joint marketing. Filed November 14, 1996 (with Paul B. Vasington).

1997

373. Federal-State Joint Board on Universal Service, on behalf of the United States Telephone Association, *Remarks on Proxy Cost Models*, CC Docket No. 96-45 (videotape filed in docket).

Filed January 14, 1997.

374. Federal Communications Commission, on behalf of Bell Atlantic: "An Analysis of Conceptual Issues Regarding Proxy Cost Models", a response to FCC Staff Report on issues regarding Proxy Cost Models. Filed February 13, 1997.

375. Federal Communications Commission (CC Docket No. 96-262 et. al.), statement on behalf of United States Telephone Association, "Economic Aspects of Access Reform." Filed on January 29, 1997 (with Richard Schmalensee). Rebuttal filed on February 14, 1997.

376. Federal Communications Commission (CC Docket 96-262 et al.), on behalf of USTA: a report entitled, "An Analysis of the Welfare Effects of Long Distance Market Entry by an Integrated Access and Long Distance Provider", *ex parte* filed March 7, 1997 (with Richard Schmalensee, Doug Zona and Paul Hinton).

377. Federal Communications Commission (CC Docket 96-262 et al.), on behalf of the United States Telephone Association: a report entitled, "An Update of the FCC Short-Term Productivity Study (1985-1995)", *ex parte* filed March 1997.

378. Federal Communications Commission (CC Docket No. 96-149), on behalf of Bell Atlantic, BellSouth, NYNEX, Pacific Bell and SBC: affidavit concerning economic issues raised by the BOC supply of interLATA services to an affiliate. Filed April 17, 1997.

379. Federal Communications Commission (CC Docket Nos. 93-193, Phase 1, Part 2, 94-65), on behalf of Bell Atlantic: affidavit concerning allocation of earnings sharing and refunds in the local exchange carrier price cap plan. Filed May 19, 1997.

380. Federal Communications Commission (File No. SCL-97-003), on behalf of ATU Long Distance: affidavit concerning the economic effects of classifying a proposed undersea cable between Alaska and the lower 48 states as a private carrier. Filed December 8, 1997.

381. Federal Communications Commission (CC Docket No. 80-286), on behalf of Bell Atlantic: affidavit concerning proposed reforms of jurisdictional separations. Filed December 10, 1997.

1998

382. Federal Communications Commission (*ex parte* CC Docket No. 96-262 et. al.), "The Need for Carrier Access Pricing Flexibility in Light of Recent Marketplace Developments: A Primer," research paper prepared on behalf of United States Telephone Association. Filed on January 21, 1998 (with Richard Schmalensee).

383. Federal Communications Commission, *In the Matter of Applications of WorldCom, Inc. and MCI Communications Corporation for Transfer of Control of MCI Communications Corporation to WorldCom, Inc.* (CC Docket No. 97-211), affidavit on behalf of GTE Corporation analyzing the likely economic effects of the proposed acquisition of MCI by WorldCom, (with R. Schmalensee), March 13, 1998, reply affidavit filed May 26, 1998.

384. Federal Communications Commission, *In the Matter of Customer Impact of New Access Charges* (CC Docket Nos. 96-262 and 96-45), affidavit on behalf of the United States Telephone Association analyzing long distance price reductions stemming from recent access charge reductions. Filed March 18, 1998.

385. Federal Communications Commission, *In the Matter of MCI Telecommunications Corp. Petition for Prescription of Tariffs Implementing Access Charge Reform* (CCB/CPD 98-12), affidavit on behalf of Bell Atlantic analyzing economic issues in MCI's petition for changes in the level and structure of interstate access charges. Filed March 18, 1998.

386. Federal Communications Commission, Merger of SBC Communications Inc. and Ameritech

Corporation, comments on behalf of SBC and Ameritech analyzing the likely effects of the proposed merger on competition. (with R. Schmalensee) Filed July 21, 1998, reply affidavit filed November 11, 1998.

387. Federal Communications Commission. *In the Matter of United States Telephone Association Petition for Rulemaking—1998 Biennial Regulatory Review*, "Economic Standards for the Biennial Review of Interstate Telecommunications Regulation," economic rationale for regulatory simplification, Attachment to the Petition for Rulemaking of the United States Telephone Association, filed September 30, 1998 (with Robert W. Hahn).

388. Federal Communications Commission. (CC Docket No. 96-262), "Assessment of AT&T's Study of Access Charge Pass-Through," study of long distance pricing, filed *ex parte* on behalf of the United States Telephone Association, October 22, 1998 (with P.S. Brandon)

389. Federal Communications Commission. (CC Docket No. 96-262), "AT&T, MCI, and Sprint Failed to Pass Through the 1998 Interstate Access Charge Reductions to Consumers," study of long distance pricing, filed *ex parte* on behalf of the United States Telephone Association, October 16, 1998 (with P.S. Brandon)

390. Federal Communications Commission. (CC Docket No. 98-137), Affidavit on behalf of the United States Telephone Association, Review of Depreciation Requirements for Incumbent Local Exchange Carriers, November 23, 1998. (with A. Banerjee).

391. Federal Communications Commission. (CC Docket Nos. 96-262, 94-1, 97-250 and RM 9210), "Access Reform Again: Market-Based Regulation, Pricing Flexibility and the Universal Service Fund," Attachment A to the Comments of the United States Telephone Association, filed October 26, 1998; "Productivity and Pricing Flexibility: Reply Comments," Attachment A to the Reply Comments of the United States Telephone Association, filed November 9, 1998.

1999

392. Federal Communications Commission (Docket No. 99-24), affidavit on behalf of Bell Atlantic: economic requirements for regulatory forbearance for special access services. Filed January 20, 1999 (with Karl McDermott). Reply affidavit responding to claims that Bell Atlantic retains market power in the provision of special access filed April 8, 1999.

393. Federal Communications Commission. *In the Matter of Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act to Provide In-Region, InterLATA Service in the State of New York* (CC Docket No. 99-295). Declaration on behalf of Bell Atlantic analyzing public interest issues in connection with Bell Atlantic long distance entry in New York. Filed September 29, 1999.

394. Federal Communications Commission (Docket No. 96-262), on behalf of United States Telephone Association, comments regarding rate structures for the local switching service category of the traffic-sensitive basket and common line basket, filed October 29, 1999. Reply comments filed November 29, 1999.

395. Federal Communications Commission (Docket No. 99-68), "An Economic and Policy Analysis of Efficient Intercarrier Compensation Mechanisms for Internet-Bound Traffic," on behalf of U S WEST Communications, ex parte analysis of intercarrier compensation plans for ISP-bound traffic, November 12, 1999 (with A. Banerjee and A. Ros). Reply Comments: "Efficient Inter-Carrier Compensation for Internet-Bound Traffic." (with A. Banerjee), October 23, 2000.

2000

396. Federal Communications Commission (Docket Nos. 94-1, 96-26), comments on behalf of

the United States Telecom Association regarding the proposed represcription of the productivity offset in the FCC's price cap plan, January 7, 2000. Reply comments filed January 24, 2000, Ex parte presentation filed May 5, 2000.

397. Federal Communications Commission, *In the Matter of Reciprocal Compensation for CMRS Providers* (CC Docket Nos. 96-98, 95-185, WT Docket No. 97-207), "Reciprocal Compensation for CMRS Providers," on behalf of United States Telecom Association, reply comments regarding interconnection with CMRS providers, June 13, 2000 (with Charles Jackson).

398. Federal Communications Commission, *In the Matter the Remand of the Commission's Reciprocal Compensation Declaratory Ruling by the U.S. Court of Appeals for the D.C. Circuit* (CC Docket Nos. 96-98, 99-68), on behalf of Verizon, declaration regarding intercarrier compensation for Internet-bound traffic, filed July 21, 2000. Reply declaration filed August 4, 2000.

399. Federal Communications Commission, *In the Matter of Application by Verizon New England Inc., et. al. for Authorization to Provide In-Region, InterLATA Services in Massachusetts*, on behalf of Verizon New England, Appendix A, declaration regarding competition in Massachusetts and the public interest benefits of interLATA entry, September 19, 2000, Reply Declaration filed November 3, 2000. Supplemental Reply Declaration filed February 28, 2001.

2001

400. Federal Communications Commission, *In the Matter of Application by Verizon New England Inc., et. al. for Authorization to Provide In-Region, InterLATA Services in Connecticut*, on behalf of Verizon New England, Appendix A, declaration regarding competition in Connecticut and the public interest benefits of interLATA entry, May 24, 2001.

401. Federal Communications Commission, *In the Matter of Application by Verizon Pennsylvania Inc., et. al. for Authorization to Provide In-Region, InterLATA Services in Pennsylvania*, on behalf of Verizon Pennsylvania, Appendix A, declaration regarding competition in Pennsylvania and the public interest benefits of interLATA entry, June 21, 2001.

402. Federal Communications Commission (CC Docket No. 01-92), on behalf of BellSouth Corporation: Reply Declaration (with Aniruddha Banerjee) on a unified regime of inter-carrier compensation (calling party's network pays or bill and keep?). Filed November 5, 2001.

403. Federal Communications Commission (CC Docket No. 01-277), on behalf of BellSouth Corporation: Reply Affidavit on BellSouth's application for interLATA authority in Georgia and Louisiana. Filed November 13, 2001.

2002

404. Federal Communications Commission (CC Docket Nos. 99-273, 92-105, 92-237), on behalf of BellSouth Corporation, Qwest Communications International, Inc., SBC Communications, Inc., and Verizon Telephone Companies: Affidavit: "Competition and Regulation for Directory Assistance Services" (with Harold Ware) regarding incremental costs and benefits from 411 presubscription. Filed April 1, 2002.

405. Federal Communications Commission (CC Docket Nos. 01-338, 96-98, 98-47), on behalf of BellSouth Corporation: Reply Declaration (with Aniruddha Banerjee, Charles Zarkadas and Agustin Ros) regarding unbundling obligations of local exchange carriers. Filed July 17, 2002.

406. Federal Communications Commission (RM No. 10593) on behalf of BellSouth Corporation, Qwest Corporation, SBC Communications, Inc., and Verizon, regarding pricing flexibility for interstate special access services (with A.E. Kahn), filed December 2, 2002.

2003

407. Federal Communications Commission (WC Docket No. 03-173) on behalf of BellSouth Corporation, , comments regarding economic costs of unbundled network elements, filed December 16, 2003 (with A. Banerjee and H. Ware).

3. Mexico

408. Mexican Secretariat of Communications and Transport on behalf of Southwestern Bell International Holdings Corporation, affidavit on interconnection regulation (with T.J. Tardiff). Filed October 18, 1995.
409. Comisión Federal de Telecomunicaciones de México ("Cofetel"), "Economic Parameter Values in the Telmex Price Cap Plan," arbitrator's report on behalf of COFETEL and Telmex regarding the renewal of the price cap plan for Telmex, February 15, 1999.
410. Comisión Federal de Telecomunicaciones de México, on behalf of the Commission, "Telmex's 2003-2006 Price Cap Tariff Proposal," expert report regarding the renewal of the price cap plan for Telmex, (with A. Ros, G. Martinez and A. Banerjee), filed December 13, 2002.

4. New Zealand

411. Commerce Commission of New Zealand on behalf of New Zealand Telecom, "Review of CostQuest Associates' Benchmarking Survey" En banc hearings May 13-17, 2002.
412. Commerce Commission of New Zealand on behalf of New Zealand Telecom, "The Wholesale Discount" En banc hearings February 10, 2003

5. United States Department of Justice

413. Affidavit to the U.S. Department of Justice on behalf of NYNEX in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, regarding provision of telecommunications services across LATA boundaries for traffic originating or terminating in New York State. Filed August 25, 1994.
414. Affidavit to the U.S. Department of Justice on behalf of SBC Communications Inc. in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, regarding Telefonos de Mexico's (Telmex's) provision of interexchange telecommunications services within the United States. Filed May 22, 1995.
415. Affidavit to the U.S. Department of Justice on behalf of SBC Communications Inc. in *United States of America v. Western Electric Company, Inc. and American Telephone and Telegraph Company*, regarding provision of interexchange telecommunications services to customers with independent access to interexchange carriers. Filed May 30, 1995.

6. United States Senate

416. Subcommittee on Communications of the Senate Committee on Commerce, Science and

Transportation, *Statement* and oral testimony regarding long distance competition and Section 271 of the Telecommunications Act of 1996. Filed March 25, 1998.

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