VERIZON PENNSYLVANIA INC. AND VERIZON NORTH INC.
STATEMENT NO. 1.1

8/25/03 Hbg FX

AT&T COMMUNICATIONS OF PENNSYLVANIA, INC.

V.

VERIZON NORTH INC.

DOCKET NO. C-20027195

VERIZON PENNSYLVANIA INC.

STATEMENT NO. 1.1

(SURREBUTTAL TESTIMONY)

WITNESSES: Debra M. Berry
Michael J. Wirl

DATED: August 4, 2003

EXPURGATED VERSION

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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 Debra M. Berry and Michael J. Wirl. This testimony is submitted on behalf of Verizon Pennsylvania Inc. ("Verizon PA") and Verizon North Inc. ("Verizon North") (collectively "Verizon").

Q. ARE YOU THE SAME DEBRA M. BERRY AND MICHAEL J. WIRL WHO FILED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of our testimony is to respond to portions of the July 18, 2003 Rebuttal Testimony submitted by the following witnesses: Mr. Robert J. Kirchberger, E. Christopher Nurse, and Dr. Ola A. Oyefusi on behalf of AT&T Communications of Pennsylvania ("AT&T"); Dr. Michael D. Pelcovits on behalf of MCI WorldCom Network Services, Inc. ("MCI"); Scott A. McInytre on behalf of Qwest Communications Corporation ("Qwest"); William Dunkel on behalf of the Pennsylvania Office of Consumer Advocate ("OCA"); Allen G. Buckalew on behalf of the Office of Small Business Advocate ("OSBA"); and Joseph Kubas on behalf of the Office of Trial Staff ("OTS").

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. Our surrebuttal testimony clarifies the mischaracterizations of Verizon's original filing given by other parties; presents a compromise proposal agreed upon by Verizon and the

OCA in this case (the "OCA/Verizon *Joint Proposal*"); explains how the OCA/Verizon Joint Proposal achieves the Commission's goals and comports with past Commission actions and decisions; explains why access rates should continue to be priced at market levels; and supports the need for revenue neutral recovery via rate adjustments to basic rates.

Q. PLEASE INDICATE THE SECTIONS OF THE TESTIMONY FOR WHICH EACH WITNESS IS PRIMARILY RESPONSIBLE.

A. Mr. Wirl is primarily responsible for addressing the mischaracterizations of Verizon's proposal and supporting access pricing. Mrs. Berry is primarily responsible for explaining the OCA/Verizon Joint Proposal, explaining requirements for pricing of access compared to other services, and supporting the need for revenue neutral recovery of access revenues.

II. VERIZON'S ORIGINAL FILING PROVIDED A FLEXIBLE FRAMEWORK WITHIN WHICH ACCESS CHANGES COULD BE MADE

Q. PLEASE SUMMARIZE THE TESTIMONY SUBMITTED BY THE OTHER PARTIES CONCERNING THEIR PROPOSALS FOR VERIZON'S INTRASTATE SWITCHED ACCESS RATES.

A. The other parties in this docket can be characterized generally as the IXC group and the advocate group. The proposals put forth by each group tend to conflict with the other. Specifically, the IXC group -- AT&T, MCI and Qwest -- is concerned primarily with reducing access rates that they pay to Verizon as much as possible. The advocate group -- OCA, OSBA and OTS -- is concerned primarily with avoiding increases to local rates and therefore they basically propose little or no reduction to Verizon's access rates. The two

groups' proposals represent opposite ends of the range of options on how Verizon can comply with its merger requirement to achieve access rate parity for Verizon PA and Verizon North. While Verizon's original proposal, which was modeled on the RTCC/Sprint Settlement recently approved by the Commission, is flexible enough to encompass virtually this entire range of options, the OCA/Verizon Joint Proposal represents a moderate approach to implementing the framework contained in Verizon's filing. The OCA/Verizon Joint Proposal will result in some access rate decreases for the IXCs, with only minimal rate increases for basic residence customers. The OCA/Verizon Joint Proposal is described in more detail later in this testimony.

Intrastate switched access rates fall into two broad categories: the Carrier Charge (CC) rate and Traffic Sensitive (TS) rates. AT&T, MCI and Qwest all propose the complete elimination of the CC rate, while the advocates' testimony is unanimously opposed to that idea. The advocates' proposals would result in a CC rate ranging from $1.16 to $1.20 per line per month, which approximates the rate derived by consolidating the current CC rates of Verizon PA and Verizon North on a revenue neutral basis with little to no reduction in overall revenue for the CC. With regard to TS rates, AT&T and Qwest argue that those rates should be reduced to interstate levels, MCI argues for reductions in TS rates to TELRIC levels (the methodology used under federal law for calculating rates for unbundled network elements based on hypothetical costs), and the advocates suggest virtually no reduction of TS rates at all -- just a consolidation of current rates.

After the other parties' testimony was filed, Verizon reached agreement with OCA. As described below, the resulting OCA/Verizon Joint Proposal falls in the middle of the two extremes described above, and provides for a reduction in the CC to $0.63, with a revenue-neutral set of melded TS rates.

Q. DID VERIZON'S ORIGINAL FILING REQUIRE A SPECIFIC AMOUNT OF ACCESS DECREASES?

A. No. Like the recently approved RTCC/Sprint Settlement[1] on which it was modeled, Verizon's original filing presented a framework under which the Commission could align the access rates of the two Verizon companies and make them uniform and then choose from a range of options for access reductions, from no revenue reduction at all to eliminating the CCs of both companies altogether. The essential aspect of the proposal was that whatever reductions the Commission determined were appropriate would be offset with revenue-neutral basic rate increases. Verizon's plan allowed for the increases to be placed on residential rates, or for some of the increase to be placed on business rates.

Some of the parties confusingly presented the Verizon filing as if Verizon were making specific rate proposals when instead, Verizon's proposal, like the RTCC Settlement recently approved by the Commission, provided options, or steps, from which the Commission could choose. Verizon also presented data on the revenue impact of those options and provided two examples of phased-in increases to weighted average basic

[1] Order entered July 15, 2003 in Docket No. M-00021596.

residential rates that would need to offset, in a revenue neutral manner, the reductions in access charges.[2]

The first step of Verizon's original proposal would allow the two Verizon companies to align their access rate structures without reducing the overall revenues from access. This proposed rate restructure was based predominantly on Verizon PA's current intrastate rate structure, which is much more similar to the interstate access charge structure than Verizon North's current rates. Concurrent with this alignment, Verizon proposed to include aspects of the recent interstate access reform (e.g. trunk ports) that are not yet reflected in Verizon PA's intrastate rate structure. This step, which would necessitate no overall reduction in revenue,[3] is the minimum necessary to achieve statewide access rates, as required in the *Merger Order*.

If the Commission were to choose to go further, then the second step in Verizon's initial proposal allowed for access rate reductions, accomplished on a revenue neutral basis through offsetting increases to basic end user rates.[4] Like the RTCC settlement upon which it was modeled, the Verizon proposal provides for substantial flexibility in how, and how much, access rates could be reduced. Verizon provided two examples of scenarios the

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2 See Berry/Wirl Direct Testimony for a complete description of Verizon's original proposal.

3 The addition of new Trunk Port rate elements to Verizon PA's rates will increase overall revenue slightly, but this increase can be off-set by other decreases, either in the carrier charge or through a revenue neutral decrease in other traffic sensitive rates (as Verizon and the OCA have agreed).

4 It is an absolute condition of Verizon's agreement to such reductions that they be offset by revenue neutral rate increases, spread over the two-company base of customers. Verizon would oppose access reductions on any basis other than the revenue neutral basis proposed.

Commission could choose: 1) reduce Verizon North's rates to the current level of Verizon PA's rates (leaving both companies with the $0.63 carrier charge currently applicable to Verizon PA, or 2) further reduce both companies' rates by entirely eliminating the carrier charge. The basic components of the proposal and the two examples were depicted in Exhibits MJW-1 through MJW-4 to our Direct Testimony. The OCA/Verizon Joint Proposal is a modified version of Verizon's Option 1, as described in Exhibit DMB-1 to this testimony.

Q. MR. KUBAS (AT PAGES 2, 8 AND 9) CHARACTERIZES VERIZON'S PROPOSAL AS ELIMINATING THE CARRIER CHARGE ALTOGETHER AND RAISING RESIDENTIAL BASIC RATES BY $1.90. IS THIS AN ACCURATE CHARACTERIZATION OF VERIZON'S PROPOSAL?

A. No. As described above, Verizon's filing was flexible regarding how and by how much access charges would be reduced and rates increased. What Mr. Kubas describes is Option 2, described above, which was provided by Verizon to illustrate of one of the extreme ends of the spectrum – the maximum access decrease with all of the offset placed on residential rates. In fact, this is the scenario AT&T prefers in its testimony. However, the OCA/Verizon Joint Proposal allows for a smaller access decrease and for some of the revenue neutral offsets to be placed on business rates.[5]

[5] In connection with the OCA/Verizon Joint Proposal, Verizon removes the following phrases from its original filing (Attachment A to Verizon's Petition, Elements of Proposal, (2)(e) and (3)(e)) – "by up to the same amount on a dollar basis that its weighted average R-1 rate is increased."

III. THE OCA/VERIZON JOINT PROPOSAL FOR SETTLEMENT OF THIS PROCEEDING PROVIDES A REASONABLE COMPROMISE THAT ACHIEVES THE COMMISSION'S GOALS AND COMPORTS WITH PAST COMMISSION ACTIONS AND DECISIONS.

Q. YOU STATE THAT OCA AND VERIZON HAVE DEVELOPED A JOINT SETTLEMENT PROPOSAL TO RESOLVE THE ISSUES IN THIS PROCEEDING. CAN YOU PLEASE DESCRIBE THAT PROPOSAL IN FULL?

A. Yes. Verizon and OCA have developed a specific proposal, the terms of which are attached as Exhibit DMB-1 to this testimony. This Joint Proposal represents a compromise on behalf of both parties and represents a level of access reductions and revenue neutral increases in the mid-range of the options permissible under Verizon's filing, as illustrated by the examples provided with our direct testimony. The Joint Proposal by Verizon and OCA provides that Verizon's overall average TS rate would equal the consolidated rate of the current TS rates of the two Verizon companies. The CC rate will be reduced to the level of Verizon PA current TS rate of $0.63, a reduction of more than 50% from the current consolidated rate, resulting in a total revenue decrease of approximately [BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]. Regarding the revenue neutral offsets, the Joint Proposal specifies that no more than $40 million of the access revenue reduction will be recovered through increases to residential basic local service rates on a combined Verizon PA and Verizon North basis, and that any such increases will not exceed $1.00 per residential line. Although not included in the Joint Proposal, Verizon would also propose that the remainder of the access reduction (that is, the amount above $40 million) would be recovered through increases to business local service

rates, again on a combined Verizon PA and Verizon North basis. Verizon and OCA have agreed that no rate changes would occur before January 1, 2004.

Q. HOW DO THE RESULTANT END USER RATE IMPACTS COMPARE TO THE MANNER IN WHICH THE RTCC COMPANIES PLAN TO IMPLEMENT THEIR RECENTLY APPROVED ACCESS REFORM SETTLEMENT?

A. As depicted on RTCC Proprietary Exhibit DMB-2, the total rate increases on residential lines that the RTCC companies plan to impose under their approved Settlement (which was *either agreed to or not opposed by all of the parties to this case*) range as high as [BEGIN RTCC PROPRIETARY] [END RTCC PROPRIETARY]. The resulting weighted average R-1 rates range as high as $18.00. Verizon's proposed increase of less than $1 to its residential rates, resulting in weighted average R-1 rates for Verizon of less than approximately $14.31 is extremely modest in comparison.[6] Additionally, most of the RTCC companies plan some increase to business rates as well, ranging as high as [BEGIN RTCC PROPRIETARY] [END RTCC PROPRIETARY]

> As the Commission stated in its Order approving the RTCC/Sprint Settlement:
>
> At this juncture, the Commission is persuaded that the proposed access charge reductions are in the public's interest and in accordance with the Commission's objective to reduce implicit subsidy charges such as access charges that impede

[6] As Verizon noted in response to discovery, an updated calculation for Verizon North indicates that its statewide average R-1 rate calculated under the methodology used by the parties to the RTCC settlement is now $12.55. This likely reflects the impact of the $5 million rate reduction implemented as a merger condition, which may not have been fully reflected in the earlier data. Verizon PA's updated average R-1 rate is now $13.31.

competition in the telecommunications market. As implicit charges become explicit charges, competitors are better able to compete for local and long distance customers in an ILEC's service territory because IXCs are not hindered by paying ILECs excessive access charges in providing competitive toll services and CLECs are better able to compete with ILEC local service rates that have been kept artificially low as a result of the access charge subsidies. Thus, although our approval of the Joint Proposal will allow the rural ILECs and Sprint/United to raise their local residential monthly service rates up to a cap of $18.00 per month, ($2.00 more than the current $16.00 cap), this increase is incremental so as to avoid customer rate shock, and, at the same time, encourages the IXCs, CLECs and wireless telecommunications carriers to compete on a more level playing field with the ILECs.[7]

This same reasoning applied to Verizon's original proposal and to the particular reductions and revenue-neutral increases proposed in the OCA/Verizon Joint Proposal.

Q. HOW WOULD THE RESULTANT END USER RATE IMPACT COMPARE WITH OTHER RATE REBALANCING FILINGS APPROVED BY THE COMMISSION OTHER THAN THE RECENT RTCC/SPRINT SETTLEMENT?

A. The Agreement's limit of $1.00 on any increases to basic residential service is *lower* than all other Chapter 30 rate rebalancing increases approved by the Commission for other ILECs during the past six years, in some cases more than 50% less. As depicted in the following table, the Commission has approved rate rebalancing plans with substantial increases to residential rates, all of which were used in whole or in part to offset access reductions. All of these companies have been allowed to raise their rates further as a result of the approval of the RTCC Settlement, as depicted in Exhibit DMB-2:

[7] RTCC Order at 10.

DMB Table 1

Company and Docket	Date	Monthly Per Line R-1 and B-1 Increases Approved	Used to Offset Access Reductions
CTCo R-00974128	April 8, 1998	$2.45 residential $2.45 business	Yes – over 50%
Bentleyville R-00974174	April 9, 1998	$3.77 residential $3.75 business	Yes, in part
Marianna & Scenery Hill R-00974228	March 26, 1998	$1.05 residential $1.05 business	No
North Pittsburgh R-0016681	November 30, 2001	$2.50 residential $1.00 business	Yes, 100%
D&E R-0016682	November 30, 2001	$2.50 residential $1.00 business	Yes, 100%
Sprint P-00981440	October 24, 2002	$1.57 residential $1.24 business	Yes, 100%
Ironton R-0027382	June 24, 2002	$1.03 residential $1.03 business	Yes, in part
D&E R-00027258	June 24, 2002	$1.50 residential $1.00 business	Yes, 100%
Alltel R-00027231	June 27, 2002	$2.50 residential $1.00 business	Yes, 100%

Q. HOW DOES THE JOINT PROPOSAL MADE BY VERIZON AND OCA COMPORT WITH THE COMMISSION'S DECISIONS ON ACCESS PRICING?

A. The proposal comports with the Commission's recent precedent on access pricing by allowing for a reduction in Verizon North's CC, and moving Verizon North's access rates towards cost, removing implicit subsidies.

The testimony of Mr. Dunkel and others relies on older orders from the Commission, before the advent of local competition, to argue that the Commission does not see a need to move access rates towards costs, and in fact seeks to ensure that IXCs pay a substantial portion of the costs of the local loop through their access costs. This revisionist

history ignores virtually all of the *Commission's* statements about access pricing and rate rebalancing over the past five years. As the Commission recognized in the *Global Order:*

> Access charges provide a significant source of ILEC earnings and contain implicit and explicit subsidies for local rates. This combination of earnings and subsidy was approved pursuant to a public policy of encouraging universally available and relatively affordable telecommunications services while providing earnings sufficient to attract stable investment in a national communications infrastructure. Consequently, public policy over time has resulted in a situation wherein higher cost areas, such as rural areas, with lower density cell rates and longer loop distances, obtain rate support from lower cost areas, such as urban areas with higher density cell rates and shorter loop distances. Access charges provide a source of earnings while keeping basic local service rates lower than might otherwise be the case in high cost areas.[8]

The Commission went on to state its intention to "presumably eliminate all subsidies in the access charge rate structure," and to reduce and possibly eliminate the carrier pool. These findings comport with the thorough examination of the issue of access pricing in ALJ Schnierle's recommended decision in the access reform docket,[9] which the Commission cited approvingly in the *Global Order*.

In keeping with its more recent statements on the pricing of access and local service, the Commission has consistently allowed rate rebalancing that brings the price of access closer to its "cost," while increasing basic local service rates closer to its cost. For example, the Commission noted in its November 2001 order approving North Pittsburgh's Chapter 30 rate rebalancing plan, consisting of access reductions offset by basic rate increases, that "the new competitive market requires telecommunications providers to move their rates

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[8] *Global Order* at 11.

[9] Recommended Decision of ALJ Schnierle dated June 30, 1998 in the *Generic Investigation*

closer to the cost of providing service. The instant filing begins the process of eliminating the subsidization of local exchange rates that has been provided by inflated access rates."[10] In approving a rate increase of $2.50 for residential and $1.00 for business, the Commission found that North Pittsburgh's local exchange rates "will remain well below cost, even after implementation of the proposed increases."[11] As demonstrated by Exhibit DMB-2 to this testimony, as a result of the approved RTCC/Sprint Settlement, North Pittsburgh plans to raise its basic residential and business rates an additional **[BEGIN RTCC PROPRIETARY]**. **[END RTCC PROPRIETARY]**. It is also interesting to note that North Pittsburgh's weighted average R-1 rate before the RTCC/Sprint Settlement is $12.51, as compared to Verizon North's current $12.55. North Pittsburgh's NECA loop cost is $21.69 (Dunkel WDA-4), as compared to Verizon North's $20.27. Yet, as a result of the RTCC/Sprint Settlement OCA and OTS have agreed to allow North Pittsburgh to raise its rates by **[BEGIN RTCC PROPRIETARY]** **[END RTCC PROPRIETARY]**.

In approving Denver & Ephrata's Chapter 30 revenue neutral rate rebalancing in which basic local residential rates were raised by $2.50 and business rates by $1.00 to offset access reductions, the Commission noted that:

> D&E is taking steps under its Network Modernization Plan to enhance its network and to provide advanced services to its customers. Part of the quid pro quo under

(..continued)

of Intrastate Access Charge Reform, Docket No. I-00960066.

[10] *PUC v. North Pittsburgh Telephone Company*, R-00016681 (Opinion and Order entered November 30, 2002) at 7.

[11] Id. at 8.

Chapter 30 in exchange for this network modernization commitment is the ability to adjust its rates in the manner proposed in this filing. Adjustments such as these are necessary to ensure that D&E can maintain the financial viability to continue with network modernization while also facing competitive entry. This filing balances the goals of Chapter 30, consistent with the public interest.[12]

The Commission also noted that "D&E's studies demonstrate that their local service rates will remain well below cost" even after the $2.50 increase. As demonstrated in my exhibit DMB-2, D&E's weighted average R-1 rate is currently **[BEGIN RTCC PROPRIETARY] [END RTCC PROPRIETARY]** and after the Commission-approved RTCC/Sprint Settlement is implemented, D&E will be raising its R-1 rates by **[BEGIN RTCC PROPRIETARY] [END RTCC PROPRIETARY]** D&E's NECA loop cost is $21.68, as compared to Verizon North's $20.27.

Q. OCA AND OTS CONTEND THAT VERIZON'S ORIGINAL PROPOSAL DID NOT MEET THE REQUIREMENTS OF VERIZON'S CHAPTER 30 PLANS (OCA AT 16; OTS AT 17). DO YOU AGREE?

A. No. The rate rebalancing originally proposed by Verizon would be permissible under the Chapter 30 plans of Verizon PA and Verizon North. Further, as noted above, the Commission has approved numerous rate rebalancing plans under Chapter 30.

[12] PUC *v. Denver and Ephrata Telephone & Telegraph Company*, R-00016682 (Opinion and Order entered November 30, 2001) at 7-8. The PUC made a similar statement in connection with approving Alltel's rate rebalancing increasing residential rates by $2.50 and business rated by $1.00. *PUC v. ALLTEL Pennsylvania, Inc.*, R-00027231 (Opinion and Order entered June 24, 2002) at 6.

IV. OTHER PARTIES' ISSUES WITH THE IMPLEMENTATION OF VERIZON'S PROPOSAL EITHER HAVE BEEN, OR WILL BE, ADDRESSED AND RESOLVED.

Q. MESSRS. KIRCHBERGER AND NURSE ARGUE (AT PAGES 7 AND 22-28) THAT VERIZON SHOULD BE MAKING AN ADJUSTMENT TO REDUCE OTHER TRAFFIC SENSITIVE RATES IN ORDER TO ACCOUNT FOR THE REVENUE IT WILL GAIN FROM ADDING THE NEW PORT ELEMENTS TO MIRROR THE INTERSTATE RATE STRUCTURE, IN ORDER TO MAKE THE INITIAL RATE ALIGNMENT AND RESTRUCTURE REVENUE NEUTRAL. DO YOU AGREE?

A. I do agree that the addition of the port rate elements will add revenue of approximately $17,034,753. Verizon contemplated that this revenue addition would be offset by the reduction of the carrier charge. However, if the OCA/Verizon Joint Proposal is accepted, Verizon would be making the revenue reduction to traffic sensitive rates in the manner Messrs. Kirchberger and Nurse recommend. Verizon will subtract the $17 million in additional revenue from the melded traffic sensitive rates, so that there would be no overall increase in traffic sensitive rates from the addition of the new rate elements. As a result of making this change, the $17 million of additional revenue would no longer be offset against the revenue that Verizon must recover in order to bring the carrier charges to $0.63 for both companies, and the revenue reduction from that change in the carrier charge would be increased to [PROPRIETARY]

[PROPRIETARY] depicted in Attachment MJW-3 to my Direct Testimony.

Q. **MESSRS. KIRCHBERGER AND NURSE ASSERT (AT PAGES 8 AND 29-31) THAT INCREASING VERIZON NORTH'S TRAFFIC SENSITIVE RATES WOULD INCREASE VERIZON'S TOTAL ACCESS REVENUE BY $1.75 MILLION. TO WHAT ARE THEY REFERRING AND ARE THEY CORRECT?**

A. They are referring to the fact that in aligning the rate structures of the two companies and adopting uniform rates, Verizon originally proposed to adopt a weighted average local switching rate of $.0088 instead of Verizon PA's rate of $.009 and Verizon North's rate of $.006. Messrs Kirchberger and Nurse complain that Verizon North's local switching rate will be slightly higher. However, they ignore the fact that Verizon North's *overall* access rates will be substantially reduced by reduction or elimination of its carrier charge. Although there would be a slight overall revenue increase from traffic sensitive rates, it is not as large as the $1.75 million they state, and more importantly AT&T and the other IXCs will benefit from a much more substantial decrease to Verizon North's carrier charge.

Q. **MR. KUBAS (AT 4 AND 13-15) CONTENDS THAT VERIZON HAS OVERSTATED THE REVENUE LOSS THAT WOULD BE EXPERIENCED IF VERIZON NORTH'S CARRIER CHARGE WERE ELIMINATED TOTALLY. IS HE CORRECT?**

A. No. Mr. Kubas is apparently confused because Verizon PA's carrier charge of $.63 is calculated in a different manner from Verizon North's. For Verizon PA, the rate itself is reduced to account for the amounts imputed by Verizon PA and to the Interstate Toll Originating Responsibility Plan ("ITORP"), so that the rate figure can be multiplied against

the total demand. As Verizon already explained in response to discovery request OCA Set 3-11, for Verizon North the calculation is done differently but the result of excluding the imputed and ITORP shares is the same. Verizon North's $8.64 is the entire carrier charge. However, Verizon multiplied that rate not by its total demand, but by a reduced demand figure that eliminates the lines where access is imputed to Verizon North and the ITORP lines. When that reduced demand figure is multiplied against the $8.64 rate, the result is only the CC revenue attributable to the IXCs. It does not include revenue attributable to the Verizon North or ITORP shares, as Mr. Kubas claims.

This fact can be confirmed by reviewing Exhibit MJW-1 to our direct testimony. As indicated on line Column F, line 41, the total demand used for Verizon North in the calculation was 6,945,805. The total annual 2002 access lines used in the Carrier Charge calculations were approximately 8.3 million, as calculated below:

Verizon - North
2002 Carrier Charge Cacluation
Total Access Lines Used

January	691,531
February	698,319
March	692,978
April	693,841
May	693,417
June	692,182
July	690,593
August	690,414
September	691,828
October	690,476
November	689,385
December	692,029
Total	8,306,993

Exhibit MJW-1 reflected only 6.9 million access lines, which represents approximately 84% of the total demand, reflecting only the Carrier Charge billed to IXCs during that period.

Q. OCA CONTENDS THAT VERIZON'S INITIAL PROPOSAL WAS NOT CONSISTENT WITH 66 PA. C.S. § 1325. DO YOU HAVE ANY COMMENT?

A. Dr. Taylor responds to this contention in detail. Also of note, the OCA raised a similar argument under 66 Pa. Code § 1325 in opposition to the Bentleyville rate restructuring depicted on Table 1 above. OCA argued that "Bentleyville has failed to provide cost studies pursuant to Section 1325 of the Public Utility Code to justify the proposed increases in basic service costs."[13] The Commission nonetheless approved Bentleyville's proposal as filed.

V. VERIZON'S MONTHLY AVERAGE R-1 RATE IS PROPERLY CALCULATED, CONSISTENT WITH THE RTCC COMPANIES' APPROACH AND THE COMMISSION'S $16.00 RESIDENCE RATE CAP.

Q. OCA WITNESS DUNKEL STATES (AT 19, 44, AND 55) THAT VERIZON'S MONTHLY AVERAGE RESIDENCE (R1) RATE IS $19.64 NOT $13.50. IS HE CORRECT?

A. No. Mr. Dunkel's analysis is inconsistent with the method of calculating the average rate that was employed by the RTCC companies for their Commission-approved proposal. Verizon calculated its monthly average R1 rate of $13.50 for both Verizon PA and Verizon

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13 *PUC v. The Bentleyville Telephone Company*, R-00974174 (Opinion and Order entered April 9, 1998) at 9.

North in the same manner as did the RTCC companies: i.e., residence local revenue from dial tone line (including touchtone) and local usage was divided by residence lines in service. All of the revenue data in the calculation were intrastate data, which is appropriate because the subject of this docket is *intrastate* switched access rates. Revenue neutral offsets to intrastate access rates should come from other intrastate rates. In contrast, Mr. Dunkel's calculation includes an *interstate* rate - - the interstate subscriber line charge or SLC. The RTCC proposal did not include the SLC in their calculations nor does today's $16.00 residence rate cap established by the Commission in its Global Order. (*Global Order* at 201). As noted earlier, updated calculations show Verizon North's weighted average residential rate to be $12.55 and Verizon PA's to be $13.31.

VI. ACCESS SERVICE IS APPROPRIATELY PRICED IN A DIFFERENT MANNER THAN UNES.

Q. AT&T ARGUES THAT SWITCHED ACCESS AND LOCAL INTERCONNECTION SHOULD BE PRICED AT UNE RATES, AND THAT VERIZON AGREES WITH THIS CONCEPT. IS THIS TRUE?

A. No. AT&T'S claim that Verizon agrees with this concept is based on its reading of the testimony of a Bell Atlantic witness in 1996 who agreed that the termination of local and toll calls was identical. That witness went on to aver, however, that the *rates* for local switching and termination should be set at the switched access rate level -- not the local interconnection level.

The difference in approach for switched access versus local interconnection pricing is justified on several grounds. The federal Telecommunications Act of 1996, as interpreted

by the FCC, mandates that local interconnection rates be set at TELRIC costs. There is no such mandate in the Telecom Act for switched access rates. Indeed, on at least three occasions, federal appellate courts have rejected interexchange carrier arguments that access services must be priced at TELRIC costs.[14]

This Commission's past actions regarding access service pricing provide further support for the principle that access service should continue to make a contribution toward joint and common costs of the business. Specifically, the Commission recognized in the *Global Order* that access charges provide implicit and explicit subsidies for local rates that have kept basic local service rates lower than they would be otherwise, particularly in high cost areas. More recently, in its Order approving the RTCC proposal, the Commission expressed its policy to "reduce" implicit subsidies that impede competition (RTCC Order at 10) and take a "step towards making the charges closer to cost." (RTCC Order at 11). Notably, the Commission stopped short, as it should, of specifying that access rates be priced at cost.

Q. DR. PELCOVITS (AT PAGE 13) COMPARES VERIZON'S INTERSTATE SWITCHED ACCESS RATES WITH ITS INTRASTATE RATES. IS HIS CHART ACCURATE?

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14 *Texas Office of Public Utility Counsel v. FCC*, 265 F.3d 313, 324-26 (5th Cir. 2001), *cert. denied*, 535 U.S. 986 (2002); *Southwest Bell Telephone v. FCC*, 153 F.3d 523, 546-49 (8th Cir. 1998); *Competitive Telecom. Ass'n v. FCC*, 117 F.3d 1069 (8th Cir. 1997).

A. No. The rate he depicts for interstate Local Switching is incorrect. Tariff FCC No. 1, Page 6-364 Effective July 1, 2003 indicates that the rate for FG A, B, C, D (the most prevalent) is 0.2431 cents per minute rather than the 0.17085 cents per minute he depicts

VII. THE PROPOSAL FOR RECOVERY OF REVENUE REDUCTIONS VIA INCREASES TO BASIC LOCAL RATES IS CONSISTENT WITH THE COMMISSION'S APPROVAL OF THE RTCC SETTLEMENT AND PRIOR DECISIONS ON REBALANCING.

Q. OCA AND OTS DISAGREE THAT VERIZON'S ACCESS PROPOSAL IS VIRTUALLY IDENTICAL WITH THE RTCC'S ACCESS PROPOSAL. PLEASE COMMENT.

A. OCA and OTS noted the variances in rate levels for access and local service between Verizon's original proposal and that of the RTCC companies; however, both proposals seek to achieve access reform in a very similar manner. Implementation of the RTCC proposal will result in rates that differ by RTCC company, with some differences being quite substantial. Verizon's initial proposal is, in fact, virtually identical to the RTCC proposal.

Q. MR. KUBAS (AT 23) CLAIMS THAT VERIZON'S PROPOSAL IS DIFFERENT FROM THE RTCC/SPRINT SETTLEMENT BECAUSE THE RTCC CARRIERS RAISED BOTH RESIDENTIAL AND BUSINESS RATES. IS THIS A REAL DISTINCTION?

Q. No, it is not. The RTCC/Sprint Settlement leaves the carriers the option to increase residential rates only, or to increase business rates as well. The original Verizon proposal is identical in this regard. Although Verizon provided examples that placed all of the increases on residential rates, this was only to illustrate the maximum potential increase to

residential rates. The Commission should accept the OCA/Verizon Joint Proposal that would result in a portion of the increase being placed on business lines.

Q. OTS CLAIMS (KUBAS AT 17) THAT VERIZON HAS FAILED TO PROVIDE THE JUSTIFICATION REQUIRED IN ITS CHAPTER 30 PLANS FOR INCREASING RESIDENTIAL LOCAL EXCHANGE RATES. DO YOU AGREE?

A. No. To the contrary, Verizon has met the requirements of its Chapter 30 plans. Verizon PA's plan requires "rational reasons" for implementing revenue neutral price changes between market baskets; Verizon North's plan requires cost support for increasing rates on protected services. Verizon has provided both. Specifically, our direct testimony described the history of access charge reductions and revenue neutral offsets in Pennsylvania and at the federal level, and the testimony of Mr. Sanford and Ms. Dean documented the costs of providing the local exchange services in question and demonstrated that neither current rates, nor rates after rebalancing, will cover the cost of those services.[15]

As the Commission recently noted in approving the identical structure of access reductions offset by revenue-neutral basic rate increases for Sprint and the RTCC companies, the proposal "essentially provides for each RTCC company to do what is permitted under their respective Chapter 30 Plans, that is, restructure rates on a revenue-

[15] OTS rejection of the cost study is addressed on page 7 in this testimony and in Dr. Taylor's Surrebuttal testimony.

neutral basis in a manner that does not increase local rates by more than $3.50 per month."[16] The answer is no different under the Verizon Chapter 30 plans.

Q. MCI CLAIMS (PELCOVITS AT 24) THAT VERIZON IS DIFFERENT FROM THE RTCC COMPANIES AND SHOULD NOT BE TREATED THE SAME WITH REGARD TO OFFSETTING ACCESS CHRAGE REDUCTIONS WITH INCREASES IN BASIC LOCAL SERVICE RATES. DO YOU AGREE?

A. No. We disagree with both the logic and the conclusion of Dr. Pelcovits. MCI bases its claim on data from 2001 Annual Reports filed with the Commission showing that intrastate switched access revenues amount to 5.5% of Verizon's PA's total operating revenues, in comparison with 22% to 25% for other Pennsylvania ILECs. This analysis is flawed. First, MCI ignores Verizon North in its analysis. As stated in Verizon's direct testimony, Verizon North is substantially similar to some members of the RTCC whose settlement was agreed to by the advocate parties and approved by the Commission. Verizon North's intrastate switched access revenues comprise 23% of its total revenues, in line with the percentages for the other RTCC ILECs. Since the focus of this proceeding is to make Verizon North's access rates better align with Verizon PA's rates, the similarity of Verizon North with the RTCC ILECs is more relevant than the difference between those carriers and Verizon PA. AT&T's complaint was brought against Verizon North's access rates not Verizon PA's. Verizon PA's rates are, as MCI pointed out, already significantly below those of any other ILECs' rates in Pennsylvania.

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16 RTCC Order at 10.

Second, MCI's testimony reported the access percent-to-total separately for Class A and Class B telephone companies. The data used in MCI's analysis was not available for the majority of Class A telephone companies either because they did not report the data or they marked the data proprietary. So the actual total percent cannot be calculated from the data upon which MCI relied.

Finally, even if we accept the validity of the Verizon PA data, the conclusion reached by MCI is insupportable. MCI asserts that the loss of *all* of Verizon PA's intrastate switched access revenues would have a "very small effect" on the company and it implies that Verizon should be willing to absorb this revenue loss for the benefit of its competitors. Neither Verizon, nor its investors, would judge the loss of 5.5% of Verizon Pennsylvania's total revenues – or 23% of Verizon North's revenues – as having a "small effect" on company profitability. The Commission should not give any credence to MCI's assertions in this regard as they have neither a valid factual basis nor valid economic analysis to support them.[17]

Q. DO THE OTHER IXCS AGREE WITH MCI ON THE ISSUE OF REVENUE NEUTRALITY?

A. No. AT&T and Qwest diverge from MCI on this point. AT&T supports Verizon's position on revenue neutrality, stating that "the rate rebalancing proposal in Verizon's petition, if

[17] Notably, the Morgan Stanley Analysts Report "RLEC's: Defensive Qualities Shine," dated July 23, 2003, which is attached as Exhibit DMB-3 to this testimony, demonstrates that the market sees the rural ILECs as being more financially stable and potentially profitable than Verizon.

properly applied, could provide a mechanism for bringing local exchange rates in Verizon's service territory more in line with the underlying cost of that service." (Kirchberger/Nurse Rebuttal at 33-34). AT&T notes that the Commission recognized the competitive benefits of making "implicit charges explicit" in its order approving the RTCC access proposal.

Qwest also supports the revenue neutral aspect of Verizon's proposal:

> "Revenue neutrality insures that companies are not penalized for the progressive restructuring of rates that are in the long term best interests of competition and consumers. This repricing should result in lower long distance rates and should therefore be revenue neutral to consumers as a whole." (McIntyre at 11)

Q. DR. PELCOVITS SUGGESTS THAT IMMEDIATELY LOWERING INTRASTATE SWITCHED ACCESS RATES TO COST-BASED RATES REQUIRES NO ACTION ON THE PART OF VERIZON TO RECOVER THE LOST REVENUES. DO YOU AGREE?

A. No. Similar to its assertion that Verizon PA could lose 5.5% of its revenue without harmful effect, Dr. Pelcovits' arguments in this regard are irrational and not supported. Dr. Pelcovits' view of the FCC action regarding revenue recovery is narrowly focused on the short term and does not consider the FCC's past actions and underlying context of the FCC's more recent decisions. The FCC has long recognized the need for ILECs to more fairly allocate costs between IXCs and end users. In fact, Dr. Pelcovits cites the FCC's CALLS Order, but is highly selective in his discussion of the FCC's actions. Specifically, in the CALLS Order, the FCC stated that "[t]he reductions in or elimination of some charges, such as the residential PICC, and the increases in other charges, such as the SLC,

are approximately equal."[18] The FCC went on to say that it "believe[d] that increased competition will serve to constrain access rates in the later years of the CALLS Proposal . . . [and that] the significant up-front reductions coupled with increased competition ultimately should result in access charges that are comparable to those that would be achieved under [the] current price cap system over the five-year term of the CALLS Proposal."[19]

Since the inception of access rates, the FCC's actions have addressed the need to gradually shift costs to allow the local exchange carriers to recover fixed loop costs from the cost causer – the end user. Our OCA/Verizon Joint Proposal is intended to accomplish the same result.

VIII. THE OTHER PARTIES' PROPOSALS REPRESENT THE EXTREME POSITIONS THEY ADVOCATE AND ARE INFERIOR TO THE RESOLUTION SET FORTH IN THE OCA/VERIZON JOINT PROPOSAL

Q. MR. BUCKALEW FOR OSBA (AT 9) RECOMMENDS THAT VERIZON SHOULD JUST ALIGN THE RATE STRUCTURES AND ADOPT UNIFORM RATES FOR BOTH COMPANIES, WITHOUT ANY DECREASE IN OVERALL ACCESS REVENUE? IS THIS A REASONABLE POSITION?

A. Mr. Buckalew recommends that Verizon stop after the initial rate alignment and restructure, so that both Verizon companies would have a CC of $1.20 and there would be no net decrease in access revenue. This is the same recommendation made by OCA's witness Mr.

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[18] *In the Matter of Access Charge Reform et al*, CC Docket Nos. 96-262, 94-1, 99-249, and 96-45, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1; Report and Order in CC Docket No. 99-249; and Eleventh Report and Order in CC Docket No. 96-45, rel. May 31, 2000, ("CALLS Order") at ¶166.

[19] *Id.*

Dunkel in response to Verizon's original proposal. Those parties proposed that the revenue that Verizon North would lose by reducing its carrier charge to $1.20 from $8.64 (net whatever revenue it gains from the new rate elements) would be recovered by raising Verizon PA's CC from $0.63 to $1.20. Verizon has stated in the past that this would be a reasonable interpretation of the *Merger Order*'s requirement to achieve "parity;" however, it would not advance the *Global Order's* goal to move access pricing toward cost and would not comport with the treatment of the access charges of other ILECs in the RTCC/Sprint Settlement and the other ILEC rate rebalancing cases cited above. The OCA/Verizon Joint Proposal is a more reasonable solution.

Q. MR. KUBAS (AT PAGES 10 AND 20) RECOMMENDS THAT BOTH VERIZON COMPANIES HAVE A CARRIER CHARGE OF $1.16. CAN YOU SUPPORT HIS RECOMMENDATION?

A. No. His proposal is conceptually the same as the original OCA and OSBA proposals to leave the melded carrier charge rate at $1.20 for both companies so that there would be no net revenue reduction from the access restructure. Mr. Kubas adds to that concept his attempt to "correct" for an alleged mistake on the part of Verizon in failing to account for amounts imputed to Verizon North or designated to ITORP with the carrier charge. As explained above, Verizon already adjusted its figures to account for these amounts and Mr. Kubas' reduction of the melded carrier charge would result in double counting. Moreover, the result of Mr. Kubas' calculations is an asserted revenue shortfall for Verizon of

$172,000, which he contends Verizon should simply absorb without offset. Verizon opposes any access reductions in the absence of full revenue-neutral offsets.

Q. MCI'S DR. PELCOVITS (AT PAGES 34-38) DEMANDS THAT ACCESS RATES BE SET AT TELRIC. DO YOU AGREE WITH THIS PROPOSAL?

A. No. Dr. Taylor explains why, from an economic perspective, it would not make sense to price access at TELRIC. Additionally, the legal requirement for TELRIC pricing simply does not apply to access charges. The Telecommunications Act of 1996, as interpreted by the FCC, permits forward-looking costing of unbundled network elements. The FCC devised TELRIC pricing regulations for this purpose only. Nothing in the Act or the FCC's regulations requires the use of TELRIC for the pricing of access, whether interstate or intrastate. In fact, the FCC has flatly rejected IXC demands to price interstate access at TELRIC costs.[20] In its *Access Charge Reform* proceeding, the FCC reaffirmed this conclusion, holding that "[w]hile unbundled network elements may be used to provide interstate access services, their availability at TELRIC-based prices does not compel adoption of similar rates for access services."[21] In its CALLS Order the FCC again affirmed this approach, and on at least three occasions federal appellate courts have rejected IXC arguments that access should be priced at TELRIC.[22]

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20 *Local Competition Order* at ¶ 1033; *Competitive Telecom Association v. FCC,* 117 F.3d 1068 (8th Cir. 1997).

21 *Access Charge Reform,* CC Docket No. 96-262, First Report and Order, 12 FCC Rcd 15982 (rel. May 16, 1997) ¶ 199.

22 *Access Charge Reform*, CC Docket No. 96-262, Sixth Report and Order, 15 FCC Rcd 12962 (rel. May 31, 2000) ("*CALLS Order*") ¶ 60; *Texas Office of Public Utility Counsel v.*

Q. MR. MCINTYRE ON BEHALF OF QWEST (AT 10) SUGGESTS THAT ALL ACCESS RATES SHOULD BE REDUCED TO MIRROR INTERSTATE RATES, AND MESSRS. KIRCHBERGER AND NURSE SUGGEST THAT TRAFFIC SENSITIVE RATES SHOULD BE REDUCED TO MIRROR INTERSTATE. DO YOU AGREE THAT SUCH REDUCTIONS ARE ADVISABLE?

A. No. The interstate rates are not reflective of costs, but rather were the product of a negotiated settlement. The local switching rate to which AT&T's witnesses refer is actually below Verizon's intrastate access costs, as supported by the testimony of Mr. Sanford and Ms. Dean.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

(..continued)
FCC, 265 F.3d 313, 324-26 (5th Cir. 2001), *cert. denied*, 535 U.S. 986 (2002); *Southwest Bell Telephone v. FCC*, 153 F.3d 523, 546-49 (8th Cir. 1998); *Competitive Telecom. Ass'n v. FCC*, 117 F.3d 1069 (8th Cir. 1997).

EXPURGATED

Verizon/Office of Consumer Advocate Proposal

In full settlement of the Verizon Access Petition opened at the above-referenced dockets, Verizon and OCA propose the following:

The following chart articulates the individual – present and proposed - access charge rates for Verizon Pennsylvania and Verizon North and a weighted average of those rates.

*** * * BEGIN PROPRIETARY * * ***

*** * * END PROPRIETARY * * ***

- Such proposal would establish parity between the Verizon companies.
- Such proposal would reduce the average Carrier Charge by more than half.

A weighted average of *** * * BEGIN PROPRIETARY END PROPRIETARY * * *** would be produced. The total access reduction under this scenario would be **BEGIN PROPRIETARY END PROPRIETARY**.**

- Verizon will also implement changes in rate structure to align with the interstate structure, which changes will not affect the amount of the access reduction noted above.
- All rate changes will be made on a revenue neutral basis. No more than $40 million would come from Residential basic local service rate increases on a combined Verizon PA and Verizon North basis, and such increases would be less than $1.00 per residential line based on recovery across the combined companies' customer base. The residential increases would apply to dial tone line rates for all customers subscribing to that service on a non-package basis.
- No basic rate increases would occur before January 1, 2004.

EXPURGATED

DMB EXHIBIT 2

IS RTCC PROPRIETARY

AND THEREFORE IS NOT

ATTACHED TO THIS

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GICS SECTOR	TELECOM SERVICES
US Strategist Weight	3.1%
S&P 500 Weight	3.6%
WHAT'S CHANGED	
Alltel Rating	*Equal-weight to Overweight*
Alltel Price Target	*$53 to $55*
CenturyTel Price Target	*$36 to $43*
Commonwealth Rating	*Equal-weight established*
Commonwealth Price Target	*$48 established*
Citizens Rating	*Underweight to Equal-weight*
Citizens Price Target	*$13 established*

KEY STOCK RATINGS	
Alltel (AT, $45.86)	Overweight
CenturyTel (CTL, $32.95)	Overweight
Commonwealth (CTCO, $39.79)	Equal-weight
Citizens (CZN, $12.01)	Equal-weight
TDS (TDS, $51.80)	Underweight

Industry Overview

July 23, 2003

RLECs: Defensive Qualities Shine

- **Assuming coverage of the rural carriers (RLECs)**
  We rate Alltel and CenturyTel Overweight, Citizens and Commonwealth Equal-weight, and we are initiating new coverage of Telephone and Data Systems with an Underweight rating.
- **We favor the RLEC business model**
  We believe the RLECs enjoy higher barriers to entry, less competition, no UNE-P, and limited cable and wireless competition as well as more stable economics in these markets. Relative growth opportunities and the regulatory environment are also more compelling.
- **Valuations Are Attractive, in Our View**
  The RLEC stocks are up an average 7% year-to-date, and valuations look still compelling with the average RLEC trading at 5.7 times 2004 FV/EBITDA and 15.9 times 2004E EPS. We see 18% average upside to our target prices for the RLECs.
- **Our US wireline telecom services industry view is Cautious**
  We continue to believe that the wireline telecom industry overall will underperform the S&P, but within the telecom space we generally favor the RLECs relative to the RBOCs.

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RLECs: Defensive Qualities Shine

(The following is an excerpt from our Initiation report. The full version will be available shortly.)

Morgan Stanley & Co. Incorporated ("Morgan Stanley") is currently acting as financial advisor to Citizens Communications ("Citizens") in its announced proposed sales of two utility properties to Unisource Energy ("Unisource") and of its Gas Co. of Hawaii subsidiary to K-1 USA Ventures Inc.

Citizens has agreed to pay fees to Morgan Stanley for its financial services, including transaction fees that are contingent upon the consummation of the proposed transaction.

Please refer to the notes at the end of the report.

Summary and Investment Thesis

We are assuming coverage of the rural telecom carriers within the context of our Cautious view of the US wireline telecom services industry. We rate Alltel and CenturyTel Overweight, Citizens and Commonwealth Equal-weight, and we are initiating new coverage of Telephone and Data Systems with an Underweight rating. We continue to believe that the wireline telecom industry overall will underperform the S&P, but investors looking for investment ideas within the telecom space should go long the RLECs relative to the RBOCs. The rural telecoms have better growth, a good financial profile, a more stable business model, and cheaper valuations versus the Bells, in our opinion.

Alltel (AT): Overweight, $55 Target Price. Our rating for AT reflects a good growth profile, favorable rural characteristics, a strong national presence in wireless and one of the strongest balance sheets among the RLECs, in our view.

CenturyTel (CTL): Overweight, $40 Target Price. Our Overweight rating on the stock is based on a strong growth profile, solid RLEC fundamentals, and good free cash flow generation despite a weaker balance sheet relative to its peers. CenturyTel pays a small dividend, is focused on deleveraging for 2003, and commands a compelling valuation.

Citizens (CZN): Equal-weight, $13 Target Price. Our Equal-weight rating takes into account a better growth profile and more stable business model relative to the Bells, but a weaker, despite improving, balance sheet. We believe valuation is reasonable at 6.1 times 2004 FV/EBITDA, free cash flow yield is attractive, but the company does not pay dividends given its focus on deleveraging.

Commonwealth (CTCO): Equal-weight, $48 Target Price. Our Equal-weight rating takes into account a better growth profile and more stable business model relative to the Bells and a strong financial position, mitigated by potential acquisition risk in the near-to-medium term. Despite an attractive valuation and some 19% upside to our target price, we will be watching potential uses of cash before getting more enthusiastic about the stock. Management has discussed publicly that they are actively looking for acquisition opportunities before considering paying dividends or repurchasing stock. Commonwealth has an attractive FCF yield, but does not currently pay a dividend.

Telephone and Data Systems (TDS): Underweight. Our rating for TDS reflects better risk-reward opportunities at other RLECs. We believe the stock remains a "show-me story" for now despite the potential upside to our valuation of the stock. TDS is the only RLEC in our universe with negative free cash flow because of relatively higher capex and a free cash flow negative CLEC business. We are positive about the strong balance sheet and the good growth profile of the company. We would like to see positive free cash flow, less acquisition risk, and more visibility on the wireless, competitive, and strategic landscapes before becoming more favorable on the stock.

Defining the RLECs. Currently, there are over 1,300 rural carriers ranging in size, coverage, and growth strategy: from Alltel with over 2.6MM access lines operating in 15 states and with a growing wireless business, to very small family-owned local exchange carriers with a couple-thousand lines operating in one study area. They each have developed quite different operating strategies. Many companies began with a local telephony business model that simply evolved over time. Commonwealth complemented its RLEC business with an edge-out CLEC strategy. Alltel is betting big on wireless, recently

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acquiring the CenturyTel wireless properties. TDS, as 82% owner of US Cellular, has based its growth on both wireless and its CLEC businesses. CenturyTel and Citizens are moving back toward the pure-play rural local exchange model through asset dispositions and the de-emphasis of their respective CLEC operations.

Exhibit 1

Rurals Have Various Comparables

Company	Business Profile*	Comparables	Comments
Alltel	Wireless, ILEC, CLEC	RLECs, RBOCs, Wireless	wireless a big focus
Citizens	ILEC	RLECs, RBOCs	sold off utilities, more pure play
CenturyTel	ILEC	RLECs, RBOCs	pure play, sold wireless
Cincinnati Bell	ILEC (sold long haul)	Q, FON	independent carrier
TDS	Wireless, ILEC, CLEC	RBOCs, RLECs, Wireless	significant wireless segment
Commonwealth	ILEC, CLEC	RLECs, RBOCs	successful edge-out strategy
Sprint	Long haul, ILEC	Q, CBB	less a more "rural" local business

Source: Company data, Morgan Stanley Research

Exhibit 2

Top 20 Telcos by Access Lines

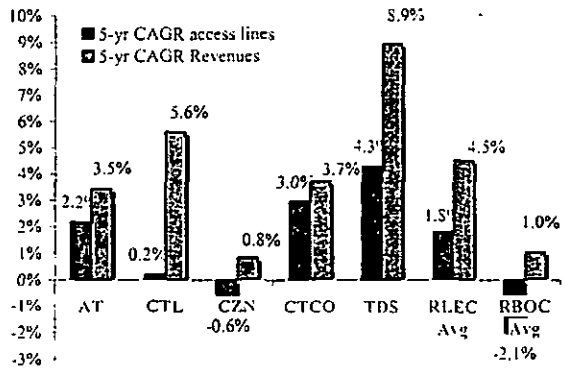
	Access Lines	Market Cap
1 Verizon	57,483	110,032
2 SBC	56,678	86,741
3 BellSouth	24,511	50,075
4 Qwest	17,196	8,410
5 Sprint	8,104	13,915
6 Alltel	3,160	15,472
7 Citizens	2,435	3,715
8 CenturyTel	2,407	5,042
9 Cincinnati Bell	1,032	1,704
10 TDS	670	2,319
11 Valor Telecom	546	
12 Commonwealth	338	1,070
13 Alaska Comm. Sys.	333	
14 Iowa Telecom	285	
15 Fairpoint	245	
16 Madison River Comm	195	
17 TXU Comm Ventures	167	
18 North State Comm	137	
19 SureWest Comm	135	
20 Comporium Comm	129	

Source: Morgan Stanley Research and USTA. Line counts for companies not covered by Morgan Stanley are taken from "USTA: Phone Facts" (2003).

We favor the RLEC business model. We prefer the RLEC business model to the other ILEC/RBOC models due to the higher barriers to entry, lack of competition, no UNE-P, and limited cable and wireless competition as well as more stable economics in these markets. Relative growth opportunities and the regulatory environment are also more compelling. Average revenue growth of 4.5% over the next five years annualized compares to 1.0% average for the Bells. We project access line growth of 1.8% annualized over the same period, ahead of the negative 2.1% average expected for the large caps.

Exhibit 3

5-Year Outlook: RLECs Dominate RBOCs

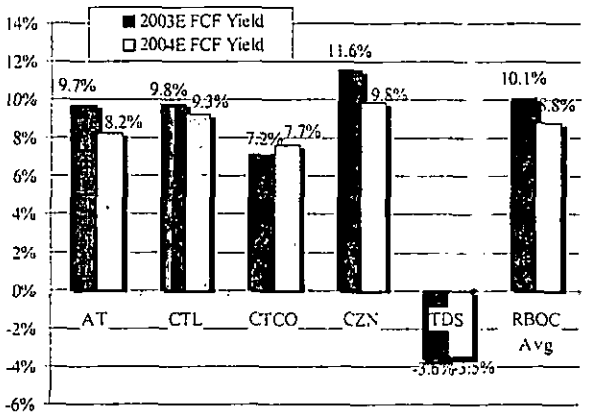


Source: Morgan Stanley Research NOTE numbers are not normalized.

Financial conditions are strong. The RLECs exhibit strong balance sheets, and are considered reasonably favorable by the debt ratings agencies. FCF generation is significant at most (with the exception of TDS) and FCF yields in the 7-10% range rival those of the Bells. We believe allocation of cash is the key issue as the RLECs decide how to best invest their returns. This will probably lead to a higher potential for M&A activity for some, which could bring growth opportunities and some degree of risk.

Exhibit 4

Strong Free Cash Flow Rivals That of the Bells



Source: Morgan Stanley Research

Valuations Are Attractive, in Our View. While we have a Cautious view of the industry, we believe the risk-reward opportunity is attractive at current levels for the RLECs relative to the RBOCs. The rural carriers enjoy a more

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defensive business model with limited competition, better relative growth opportunities, and regulatory support. Acquisition risk and any material changes to regulation remain the key issues to watch.

Exhibit 5
RLEC Comparable Multiples

		Price	2004E				2003
	MS Rating	07/21/03	PE	FV/ EBITDA	FV/access lines	FCF Yield	Div Yield
Alltel	O	$45.86	14.2	5.9	2,591	3.2%	3.1%
CenturyTel	O	$32.95	14.2	6.2	3,184	9.3%	0.7%
Commonwealth	E	$39.79	16.1	5.2	1,855	7.7%	NA
Citizens	E	$12.01	NM	6.1	2,973	9.8%	NA
TDS	U	$51.80	19.0	4.9	2,037	-3.5%	1.2%

Free Cash Flow = (cash flow from operations - capex) bef divs and share buybacks
FCF Yield = FCF per share divided by market price per share
Note that all free cash flow forecasts exclude share repurchases
Source: Morgan Stanley Equity Research

The RLEC stocks are up an average 7% year-to-date and valuations are still compelling with the average RLECs trading at 5.7 times 2004 FV/EBITDA and 15.9 times 2004E EPS, although the stock prices are less compelling than they were at the beginning of the year. We see 18% average upside to our target prices for the RLECs. In arriving at our 2004 price targets, we have analyzed a number of different valuation methodologies including trading comparables, discounted cash flow, and sum-of-the-parts analyses. The RLECs have historically enjoyed a premium multiple to the Bells given a more promising growth profile, less competition, and more benign regulatory environment. Our methodology valuation considers that multiple premium in our price targets but we use a more conservative premium than historical averages to reflect a slower growth environment overall. Within the rural telecom peer group, we prefer stronger balance sheets over weak, good free cash flow yields, better growth profiles, and less acquisition risk.

Industry Positives

Better relative growth profile versus metro ILECs. Opportunities for growth are more prevalent at the RLECs than at the RBOCs due to strong RLEC market positions, lower penetration of new services such as DSL and vertical services, acquisition/scale opportunities, edge-out (CLEC) and wireless strategies, less competition, a more favorable regulatory environment, and a growing population with more promising growth demographics.

Less competitive risk and barriers to entry. We believe the less threatening competitive landscape of the RLECs contributes to more efficient capital deployment for new services in rural markets compared to metro markets where the Bells operate. Also, the tough rural geography, low population density, and high capital costs are significant barriers to entry. This, along with more favorable regulation, and a low concentration of business customers, has led to limited competition from other telecom providers, UNE-P, cable telephony, and substitution from wireless and broadband. Technology substitution has especially affected rural carriers in recent quarters, with respect to the migration of wireline minutes-of-use (MOUs) to the wireless network. However, the rural markets have less wireless and cable ubiquity, and the impact from substitution is far less than in metro areas.

Stable business risk profile and strong margins. We believe the RLECs pose less earnings risk and have been more successful than the Bells in achieving earnings guidance and we note that RLECs face much less pension cost exposure. Rural telecom carriers are more profitable than the RBOCs, posting higher wireline EBITDA and operating margins and higher margins per access line, reflecting a less competitive market and good regulatory support, which provides for direct government subsidies and higher levels of access revenues.

Deleveraging and cash flow generation. The RLECs have generally done a good job in deleveraging and generating free cash flow resulting in potential for cash payouts to shareholders. Furthermore, asset dispositions at several RLECs have provided for more deleveraging and more pure plays. FCF yields in the 7-10% range rival the RBOC yields while balance sheet strength is evident from the average net debt to EBITDA ratio of 2.6 times and average interest coverage ratio of 7.6 times.

More favorable regulation. The RLECs avoid the onerous s.271 LD entry process with the FCC due to their qualification as rural carriers. The rural exemption limits interconnection requirements while implicit (higher access rates) and explicit (USF) help to offset higher costs of operating in rural areas. RLECs are regulated under ROR and price cap and as companies grow in scale, they may move toward price cap or alternative regulation in efforts to optimize returns, which we believe, encourages more efficiently run companies in the long run.

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Industry Concerns

Growth has been slowing. We have seen evidence of deteriorating access line trends over the last several quarters due to increasing competition, wireless and broadband substitution, and the impact of more highly penetrated services, which no longer grow at the high rates seen in the past. We also believe the economy has played a role in access line losses, and any turnaround should help the top line. However, the rural telecoms have less exposure to business customers than the more metro Bells. Relative to the Bells, they will be less favorably impacted by an economic recovery, in our view.

Increasing exposure to more competitive-higher risk services. The rural carriers have each taken quite different strategies, involving diverse segments of the market. The push for wireline growth through data, DSL, and higher long distance penetration leads to more competition from cable operators and other telecom carriers. Also, the Bells are now entering LD and competing fiercely on price. Wireless RLECs face increasing national carrier competition/lower roaming revenues and wireless local number portability (WLNP.) RLECs that have edge out strategies and CLECs are stretching into more metro areas with tough business models and more cyclical business cycles that drive competition.

Regulatory risk. Regulatory support is a critical aspect of the RLEC business model and any material change could have significant consequences for the industry. RLECs count on USF and have a large exposure to access revenues, which account in some cases for over 50% of wireline revenues. Further access charge reform, especially regarding intrastate revenues, could dramatically affect the RLEC revenue profile. While this would certainly be a political issue, investors do need to be aware of the risk, especially with current valuations.

Acquisition risk. The strong free cash flow at the RLECs requires efficient allocation of funds. Dilution from potential acquisitions (no cash distribution to shareholders) highlights the importance of finding acquisitions that are the right fit. The challenge of acquisitions brings operational, strategic, and financial risks as well as execution risk.

Corporate governance. In efforts to be more transparent and address investor concerns, there are opportunities for the rural telecoms to improve their corporate governance policies regarding issues such as expensing options, holding company structures/dual share classes, and board independence.

Strong price appreciation. *The average RLEC in our universe is up 7% year-to-date and is currently trading at 5.7 times 2004E FV/EBITDA and 15.9 times EPS. At current levels, we have an average 18% upside to our target prices, which makes the RLECs more attractive than the RBOCs, in our opinion. While we like the RLEC fundamentals, much of the good news may already be priced in and valuations are less compelling than they were at the beginning of the year. However, we believe there is more upside in the RLECs relative to the RBOCs at current levels.*

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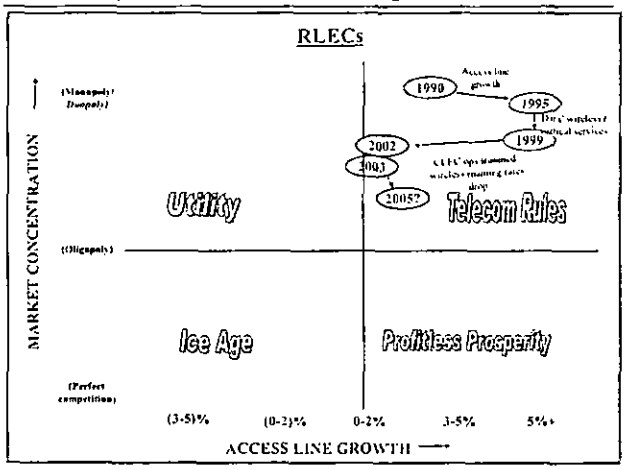
We Prefer the RLEC Business Model

RLECs in a Relatively Solid Position

We believe the rural local exchange carriers (RLECs) are well positioned relative to the rest of the telecom industry. The RLECs generally enjoy less competition in their markets than the metro ILECs, and the growth rates (e.g., revenues and EBITDA) remain solid as the RLECs penetrate value-added services deeper into the subscriber base. The RLECs also face a more favorable regulatory environment than the major ILECs. These factors have *enabled the RLECs to post generally stronger and more* profitable growth than the RBOCs' core ILEC divisions over the past few years.

Exhibit 6

Less Competition... Growth Slowing



Source: Company data, Morgan Stanley Research

What's the Path?

As shown above, we believe the RLECs existed in the Telecom Rules scenario from 1990-2001, posting solid access line growth, as well as strong movement up the growth curve for new product offerings such as data, wireless, and value-added services. Growth slowed in 2002 due to several factors including economic weakness, falling wireless roaming rates (for those RLECs with wireless exposure), working past the bubble of any growth CLEC initiatives (which have largely been scaled back by most of the RLECs), and increased penetration of second access lines. While the top-line expectations at the rurals are greater than at the Bells, in our view, the slowdown should continue in 2003 as competition from cable companies for second access lines and wireless, to a lesser extent, increases. The economies in some of the smaller cities where the rurals operate, such as in upstate New York, have been hit hard, and will contribute to the slower top-line growth. We do believe the rurals will be able to retain their relative monopoly positions within their respective markets, and would expect growth to pick up slightly over the next few years as the economy recovers and the RLECs continue to roll out new data services and increase penetration in vertical services.

Who are the RLECs?

- Located in low-density rural and suburban areas
- Range in size from large to very small
- Subject to different regulation as high cost carriers
- Family history has influenced company culture
- Business strategies have evolved over time

Demographic trends are positive. Rural America is growing with respect to population, jobs, earnings; and teledensity, which can drive demand in the rural markets. The country continues to see a migration from urban and suburban areas to rural America and migration of businesses from metro areas to smaller communities is a growing trend. Wireless is less penetrated in rural markets; which can lead to higher growth and lower churn relative to metro areas. Wireless players in urban markets differentiate themselves largely on price. In rural markets, quality of service and coverage are key. Demand for broadband is growing especially with increased migration from urban/sub-urban to rural areas.

Exhibit 7

Where the RLECs Stack Up: Our Coverage Universe

Company*	Rating	Market capitalization	Access lines	% of total
Verizon	E	111,784	57,483	33.0%
SBC	E	89,155	56,678	32.5%
BellSouth	O	51,119	24,511	14.1%
Qwest	U-V	8,410	17,196	9.9%
Sprint	E	13,996	8,104	4.7%
Alltel	E	15,619	3,160	1.8%
Citizens	U	3,720	2,435	1.4%
CenturyTel	O	5,059	2,407	1.4%
Cincinnati Bell	U-V	1,692	1,032	0.6%
TDS	O	2,356	670	0.4%
Commonwealth	O	1,043	469	0.3%
Total		303,953	174,145	100.0%

*in order of number of access lines

Source: Company data, Morgan Stanley Research

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Some defining characteristics of rural carriers. The RLECs face less competition and are able to operate in rural markets with important regulatory incentives. Barriers to entry include low levels of population density, difficult topographies, and high operating costs. The low concentration of business customers and few, if any, interconnection obligations have also deterred new entrants. Regulatory incentives such as higher access fees and universal service subsidies serve to support the higher cost base. In general, wireless and cable competitors impact RLECs less than their metro peers. Small-scale operations and non-upgraded plants affect many cable competitors. The tough terrains and low population density challenge wireless coverage in certain rural areas. In summary, RLECs have higher growth rates, higher core wireline telco margins, and more profitable access lines.

Conclusions:

More defensive qualities shine through. We believe the more rural characteristics allow for a more defensive stance for investors.

Different revenue profile and higher growth: Access revenue is a much larger contributor to revenue due to USF and regulatory support. More growth opportunities are available to RLECs due to lower penetration of higher growth, higher margin products.

Less competition: There are higher costs of entry in rural regions and competitors are more likely to focus more densely populated areas.

Market structure is ever-evolving: As FCF grows, capital allocation remains a focus. We believe M&A opportunities have been and will be sources of growth and gaining scale will become more important.

Apples to Apples Analysis

In the following analysis when comparing RLECs to the Bells, we exclude only the Bells' Wireless and International businesses which implies that we also include directories for all RLECs and Bells. Included for RLECs:

- **Alltel:** Wireline & Communications Services
- **CenturyTel:** Telephone and Other
- **Commonwealth:** CT and Other
- **Citizens:** ILEC
- **TDS:** ILEC

Exhibit 8

RLEC lines are more profitable

Company	2003E Core Wireline Telco EBITDA Margin	2003E Core Wireline Telco EBITDA $ Per Line/month
Alltel	45.3%	40.44
CenturyTel	50.4%	41.21
Citizens	54.1%	38.32
Commonwealth	56.1%	33.99
TDS	47.9%	38.39
RLEC Average	**50.7%**	**38.47**
BellSouth	47.2%	38.33
SBC	37.5%	22.99
Verizon	46.6%	29.95
RBOC Average	*43.8%*	30.42

Source: Company data, Morgan Stanley Research Please see p. xx for a description of what we use to compare "core wireline telco."

Exhibit 9

Core RLEC growth has outpaced RBOCS

Company	Core Telco Revenue Growth 2002	2003E	02-'07 CAGR
Alltel	5.8%	8.7%	2.6%
CenturyTel	17.9%	19.0%	5.6%
Citizens	29.4%	-0.2%	1.2%
Commonwealth	4.3%	4.4%	2.6%
TDS	8.7%	2.7%	3.5%
RLEC Average	**13.2%**	**6.9%**	**3.1%**
BellSouth	-3.2%	-3.1%	0.4%
SBC	-8.0%	-5.0%	0.1%
Verizon	-3.6%	-2.9%	1.3%
RBOC Average	**-4.9%**	**-3.7%**	**0.6%**

Company	EBITDA Growth 2002	2003E	02-'07 CAGR
Alltel	8.6%	9.9%	3.3%
CenturyTel	21.2%	17.3%	5.9%
Citizens	36.7%	1.5%	1.7%
Commonwealth	11.2%	4.1%	2.9%
TDS	1.5%	3.4%	3.2%
RLEC Average	**15.9%**	**7.2%**	**3.4%**
BellSouth	-5.3%	-7.2%	-3.3%
SBC	-12.0%	-11.7%	-3.5%
Verizon	-4.2%	-4.4%	-0.2%
RBOC Average	**-7.2%**	**-7.8%**	**-2.3%**

Source: Company data, Morgan Stanley Research Please see p. xx for a description of what we use to compare "core wireline telco."

Valuation Looks Attractive

Within the context of a Cautious industry view, the RLECs are relatively attractive. We believe the risk-reward opportunity is better for RLECs than RBOCs at current levels although we remain Cautious in our industry view. The RLECs enjoy a more defensive business model with limited competition, better relative growth opportunities, and regulatory support. Acquisition risk and any material changes to regulation remain the key issues to watch, we believe. We see 18% average upside to our target prices for the RLECs. In arriving at our 2004 price targets, we have analyzed a number of different valuation methodologies including trading comparables, discounted cash flow, and sum-of-the-parts analyses. The RLECs have historically enjoyed a premium multiple to the Bells given a more promising growth profile, less competition, and more benign regulatory environment. Our methodology valuation considers that multiple premium in our price targets, but we use a more conservative premium than historical averages to reflect a slower growth environment overall. *Within the rural telecom peer group, we prefer stronger balance sheets over weak, good free cash flow yields, better growth profiles, and less acquisition risk.*

Exhibit 10

RLEC Comparable Multiples

	MS Rating	Price 07/21/03	2004E PE	2004E FV/ EBITDA	2004E FV/access lines	2004E FCF Yield	2003 Div Yield
Alltel	O	$45.86	14.2	5.9	2,591	8.2%	3.1%
CenturyTel	O	$32.95	14.2	6.2	3,184	9.3%	0.7%
Commonwealth	E	$39.79	16.1	5.2	1,855	7.7%	NA
Citizens	E	$12.01	NM	6.1	2,973	9.8%	NA
TDS	U	$51.80	19.0	4.9	2,037	-3.5%	1.2%

Free Cash Flow = (cash flow from operations - capex) bef divs and share buybacks

FCF Yield = FCF per share divided by market price per share

Note that all free cash flow forecasts exclude share repurchases

Source: Morgan Stanley Equity Research

The RLEC stocks are up an average 7% year-to-date and valuations are less compelling than the beginning of the year, with the average RLEC trading at 5.7 times 2004 FV/EBITDA. This compares to the RBOCs, which are down 10% year to date, and the S&P 500, which is up 11% year to date.

Exhibit 11

RLEC Stocks Are Up Year to Date

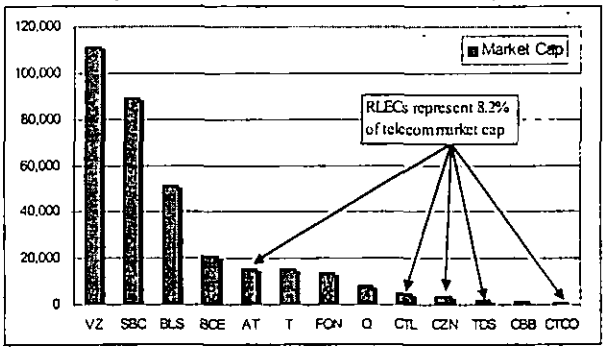
Company	Price (07/21/03)	Share Price Performance YTD	1Q03	2002
Alltel	45.86	-10.1%	2.5%	-17.4%
AT&T	19.17	-26.6%	18.3%	3.0%
BCE	21.57	19.8%	17.7%	-21.0%
BellSouth	24.86	-3.9%	14.7%	-32.2%
Cincinatti Bell	6.35	80.4%	58.8%	-62.9%
CenturyTel	32.95	12.2%	19.4%	-10.4%
Citizens	12.01	13.8%	20.3%	-1.0%
Commonwealth	39.79	11.0%	2.5%	-21.2%
Qwest	4.41	-11.8%	26.4%	-64.6%
SBC	23.13	-14.7%	15.3%	-30.8%
Sprint FON	14.65	1.2%	24.7%	-27.9%
TDS	51.80	10.2%	26.6%	-47.6%
Verizon	34.77	-10.3%	-1.6%	-18.4%
Group Average		*5.5%*	*18.9%*	*-27.9%*
Group Median		*5.7%*	*18.9%*	*-24.6%*
S&P 500	978.80	11.3%	15.4%	-23.4%
RLEC average		*7.4%*	*14.3%*	*-19.5%*
RBOC average		*-9.6%*	*9.5%*	*-27.1%*
IXC / Hybrid average		*10.8%*	*32.0%*	*-38.1%*

Source: Company data, Morgan Stanley Research

Small but important. The RLECS represent a small part of the telecom market but continue to be a key focus for investors because of the strong fundamentals of the industry. We believe the RLECs continue to be a more defensive play in telecom. We continue to favor the sector for several fundamental reasons that we believe the stocks prices should reflect. As stated earlier, they have outperformed the rest of the large cap telcos this year, proving to be a smart alternative to the Bells.

Exhibit 12

RLECs Represent 8.2% of Telecom Market cap



Source: Company Data and Morgan Stanley Research estimates.

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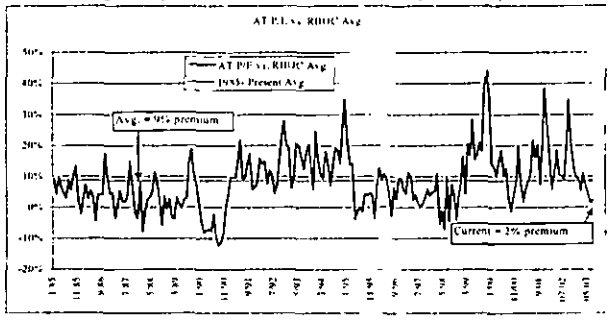
Do the RLECs deserve a premium to the Bells?
Historically the RLECs have commanded a premium versus the Bells. We have seen at least a 15% premium to Bell FV/EBITDA multiples over time, similar to the premium seen with the wireless stocks with similar EBITDA growth.

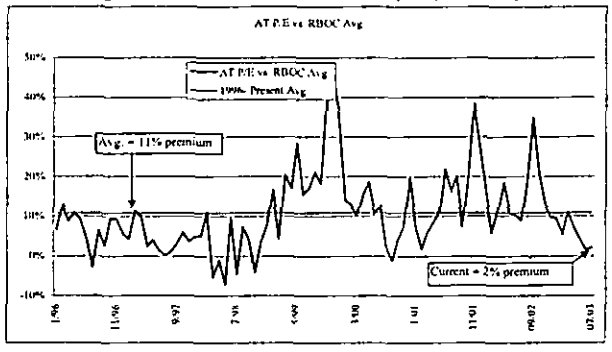
We have seen premiums on forward P/E multiples as well. As seen in the charts above, forward P/E multiples at the RLECs have been higher at those RLECs with positive earnings such as Alltel, CenturyTel, and TDS. Alltel has traded at an average 9% premium to the RBOC average multiple since 1985. CenturyTel has averaged a 33% premium to the RBOC average P/E multiple since 1985 but since the 1996 telecom act, CenturyTel has traded at a much more modest 6% premium to the Bells. TDS provides us with a more limited time frame but since March of 2001, it has traded at an average premium of 59% to the average RBOC P/E multiple but has been trading significantly below that for the last 10 months.

Alltel: Avg 9% premium to RBOCs (85-present)



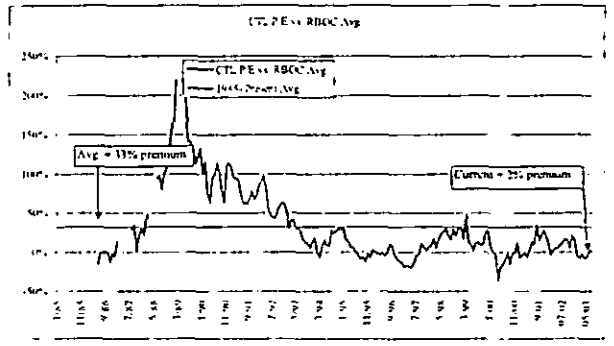
Source: Company Data and Morgan Stanley Research estimates.(Note: Numbers may differ from Comp tables as we use Morgan Stanley research estimates in comp table and consensus estimates in above charts).

Alltel: Avg 11% Premium to RBOCs (96-present)



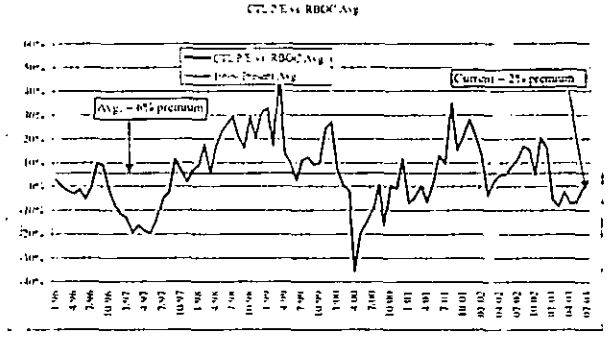
Source: Company Data and Morgan Stanley Research estimates.(Note: Numbers may differ from Comp tables as we use Morgan Stanley research estimates in comp table and consensus estimates in above charts).

CenturyTel: Avg 33% Premium to RBOCs (85-present)



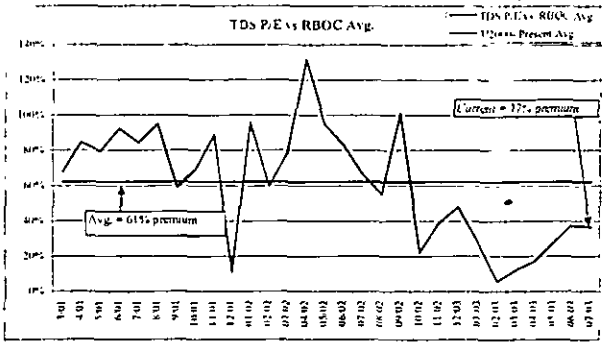
Source: Company Data and Morgan Stanley Research estimates.(Note: Numbers may differ from Comp tables as we use Morgan Stanley research estimates in comp table and consensus estimates in above charts).

CenturyTel: Avg 6% Premium to RBOCs (96-present)



Source: Company Data and Morgan Stanley Research estimates.(Note: Numbers may differ from Comp tables as we use Morgan Stanley research estimates in comp table and consensus estimates in above charts).

Exhibit 13
TDS: Avg 59% Premium to RBOCs (3/01-present)



Source: Company Data and Morgan Stanley Research estimate

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Summary of Our Ratings

In valuing the RLECs, we have analyzed a number of different valuation methodologies including trading comparables, discounted cash flow, and, where appropriate, *sum-of-the-parts analyses. In our multiple analysis, we* applied a 15% premium to the Bells' 2004E P/E multiples and 2004E FV/EBITDA multiples to arrive at our target *valuations, which we believe reflects historical trading* levels for these stocks. The premium is a result of the following:

- **Better growth profile.** EPS and EBITDA growth is more significant at the RLECs than at the Bells, making valuation-to-growth multiples look attractive. As seen in the charts on the following pages, the RLECs have historically enjoyed a premium multiple to the Bells. Our methodology valuation considers that multiple premium in our price targets but we use a more conservative premium than historical averages to reflects a slower growth environment overall.

- **More confidence/less earnings risk.** We believe earnings risk to be lower than in the past few years as managements are shooting for reasonable targets.

- **Less competition.** Our favorable view of the RLECs reflect that there is no UNE-P threat primarily due to the non-metro areas, where more favorable regulation allows for higher access rates to CLECs. UNE-P competitors have less interest in competing due to the economics of less densely populated areas.

Where could we be wrong? Given non-metro demographics, we do not factor in a bounce from economic recovery in our valuations, which could provide some upside to our numbers. Another major issue is the allocation of free cash flow and the potential acquisition risks involved. Growth potential through acquisition can add economies of scale and other benefits, which we do not assume in our estimates. However, we believe this is offset by potential acquisition risks and possible earnings dilution in a deal. If no acquisitions occur, we would likely see buybacks or dividend hikes given the substantial FCF generation in most of these stocks. *Risks to our target prices for the RLECs include increased competition, potential changes to regulation, weaker than expected demand, and potential acquisition risk.*

Alltel
Rating Overweight
Price Target $55

We are assuming coverage of Alltel with an Overweight rating and a $55 target price (20% upside), within the context of our Cautious industry view of US wireline telecom services and Attractive wireless industry view. We believe Alltel represents one of the best investment opportunities among the RLECs because of its favorable rural characteristics and its national presence in wireless. We especially like the company's strong balance sheet and free cash flow, dividend payment, size and scale, and its wireless/wireline mix. We also believe the stock's valuation is compelling at current levels, and that it should trade at a premium to the average RBOC P/E multiple based on historical averages. At present, it only trades in line with the current average RBOC P/E multiple.

CenturyTel
Rating Overweight
Price Target $40

We are assuming coverage of CenturyTel with an Overweight rating and an 18-month $40 target price (21% upside) within a Cautious view of the US wireline industry. Our Overweight rating on the stock is based on a strong growth profile, solid RLEC fundamentals, and good free cash flow generation despite a weaker balance sheet relative to its peers. CenturyTel pays a small dividend, is focused on deleveraging for 2003, and commands a compelling valuation.

Commonwealth
Rating Equal-weight
Price Target $48

We are assuming coverage of Commonwealth Telephone with an Equal-weight rating and an 18-month $48 target price within a Cautious view of the US wireline industry. Our Equal-weight rating takes into account a better growth profile and more stable business model relative to the Bells and a strong financial position, mitigated by potential acquisition risk in the near-to-medium term. Despite an attractive valuation and some 21% upside to our target price, we will be watching potential uses of cash before becoming more enthusiastic about the stock. Management has discussed publicly that they are actively looking for acquisition opportunities before considering paying

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dividends or repurchasing stock. Commonwealth has an attractive FCF yield, but does not currently pay a dividend.

Citizens
Rating Equal-weight
Price Target $13

We are assuming coverage of Citizens Communications with an Equal-weight rating and an 18-month $13 target price (8% upside) within a Cautious view of the US wireline industry. Our Equal-weight rating takes into account a better growth profile and more stable business model relative to the Bells, but a weaker, despite improving, balance sheet. We believe valuation is reasonable at 6.0 times 2004 FV/EBITDA, free cash flow yield is attractive, but the company does not pay dividends given its focus on deleveraging.

TDS
Rating Underweight
Price Target N/A

We are initiating coverage of TDS with an Underweight rating within the context of a Cautious US wireline services industry view and an Attractive US wireless industry view. In valuing TDS, we have analyzed a number of different valuation methodologies including discounted cash flow (DCF), sum-of-the-parts analysis, and trading comparables. Using these metrics, we arrive at a valuation that suggests potential upside from current levels. However, our Underweight rating suggests that we need to see free cash flow generation and more execution out of the CLEC and wireless segments before we can realize this potential in the stock price. Relative to its RLEC peers, we believe TDS is a "show me story" with good management, a solid balance sheet, and thus, good potential in a longer time frame.

Trading Strategy: Isolating the TDS Wireline Stub

Because of the TDS capital structure, the wireline business of TDS can be valued separately by excluding the wireless segment (USM) which trades separately. (US Cellular, USM, $27.05, Equal-weight-V, PT $30, covered by Luiz Carvalho). Investors can isolate the wireline stub by entering into a pair trade between TDS and USM (simply be increasing exposure on one stock and reducing exposure to the other.)

Determining Value of the Stub

The relationship is difficult to estimate but we believe there are historical frames of reference which guide us to determine fair value. Currently the stub represents 38% of TDS market value which we believe to be overvalued relative to historical averages (20-33% range).

Exhibit 14

Wireline Stub vs. TDS and USM

	Stock price	Shares (000s)	Market Cap ($000)	% of TDS
TDS	$51.95	58,594	3,043,958	100%
USM	$27.06	86,121	1,915,617	63%
Stub	$19.55	58,594	1,145,805	38%

Source: Company data, Morgan Stanley Research USM market capitalization shown is 82.2% of total USM market capitalization.

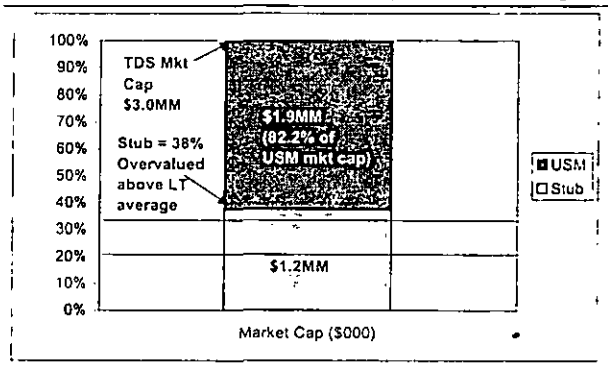
Less Exposure to TDS and More Exposure to USM

So How Do You Make Money? *Overall we think the stub is not attractive at current levels (reduce exposure to TDS and increase exposure to USM in a pair trade.)*

The wireline stub (market cap of TDS minus 82.2% of market cap of USM) has historically been 20% of TDS market capitalization on average since January 1996. If we consider the fact that TDS is quite a different company in the last few years, we could argue that the average is more like its 33% average since 1999.

Exhibit 15

Wireline Stub is 38% of TDS Mkt Cap: Above Average



Source: Company data, Morgan Stanley Research USM market capitalization shown is 82.2% of total USM market capitalization

Above this 20-33% range, we believe investors should reduce exposure to the stub. *Today, the stub appears to be overvalued at 38%, above historical averages. Our stub analysis suggests TDS to be 10-32% overvalued relative to US Cellular versus historical averages. We highlight for consideration by investors: a potential pair trade to reduce TDS exposure and increase USM exposure until they reach historical average ranges.*

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Exhibit 16

Valuation Scenario Matrix: Where we Like the RLECs

Target price:	$55
Current trading price:	$46
Upside to target price:	19.9%

Where we like AT:	Price	FV/EBITDA	P/E	FCF yield	Div. yield
Aggressively buy	<=$39	< =5.3x	< =12.1x	> =9.7%	> =4.1%
Buy	$39 - $44	5.3x - 5.8x	12.1x - 13.7x	9.7% - 8.6%	4.1% - 3.6%
Accumulate	$44 - $50	5.8x - 6.3x	13.7x - 15.5x	8.6% - 7.6%	3.6% - 3.2%
Hold	$50 - $58	6.3x - 7.1x	15.5x - 18.0x	7.6% - 6.5%	3.2% - 2.7%
Sell	>=$58	> = 7.1x	> = 18.0x	< = 6.5%	< = 2.7%

Target price:	$40
Current trading price:	$33
Upside to target price:	21.4%

Where we like CTL:	Price	FV/EBITDA	P/E	FCF yield	Div. yield
Aggressively buy	<=$29	< =5.8x	< =12.5x	> =9.2%	> =1.4%
Buy	$29 - $32	5.8x - 6.1x	12.5x - 13.8x	9.2% - 8.3%	1.4% - 1.3%
Accumulate	$32 - $36	6.1x - 6.6x	13.8x - 15.5x	8.3% - 7.4%	1.3% - 1.1%
Hold	$36 - $42	6.6x - 7.3x	15.5x - 18.1x	7.4% - 6.4%	1.1% - 1.0%
Sell	>=$42	> = 7.3x	> = 18.1x	< = 6.4%	< = 1.0%

Target price:	$48
Current trading price:	$40
Upside to target price:	20.6%

Where we like CTCO:	Price	FV/EBITDA	P/E	FCF yield
Aggressively buy	<=$34	< =4.4x	< =13.8x	> =9.0%
Buy	$34 - $38	4.4x - 5.0x	13.8x - 15.4x	9.0% - 8.0%
Accumulate	$38 - $44	5.0x - 5.8x	15.4x - 17.8x	8.0% - 6.9%
Hold	$44 - $51	5.8x - 6.7x	17.8x - 20.7x	6.9% - 6.0%
Sell	>=$51	> = 6.7x	> = 20.7x	< = 6.0%

Target price:	$13
Current trading price:	$12
Upside to target price:	8.2%

Where we like CZN:	Price	FV/EBITDA	P/E	FCF yield
Aggressively buy	<=$9	< =5.8x	< =10.3x	> =13.1%
Buy	$9 - $10	5.8x - 6.1x	10.3x - 11.7x	13.1% - 11.8%
Accumulate	$10 - $12	6.1x - 6.7x	11.7x - 13.0x	11.8% - 9.8%
Hold	$12 - $14	6.7x - 7.2x	13.0x - 15.3x	9.8% - 8.4%
Sell	>=$14	> = 7.2x	> = 15.3x	< = 8.4%

Source: Company Data and Morgan Stanley Research estimate

Exhibit 17

US Wireline Comparables

Wireline Telecom Services Industry rating: Cautious Stock ratings: O = Overweight, E = Equal-weight, U = Underweight

	TKR	MS Rating	Mkt Cap	Price 07/21/03	Target Price	Upside to Target	P/E 2002	P/E 2003E	P/E 2004E	P/E to LTG	FV/EBITDA 2002	FV/EBITDA 2003E	FV/EBITDA 2004E	P/CEPS 2003E	P/CEPS 2004E	FV/04E Lines	2003 Div Yield	2003 FCF Yield	2004 FCF Yield
AT&T	T	E	15,058	$19.17		NA	15.2	9.6	12.8	NM	2.6	3.1	3.2	NA	NA	NM	19.6%	21.0%	18.0%
Alltel	AT	O	14,326	$45.86	$55.00	20%	15.6	14.4	14.2	3.20	6.9	6.3	5.9	7.1	6.4	2,591	3.1%	9.7%	8.2%
BCE	BCE	E	19,782	$21.57			18.0	16.1	14.9	0.10	6.5	7.1	6.0	4.0	3.9	2,414	3.8%	4.6%	7.2%
BellSouth	BLS	O	45,851	$24.86	$28.00	13%	12.2	12.6	13.2	24.15	4.6	4.9	5.1	5.4	5.8	2,348	3.4%	10.4%	9.8%
Cincinnati Bell	CBB	U-V	1,526	$6.35			NM	NM	NM	NM	6.4	7.4	7.8	NM	NM	3,857	NA	9.1%	9.6%
CenturyTel	CTL	O	4,738	$32.95	$40.00	21%	19.2	15.2	14.2	1.73	7.9	6.7	6.2	7.2	6.0	3,184	0.7%	9.8%	9.3%
Commonwealth	CTCO	E	943	$39.79	$48.00	21%	17.5	16.6	16.1	3.75	6.1	5.8	5.2	7.7	7.4	1,855	NA	7.2%	7.7%
Citizens	CZN	E	3,382	$12.01	$13.00	8%	NM	NM	NM	NM	6.7	6.7	6.1	NM	NM	2,973	NA	11.6%	9.8%
Qwest	Q	U-V	7,418	$4.41			(9.2)	NM	NM	NM	NA	6.0	6.2	2.6	2.8	1,433	0.3%	-0.8%	0.0%
SBC	SBC	E	77,524	$23.13	$26.00	12%	10.7	14.8	15.3	(2.77)	5.3	6.0	5.9	4.9	5.8	1,613	4.8%	10.2%	7.0%
Sprint	FON	E	13,178	$14.65			10.9	11.6	12.7	(3.17)	2.9	3.2	3.5	3.2	3.5	1,843	3.4%	10.2%	8.3%
TDS	TDS	U	3,035	$51.80			20.7	24.4	19.0	1.95	6.1	5.8	4.9	-6.4	4.3	2,037	1.2%	-3.6%	-3.5%
Verizon	VZ	E	96,661	$34.77	$37.00	6%	11.4	12.9	13.3	(48.74)	5.8	5.9	5.8	NA	4.6	3,043	4.4%	9.6%	9.7%
S&P 500				*979*			*17.8*	*17.8*	*17.2*	*2.54*									
VZ+SBC+BLS Avera			73,345			10.5%	11.4	13.4	13.9	(9.12)	5.2	5.6	5.6	5.2	5.4	2,335	4.2%	10.1%	8.8%
IXC Average			11,884				5.6	10.6	12.8	(3.2)	2.8	4.1	4.3	2.9	3.1	1,638	7.8%	10.1%	8.8%
RLEC Average			5,285			17.6%	18.3	17.6	15.9	2.7	6.7	6.3	5.7	3.9	6.0	2,528	1.6%	6.9%	6.3%
U.S. Large Cap Avera			23,340				12.9	14.8	14.6	(2.20)	5.6	5.8	5.5	4.0	5.0	2,433	4.5%	8.4%	7.8%
U.S. Large Cap Medi			13,178				15.2	14.6	14.2	1.73	6.1	6.0	5.9	4.9	5.2	2,381	3.4%	9.7%	8.3%

** Citizens 2002 FV/EBITDA adjusted to reflect the closure of all divestitures. Sprint 2002E EPS excludes estimated $0.03 in ION losses. BCE price reflects US$ and ratios reflect local currency.*
We have adjusted Verizon net debt to include minority interest attributable to Vodafone. SBC and BLS firm values are also adjusted to include proportionate Cingular debt.

	YTD Return	YTD Ret Vs Sector	YTD Ret Vs Mkt	2002 Return	2002 Ret Vs Sectur	2002 Ret Vs Mkt	P/E Rel to Sector* 2002	P/E Rel to Sector* 2003E	P/E Rel to Sector* 2004E	P/E Rel to Mkt 2002	P/E Rel to Mkt 2003E	P/E Rel to Mkt 2004E	FV/EBITDA Rel to Sector 2002	FV/EBITDA Rel to Sector 2003E	FV/EBITDA Rel to Sector 2004E	P/CEPS Rel to Sector 2002	P/CEPS Rel to Sector 2003E
AT&T	-27%	-32%	-38%	44%	68%	67%	33%	-29%	-8%	-15%	-46%	-26%	-51%	-44%	-42%	NA	NA
Alltel	-10%	-16%	-21%	-17%	7%	6%	37%	7%	2%	-12%	-19%	-17%					
BCE	20%	14%	9%	-21%	3%	2%	58%	19%	7%	1%	-10%	-13%	24%	27%	8%		
BellSouth	-4%	-9%	-15%	-32%	-8%	-9%	7%	-6%	-6%	-31%	-29%	-23%	-11%	-12%	-9%	5%	7%
Cincinnati Bell	80%	75%	69%	-63%	-39%	-40%				NM	NM	NM					
CenturyTel	12%	7%	1%	-10%	14%	13%	68%	13%	2%	8%	-15%	-17%					
Commonwealth	11%	6%	0%	-21%	3%	2%	53%	23%	16%	-2%	-7%	-6%					
Citizens	14%	8%	3%	-1%	23%	22%				NA	NA	NA					
Qwest	-12%	-17%	-23%	-65%	-41%	-41%				NA	NA	NA					
SBC	-15%	-20%	-26%	-31%	-7%	-7%	-6%	10%	10%	-40%	-17%	-11%	1%	7%	5%	-5%	8%
Sprint	1%	-4%	-10%	-28%	-4%	-5%	-5%	-13%	-9%	-39%	-35%	-26%	6%	-22%	-18%	10%	11%
TDS	10%	5%	-1%	-48%	-24%	-24%	81%	81%	37%	16%	37%	11%	123%	40%	14%	-318%	37%
Verizon	-10%	-16%	-22%	-18%	6%	5%	0%	-4%	-4%	-36%	-28%	-22%	11%	5%	4%	NA	-15%
S&P 500	*11%*			-23%	*1%*	*0%*											
VZ+SBC+BLS Avera	-10%	-15%	-21%	-27%	-3%	-4%				-36%	-24%	-19%					
IXC Average	-12%	-18%	-24%	-16%	8%	7%				-27%	-40%	-26%					
RLEC Average	7%	2%	-4%	-20%	4%	4%				3%	-1%	-7%					
U.S. Large Cap Avera	5%	0%	-6%	-24%	0%	-1%				-15%	-17%	-15%					
U.S. Large Cap Medi	1%	-4%	-10%	-21%	3%	2%				-13%	-18%	-17%					

** Citizens 2002 FV/EBITDA adjusted to reflect the closure of all divestitures.*
We have adjusted Verizon net debt to include minority interest attributable to Vodafone. SBC and BLS firm values are also adjusted to include proportionate Cingular debt.

Source: Morgan Stanley estimates

Please see analyst certification and other important disclosures starting on page 15

Exhibit 18

US Wireless Comparables

Wireless Operator Valuation Table — **Prices and Valuations as of: 07/21/03** — *Source: Company reports and Morgan Stanley estimates*

Companies[1]	Ticker	Stock Rating	Industry Rating	Price US$	Price Target US$	Shares Out. M	Market Cap US$M	Net Debt US$M	EV US$M	P/E 2002A	P/E 2003E	P/E 2004E	Free Cash Flow Yield 2002A	Free Cash Flow Yield 2003E	Free Cash Flow Yield 2004E	EV/EBITDA 2002A	EV/EBITDA 2003E	EV/EBITDA 2004E	EV/Subscribers 2002A	EV/Subscribers 2003E	EV/Subscribers 2004E	2003E P/E to Growth[2]	2003E EV/EBITDA to Grth.[3]
Nationals																							
AT&T Wireless[3]	AWE	O-V	Attractive	7.55	11.00	2,709	20,453	7,672	28,125	98.4	33.1	21.9	-8.8%	2.4%	5.5%	7.4	6.0	5.2	1,359	1,221	1,121	0.8	0.5
Nextel[4]	NXTL	E-V	Attractive	19.60	19.00	1,074	21,043	11,540	32,583	79.9	18.1	14.5	0.5%	3.3%	4.9%	10.2	7.9	6.6	3,057	2,493	2,164	1.3	0.7
Sprint PCS[5]	PCS	E-V	Attractive	5.75	--	1,021	5,870	18,096	23,966	NM	NM	45.8	-16.2%	-1.6%	7.4%	8.3	7.2	5.4	1,629	1,476	1,260	NM	0.5
Cingular[6]		--	Attractive	--	--	--	--	11,250	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Verizon Wireless[7]		--	Attractive	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
T-Mobile USA[8]		--	Attractive	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Rogers Wireless	RCM.B	E	Attractive	17.16	15.00	142	2,431	1,630	4,061	NM	NM	88.5	-2.0%	4.0%	6.6%	11.5	9.1	7.7	1,073	849	839	NM	0.8
Affiliates																							
Nextel Partners	NXTP	E-V	Attractive	8.88	--	247	2,189	1,591	3,781	NM	NM	NM	-20.3%	-10.9%	0.6%	NM	23.5	11.2	4,014	3,061	2,627	NM	0.5
Triton PCS[9]	TPC	E-V	Attractive	5.52	--	80	441	1,359	1,800	NM	NM	NM	-33.0%	-17.2%	9.2%	10.9	8.7	6.3	2,183	2,034	1,813	NM	0.4
Independents																							
Alltel[11]	AT	E	Cautious	45.86	53.00	312	14,309	5,990	20,299	15.6	15.1	14.5	6.8%	6.2%	6.2%	7.2	6.3	5.9	2,736	2,528	2,360	6.2	2.9
US Cellular[12]	USM	E-V	Attractive	28.70	30.00	86	2,299	1,148	3,447	14.0	22.3	15.3	-7.4%	-4.4%	-3.0%	5.4	5.2	4.3	843	801	714	NM	0.3
Western Wireless[13]	WWCA	U-V	Attractive	13.21	--	79	1,043	2,429	3,472	NM	NM	NM	-31.5%	-0.8%	0.9%	8.7	7.5	7.3	2,576	2,382	2,152	NM	1.3
Median										47.6	20.2	16.6	-8.8%	-0.8%	5.5%	8.5	7.5	6.3	2,183	2,034	1,813	1.3	0.5

Companies[1]	52 Week High	52 Week Low	Stock Performance (US$) 1 Week	1 Month	YTD	Daily Trading Vol. ($M)	Current Cash ($M)	EV Adjust.[10] ($M)	Price/ Book	P/CE 2002A	P/CE 2003E	P/CE 2004E	Net Debt/EBITDA 2002A	Net Debt/EBITDA 2003E	Net Debt/EBITDA 2004E	Capex to Sales 2002A	Capex to Sales 2003E	Capex to Sales 2004E	EBITDA Margin 2002A	EBITDA Margin 2003E	EBITDA Margin 2004E	Debt Ratings Moody's	Debt Ratings S&P
Nationals																							
AT&T Wireless[3]	8.75	3.15	-6%	-6%	34%	88.8	3,563	968	0.7	8.9	5.6	5.0	2.0	1.7	1.5	34%	20%	17%	26.5%	29.9%	32.3%	Baa2	BBB
Nextel[4]	20.53	4.52	1%	10%	70%	420.8	2,277	704	7.4	30.6	6.7	6.2	3.6	2.9	2.5	23%	19%	19%	38.7%	41.8%	42.9%	B3	B+
Sprint PCS[5]	6.48	1.75	-1%	-1%	31%	47.0	457	0	5.8	3.5	3.0	2.3	6.3	5.4	4.4	25%	19%	18%	26.5%	29.0%	32.8%	Baa3	BBB-
Cingular[6]	--	--	--	--	--	--	1,358	--	--	--	--	--	--	--	--	29%	26%	17%	31.8%	32.8%	32.9%	A3	A+
Verizon Wireless[7]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	25%	24%	20%	39.1%	38.4%	38.6%	--	--
T-Mobile USA[8]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	40%	30%	27%	9.9%	18.3%	19.4%	--	--
Rogers Wireless	17.47	3.77	2%	1%	95%	0.4	0	0	12.0	9.8	6.8	6.0	4.6	3.6	3.1	32%	21%	18%	29.4%	30.0%	31.0%	--	BB+
Affiliates																							
Nextel Partners	9.60	2.97	-2%	43%	46%	17.9	113	0	22.1	NM	NM	14.3	NM	10.0	4.7	39%	22%	12%	0.4%	17.2%	29.7%	N/A	B-
Triton PCS[9]	6.35	0.88	-10%	1%	40%	0.6	276	0	NM	NM	11.9	2.7	8.2	6.2	4.5	24%	17%	13%	24.0%	28.5%	34.9%	B3	B+
Independents																							
Alltel[11]	56.28	35.33	-7%	-8%	-10%	53.7	155	0	2.4	15.6	15.1	14.5	2.1	1.9	1.8	16%	15%	11%	40.8%	40.5%	41.2%	A2	A
US Cellular[12]	33.25	21.40	-2%	3%	7%	2.6	18	0	1.0	6.8	4.3	3.6	1.8	1.7	1.4	35%	26%	26%	30.1%	28.7%	31.0%	Baa1	A-
Western Wireless[13]	14.47	1.23	-5%	10%	149%	17.6	69	400	NM	NM	5.3	4.8	6.4	5.4	5.4	19%	19%	17%	47.1%	45.4%	42.7%	Caa2/WatchNeg	B
Median			-3%	2%	39%				5.8	8.4	6.2	5.0	4.1	3.6	3.1	27%	20%	17%	29.7%	30.0%	32.8%		

Source: Morgan Stanley estimates

Analyst Certification

The following analysts hereby certify that their views about the companies and their securities discussed in this report are accurately expressed and that they have not received and will not receive direct or indirect compensation in exchange for expressing specific recommendations or views in this report: Jeannette Baez.

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(as of June 30, 2003)

	Coverage Universe		Investment Banking Clients (IBC)		
Stock Rating Category	Count	% of Total	Count	% of Total IBC	% of Rating Category
Overweight	543	30%	214	35%	39%
Equal-weight	860	47%	288	48%	33%
Underweight	410	23%	104	17%	25%
Total	1,813		606		

Data include common stock and ADRs currently assigned ratings. For disclosure purposes (in accordance with NASD and NYSE requirements), we note that Overweight, our most positive stock rating, most closely corresponds to a buy recommendation; Equal-weight and Underweight most closely correspond to neutral and sell recommendations, respectively. However, Overweight, Equal-weight, and Underweight are not the equivalent of buy, neutral, and sell but represent recommended relative weightings (see definitions below). An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations. Investment Banking Clients are companies from whom Morgan Stanley or an affiliate received investment banking compensation in the last 12 months.

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Overweight (O). The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

Equal-weight (E). The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

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VERIZON PENNSYLVANIA INC. AND VERIZON NORTH INC.
STATEMENT NO. 2.0

8/25/03 Hrg-VR

AT&T COMMUNICATIONS OF PENNSYLVANIA, INC.

V.

VERIZON NORTH INC.

DOCKET NO. C-20027195

VERIZON PENNSYLVANIA INC.

STATEMENT NO. 2.0

(DIRECT TESTIMONY)

WITNESSES: Ann A. Dean
Gary Sanford

DATED: June 25, 2003

EXPURGATED VERSION

TABLE OF CONTENTS

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 Ann Amalia Dean and Gary Sanford. This testimony is submitted on behalf of Verizon Pennsylvania Inc. ("Verizon PA") and Verizon North Inc. ("Verizon North") (collectively "Verizon").

Q WHAT ROLE DID EACH MEMBER OF THIS PANEL PLAY IN THE PREPARATION OF THIS TESTIMONY AND THE ASSOCIATED STUDIES?

A. Although each member of this Panel has reviewed and supports this testimony in its entirety, each Panel member assumed primary responsibility for specific segments of the testimony. Specifically:

1) Ann Dean is responsible for the costs associated with switching rate elements for access, the port costs associated with the dial tone line and the costs of usage.

2) Gary Sanford discusses the costs of interoffice transport, entrance facilities for access and the costs of the loop for the dial tone line.

Q. MS. DEAN, PLEASE DESCRIBE THOSE ASPECTS OF YOUR PROFESSIONAL BACKGROUND MOST PERTINENT TO YOUR TESTIMONY.

A. I am a Senior Staff Consultant in Verizon's Service Costs Organization. My business address is 13100 Columbia Pike, C27, Silver Spring, Maryland, 20904. I earned a Master of Arts degree and Bachelor of Arts degree in Economics from the University of Maryland

in 1982 and 1978 respectively. I am a licensed Certified Public Accountant. From 1987 to 2000, I was employed as a Regulatory Economist and the Assistant Director of the Telecommunications Division for the Maryland Public Service Commission. I was a staff member of the Federal/State Joint Conference on Open Network Architecture. In 2000, I became a Service Cost Manager with Verizon. In my role at Verizon I support the development of costs for Unbundled Network Elements ("UNEs") and wholesale services consistent with current federal and state regulations. I have previously presented testimony on cost issues before the state commissions in Pennsylvania, Maryland, Delaware, West Virginia, Maine, and Rhode Island. In Pennsylvania, I was the member of the UNE cost panel in R-00016683 responsible for Operations Support Systems costs.

Q. MR. SANFORD, PLEASE DESCRIBE THOSE ASPECTS OF YOUR PROFESSIONAL BACKGROUND MOST PERTINENT TO YOUR TESTIMONY.

A. I am a Senior Staff Consultant in Verizon's Service Costs organization. My business address is 1717 Arch Street, Philadelphia, PA. I have 34 years of work experience at Verizon or its predecessor companies, encompassing numerous positions with increasing levels of responsibility, including assignments in the outside plant department and marketing. I have spent 20 years in the Service Cost organization, with 13 years in my current position. My current responsibilities include conducting, reviewing, analyzing and supervising cost studies and cost study methodologies. In addition, I have attended many courses and seminars on relevant topics, including Economic Principles for Cost Analysis, Costs for Pricing Decisions, Network Services Costs, and Concepts of Service Cost Studies.

I have provided oral and/or written testimony on various cost matters in Pennsylvania, Delaware, Rhode Island, New Hampshire, West Virginia, Virginia, and Washington, DC, and for 271 filings in Pennsylvania, Delaware, and West Virginia and the Virginia UNE proceeding at the FCC.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY.

A. Our testimony describes our calculation of the consolidated costs for intrastate switched access for Verizon PA and Verizon North and presents the results of that cost study, demonstrating that the cost methodology is just, reasonable and forward-looking and the cost results are valid. It is our understanding, however, that Ms. Berry will testify that the incremental costs of providing access are of very limited relevance here because it is neither legally required nor sound policy to use such costs in setting access rates, although the Commission may still want to be generally aware of the cost of providing this service.

Also, to support Ms. Berry's testimony that revenue-neutral increases of approximately $1 to $2 to residential rates will not cause the weighted average local service rate to exceed, or even to approach, the actual cost of providing basic local service, we attach the results of and briefly describe the most recent studies Verizon has conducted regarding the costs of providing basic local service. The components of these costs are the dial tone line and usage.

II. SWITCHED ACCESS COSTS

Q. DID VERIZON PERFORM A CONSOLIDATED COST STUDY REGARDING THE COSTS TO VERIZON PA AND VERIZON NORTH OF PROVIDING SWITCHED ACCESS?

A. Yes. Based on the Commission's requirement that Verizon "commence a proceeding for the purpose of developing access charge parity for both companies based on consolidated cost studies,"[1] Verizon performed a study of the costs of providing switched access. Verizon made the results of that study available to the parties and Commission staff on January 21, 2003 by providing a proprietary file containing the document set for this study, including the Overview of the Filing, Cost Study Results, and Global Inputs and Assumptions used in the studies. The Verizon access cost studies were performed in the new on-line VzCost system and Verizon informed the parties that substantial additional information is available through on-line access to this system. Verizon has provided, and will continue to provide upon request, to the parties and members of the Commission staff a VzCost identification code and password with which they may use the commonly available software Internet Explorer and Adobe Acrobat to examine the switched access cost studies by accessing Verizon's website, http://www.verizon.com/vzcost. The results of the consolidated access cost study are attached hereto as Exhibit 1.

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1 *Merger Order* entered November 4, 1999 at 36.

Q. WHAT IS SWITCHED ACCESS SERVICE?

A. Switched Access Service provides for a two-way communications path capable of transmitting communications services between an Inter-Exchange Carrier ("IXC') location and the premises of its end-user customers. It includes access services that use the local exchange carrier's central office switches. Switched Access can be provided via line side or trunk side connections to the IXC's facilities. Switched access service is provided in three service categories of standard and optional features called Feature Groups. Verizon also offers shared and end office dedicated trunk ports, dedicated tandem trunk ports, tandem switching, local (shared) transport, dedicated transport, entrance facilities, multiplexing and Automatic Number Identification. The following is a brief description of each of these services and features.

Feature Group A Switched Access provides line-side interconnection to Verizon's end office switches through an end user seven-digit access code (NXX-XXXX) for the IXC's use in originating and terminating calls to end users. Feature Group A Service is used primarily for Foreign Exchange access. It is ordered most often by large end users that wish to establish a local seven-digit telephone number for call completion to and from a foreign LATA. The end user enters a Personal Identification Number ("PIN") to place a long distance call.

Feature Group B Switched Access provides trunk-side interconnection to Verizon's central office switches through a uniform seven digit access code (950-XXXX) for the

IXC's use in originating and terminating calls to end users. The terminating portion of Feature Group B can be a Verizon end office or Verizon access tandem.

Feature Group D Switched Access provides trunk-side interconnection to Verizon's central office switches through either a 101XXXX arrangement or on a pre-subscribed basis for the IXC's use in originating and terminating calls to end users. Feature Group D Service is the most frequently used access service. It is the primary access media because it allows IXC customers to offer their end users the capability of using 1+ dialing for calling on their network. Feature Group D also permits 101XXXX calling, allowing end users the ability to access an IXC other than their subscribed carrier. Feature Group D can be ordered directly from the IXC's Point of Presence to either a Verizon end office or Verizon access tandem.

End office trunk ports allow the IXC to originate or terminate traffic at a given switch. They are available on a minute-of-use basis or a dedicated basis. The tandem switching option is available for those cases in which the carrier does not purchase dedicated direct trunking. The options for transport are common transport over Verizon's routes or dedicated direct transport over trunk groups installed specifically for the carrier. Entrance facilities are those facilities put in place for access into the carrier's network at their point of termination from the Verizon Serving Wire Center. Multiplexing provides the capability of converting the capacity or bandwidth of a facility from a higher to a lower level. DS1 to voice grade converts a DS1 channel to 24 voice grade channels. DS3 to DS1 converts DS3 channel to 28 DS1 channels. Automatic Number Identification causes seven

or ten digits and information digits to be transmitted across the network to identify the calling party's number. Automatic Number Identification is available as a standalone service or as part of Feature Group D Local Switching.

Q. PLEASE DESCRIBE THE COST METHODOLOGY USED TO DETERMINE THE CONSOLIDATED INTRASTATE SWITCHED ACCESS COSTS FOR PENNSYLVANIA.

A. Verizon first determined the cost for each switched access network element for Verizon Pennsylvania and Verizon North separately. Then, the two costs for each element were weighted by the individual Company's percentage of either Verizon access line counts statewide or Verizon access lines per density cell to compute the consolidated intrastate switched access network element cost for Pennsylvania. The results are shown in Exhibit 1.

Q. WHAT ARE THE GLOBAL ASSUMPTIONS USED IN VZCOST TO DETERMINE SWITCHED ACCESS COSTS?

A. Global assumptions are inputs used in calculating costs. The global assumptions used for switched access are identified in the global assumptions reports contained in VzCost. The global assumptions for Verizon PA and Verizon North used to determine switched access costs are depreciation lives (Generally Accepted Accounting Principles), study period (2003-2005), cost of money (12.45%), and debt ratio (25%). The Common Overhead factor is **[BEGIN VERIZON PROPRIETARY]**

[END VERIZON PROPRIETARY]. The Gross Revenue Loading factor is

[BEGIN VERIZON PROPRIETARY]

[END VERIZON PROPRIETARY].

Q. WHAT ARE THE MAJOR COMPONENTS OF SWITCHED ACCESS COSTS?

A. The major components of switched access costs are switching, trunk ports, transport, entrance facilities, non-recurring costs and directory assistance.

Q. HOW WERE SWITCHING COSTS FOR SWITCHED ACCESS DEVELOPED?

A. The central office switching costs for Switched Access services were based on the "unit investment" cost methodology employed in the switching investment cost models. This methodology starts with a unit of investment representing a certain component(s) of the vendor's switching system. The Switching Cost Information System ("SCIS") model, developed by Telcordia Technologies, and Cost Modeling System ("COSMOD"), an internal switching investment model for the switch type GTD5, estimate the required investments for switching. The investment estimates are based upon statistics concerning the number of access lines and trunks served by a switch and its traffic characteristics (e.g, average busy hour Centum Call Seconds (CCS) per line). The total investment calculated by SCIS is based upon investment tables that reflect national vendor price lists. The switching discounts that are used as an input to SCIS are based upon the discount that Verizon can actually receive when deploying switching equipment in the forseeable future under its current vendor contracts. The discount is applied to the list price of the items in determining the appropriate investments. SCIS is a PC-based system that contains two modules, SCIS/Model Office ("SCIS/MO") and SCIS/Intelligent Network ("SCIS/IN").

SCIS/MO is the module that develops switching investments for model offices and SCIS/IN develops incremental investments associated with vertical switch features. For GTD-5 EAX host switches and remote switching units, the COSTMOD, a PC-based software program developed by Verizon, is used to estimate the material investment. The investment estimates are based on inputs such as the number of access lines and trunks served as well as inputs on traffic characteristics.

For Switched Access, the unit investment costing methodology determines the switch resources required to process a Feature Group minute of use, tandem switching minute of use, an end office or tandem trunk port, and/or an Automatic Number Identification cost per call. Feature Group calls require the use of the switch processor (and other switch initial investments), line usage, trunk usage, service circuits (where required), and Signaling System 7 resources in the switch. Tandem switching uses these same components of the switch, with the exception of line usage. SCIS and COSTMOD produce the investments for end office trunk ports while SCIS is utilized for developing costs associated with tandem switching. The SCIS/IN cost model develops investments for each Feature Group call type by calculating the product of the unit resource investment consumed (*e.g.*, getting started cost per millisecond of processing) and the amount of that resource consumed (processor milliseconds). The traffic sensitive line and trunk investments are converted to an investment per minute of use. SCIS/IN also calculates the Automatic Number Identification investment, in a similar fashion.

In the development of network calling investments, there are typically two major cost elements. First, there is the investment required to "set up" the call. This setup investment, which is incurred for each call attempt, captures the switch resources required to establish the call. The second cost element is the usage-related investment, which captures the line and trunk traffic sensitive investments required to process each minute of use. Since the common Switched Access rate elements are priced on a per minute of use basis, it is necessary to convert these setup investments (which are developed on a per call attempt basis) to a per minute of use basis by dividing the setup cost by the average Feature Group call holding time. The setup investments (expressed on a per minute of use basis) and the traffic sensitive per minute of use investments are added to develop a total investment per minute of use.

Q. HOW WERE TRUNK PORT COSTS DEVELOPED?

A. Trunk port costs are developed for shared end office trunk ports and both shared and dedicated tandem trunk ports. The end office trunk port is available both on a dedicated basis and a share (minute of use) basis. The tandem port is available separately on a dedicated basis, and is included with the tandem switching on a shared/minute of use basis. The investment for trunk ports includes the switch components required to provide trunk terminations in the switch as well as the associated DSX cross connection. The investments for the dedicated trunk ports are multiplied by the annual cost factors and loadings to derive monthly costs for those switch components. The shared trunk port investments are divided by the average volume of usage to derive a cost per minute of use. The costs generated, after

the application of the annual cost factors and loadings and the Busy Hour to Annual Ratio ("BHAR"), conform to the tariff rate structure which is expressed on a per minute-of-use basis.

Q. HOW WERE THE COMMON OR LOCAL TRANSPORT COSTS DETERMINED?

A. Switched access traffic between Verizon central offices, serving wire centers and tandems can be transported over direct trunked facilities, local or tandem-switched transport facilities. Direct-trunked transport investments are developed with both fixed and per-mile components. Local Transport costs are developed for two scenarios: local transport to a tandem, referred to as tandem transport and transport between a remote and its host. These costs reflect the terminations on either end of a circuit (at the end office and at the tandem for tandem transport, and at the remote and the host for host/remote transport) and the actual facility between the two end points. Switched Access local transport is rated on a fixed and per mile basis, per minute of use. The fixed rate is for a single termination, and the per mile rate is for one mile of the common facility. The starting point for the costs of both tandem and host/remote transport are the interoffice facilities investments, as produced by the Interoffice Facilities module. These investments are converted to a minute of use basis by calculating annual minutes of use by taking the average busy hour Centum Call Seconds (CCS) for trunks by each switch type (as calculated from SCIS and/or COSTMOD) and dividing by the BHAR described above. The different investments are weighted together based on total trunk Centum Call Seconds (CCS) by switch type and converted to a cost by applying the annual cost factors and loadings for each asset account.

Q. HOW WERE DEDICATED INTEROFFICE TRANSPORT SERVICE DEVELOPED?

A. The costs were developed on a "fixed" basis and a "per mile" per month for each signaling level facility. In general, the fixed costs are those costs associated with equipment installed at originating and terminating Verizon PA wire centers, which include electronic equipment such as synchronous optical network ("SONET"), add drop multiplexers ("ADM"s), digital cross-connect systems ("DCS"), and fiber terminations. The per-mile costs are generally associated with network components whose costs are driven by the length of the transport circuit. Such components include interoffice fiber cables, support structure, and any necessary intermediate channel termination electronics at intermediate Verizon PA serving wire centers for circuits that must traverse more than one SONET ring.

Q. HOW DOES VERIZON PA CALCULATE THE FIXED (NON-MILEAGE-SENSITIVE) COSTS OF PROVIDING INTEROFFICE TRANSPORT?

A. Verizon PA applies equipment prices from its vendor contracts to each of the modeled equipment configurations to produce per-unit material investments. Verizon PA then applies investment loading factors to the equipment prices to account for associated installation, engineering, and power costs. This results in total installed unit investment for both ends.

Q. HOW DOES VERIZON PA CALCULATE THE MILEAGE-SENSITIVE COSTS OF PROVIDING INTEROFFICE TRANSPORT?

A. VzCost calculates mileage-sensitive costs in five steps. First, VzCost calculates the average fiber cost per SONET ring (on a per-DS0 basis) using the per-strand-foot investment developed by VzLoop, the average length of a SONET ring in Verizon PA's network, and the total circuit capacity of each SONET ring design. Second, Verizon PA multiplies this average cost by intermediate channel termination ("ICT") factor to take into account the use of fiber on multiple rings for circuits that traverse more than one ring. Third, VzCost calculates the weighted average cost of ICT electronics per circuit using the different ring designs and the ICT factor. Verizon applies the appropriate ACFs to these costs to produce annual costs and then divides by 12 to produce recurring monthly costs. Finally, Verizon adds these costs together and divides by the average billed miles per circuit in Pennsylvania to produce the average, monthly, mileage-sensitive costs on a per-mile basis.

Q. HOW WERE ENTRANCE FACILITY COSTS DETERMINED?

A. Entrance facility loops connect interexchange carriers' points of presence to Verizon's serving wire centers. Entrance facilities costs for signaling rates of DS0 (2-wire and 4-wire), DS1, and DS3 were calculated. The modeled investment for the 2-wire, 4-wire and DS1 facilities are developed using VzCost's loop investment calculator, VzLoop, while the DS3 entrance facility was developed using the IOF/Hicap investment module and VzCost. The 2-wire, 4 wire and DS1 entrance facility costs are developed in a similar manner as the 2-wire analog loop explained later, while the DS3 entrance facility costs are developed in a similar manner as the Dedicated Transport costs.

Q. HOW DOES VZCOST CALCULATE NON-RECURRING COSTS?

A. Non-recurring cost development begins with a cost model external to VzCost that calculates the basic expense elements. Once these basic expense elements are loaded into VzCost, they are mapped to correspond to the appropriate network element, and the common overhead and gross revenue loading factors are applied to produce total non-recurring costs.

Q. HOW WERE NON-RECURRING COSTS DETERMINED?

A. The external cost model uses current average work times as the starting point for estimating the one time forward-looking costs that Verizon incurs associated with any labor activity necessary to provision a customer request for the initiation or change and ultimately the termination of service. The same forward-looking times are used for both Verizon PA and Verizon North. VzCost uses different labor rates depending on the locations of the functional organizations actually performing the work. Labor rates specific to each state are applied whenever the work centers are located within the state where the costs are being filed. This makes the non-recurring costs specific for the work centers in those states. For example, Central Office Frame technicians can be found in every state. For the Pennsylvania filing, the functional organization Central Office Frame uses the labor rates developed for technicians who work for Verizon Pennsylvania and Verizon North. The product of the relevant work time and the relevant labor rate provides the non-recurring cost for each activity.

Q. WHAT IS ACCESS DIRECTORY ASSISTANCE SERVICE?

A. Access Directory Assistance service provides the calling party with telephone numbers available from Verizon's directory listings database for any party located in the caller's

IntraLATA calling area. Calls to Access Directory Assistance are sent to a Traffic Operator Position System ("TOPS") switch. The TOPS switch acts as an Automatic Call Distributor, and directs the call to the first available Operator Service Center. A peripheral of the switch provides Automated Directory Assistance Service that prompts for the locality and listing desired, and records the end-user's responses. The call is then transferred to a live operator, who searches the directory database for the requested listing, thanks the end-user for calling, and releases the call to the audio Voice Feature Node, which plays the listing information for the end-user. The Erie, Pennsylvania Megacenter handles Directory Assistance for Verizon North and various centers including some in Pennsylvania handle Directory Assistance for Verizon Pennsylvania.

Q. HOW WERE DIRECTORY ASSISTANCE COSTS DETERMINED?

A. The Directory Assistance cost for Verizon North was determined by multiplying the customer serving time for a directory assistance call by the total cost per directory assistance work second. The total directory assistance cost consists of investment related costs (e.g., TOPS switch, Directory Listings Databases) and expense related costs (e.g., Operator labor). For Verizon Pennsylvania the Directory Assistance cost is the sum of all the investment and expense component costs per directory assistance call. For most of those components the annual investment or expense is divided by the annual call demand. In addition, the operator labor expense per work second is multiplied by the customer serving time per directory assistance call, and switch processing and end office transport costs are input from respective switching and usage cost studies on a per call basis.

III. BASIC LOCAL SERVICE COSTS

Q. HAS VERIZON PERFORMED ANY COST STUDIES REGARDING THE COSTS OF PROVIDING BASIC LOCAL SERVICE IN VERIZON PA AND VERIZON NORTH?

A. Yes. Attached to this testimony are the results of the most recent studies Verizon has performed regarding the costs of providing basic local service, which consists of the costs of the dial tone line and the costs of local usage. Both of these studies have been produced to the parties in response to discovery requests. The dial tone line study was performed in VzCost and is available for review in the same manner as the access cost study described above, using the same User ID and password. The results of the dial tone line cost study are attached as Exhibit 2. The results of the usage cost study are attached as Exhibit 3.

A. Dial Tone Line Costs

Q. WHAT IS A DIAL TONE LINE?

A. A dial tone line is a local loop that is the first major functional component of a local exchange network and is comprised of the facilities that connect an end user customer location to a wire center (also called a central office). At the wire center, loop facilities serving a particular geographic area terminate on physical arrays called "distribution frames." Heavily populated suburban wire centers typically have a large number of shorter loops. Rural wire centers cover larger geographical areas with fewer customers, and thus have fewer but much longer and more expensive loops. Dial Tone Lines provide the connection from the customer to the central office switch, which provides dial tone. A dial

tone signal is sent by the central office switch to the end user customer over the dial tone line when an off hook condition occurs. A dial tone line is required to initiate outgoing local and toll calls. Additionally, the dial tone line is the same facility that is used to receive calls from other customers.

Q. WHAT ARE THE COST COMPONENTS OF THE DIAL TONE LINE?

A. The cost components of a dial tone line are a 2 wire analog loop, a central office switch port connection and a main distribution frame connection.

Q. WHAT IS A TWO WIRE ANALOG LOOP.

A. A two-wire analog loop is a transmission circuit consisting of two wires that are used to both send and receive voice conversation in the 300-3000 Hz frequency range. This is the basic loop type used for providing voice-grade "plain old telephone" (POTS) service. The amount of capacity required to carry a voice-grade transmission frequently is referred to as a "DS0."[2]

Q. WHAT LOOP COSTS ARE ASSOCIATED WITH DIALTONE LINE SERVICE?

A. Generally the loop costs consist of the costs of the cable, the structure facilities that physically support the cable, the equipment needed to convert and combine signals, terminals (including serving area interfaces and distribution terminals), drop wire that connects the distribution terminal to the network interface device ("NID") and the NID

[2] DS0 (Digital Signal 0 Level) is a unit of digital signal (64 Kbs) that provides an information-carrying channel within a digital facility. As noted above, a DS0 channel generally provides sufficient digital signal capacity to carry one standard voice grade signal with a 3Khz bandwidth.

itself (the connection point between the drop wire and the customer's inside wiring). The dial tone line study calculated the average costs of these components of a two-wire loop based on the characteristics of each density cell.

Q. WHAT PORT COSTS ARE ASSOCIATED WITH DIAL TONE SERVICE?

A. In addition to the loop cost, the cost of a dial tone line includes the costs associated with the main distributing frame and the termination, or port, on the central office switch. Service-specific port investments are developed for the various types of exchange access lines, among them POTS dial tone lines, ISDN BRI, ISDN PRI, Foreign Exchange, Centrex and Coin Service. These investments represent the cost of a switch port in the forward-looking switching network by switch type, as detailed in the switching investment study. Investments by switch type are combined to a statewide average based on the make-up of switch types in a particular jurisdiction. The investment per line is then converted to a monthly cost per line in the VzCost Coster module.

B. Local Usage Costs

Q. WHAT IS LOCAL USAGE?

A. Local usage, a component of basic exchange service, is a telecommunications service furnished to business and residence customers within a specified geographic area, to provide local calling on either a flat or measured rate basis.

Q. WHAT ARE THE COST ELEMENTS OF LOCAL USAGE?

A. Cost elements of local usage include end office switching, interoffice facilities, and Signaling System 7 technology. Costs are displayed as per Message Set-Up and per Minute

of Use. Set-up costs capture the costs associated with functions occurring on the network prior to the final disposition of the call, while minute of use costs represent the costs incurred per minute during the length of a typical local call.

Q. HOW WERE LOCAL USAGE COSTS DETERMINED IN THE STUDY WITH RESULTS DEPICTED IN EXHIBIT 3?

A. The switching component of retail usage, as with local switching or switched access, is developed using a unit investment approach. Switching costs for retail usage are developed in the same manner, with the following exceptions: for retail usage, switching costs are developed for local or toll, as opposed to a specific feature group or for Automatic Number Identification, and the end office and tandem trunk port costs are combined with switching, as opposed to being shown as separate elements. The cost for the Interoffice Facilities component of retail usage services includes the cost of the facilities between end offices or between end offices and tandems (including the terminations at either end of the facility), as well as the mileage cost. Unlike costs for switched access and UNEs, retail usage costs reflect the cost of providing an end-to-end service and there are no individual rate elements for switching or Interoffice Facilities. However, the method used in the development of the Interoffice Facilities portion of retail usage is similar to that used in the development of local transport costs for switched access. Retail usage costs must also reflect the Signaling System 7 network, since this network is used in the setup of the call. These costs are based on investments calculated in the Signaling System 7 investment calculator. All usage costs

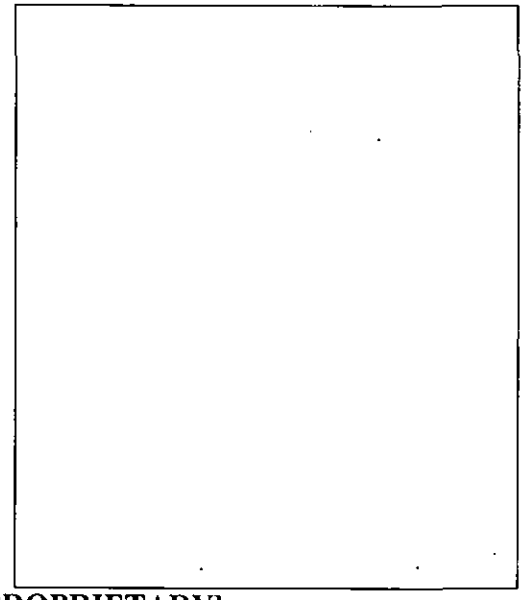
are developed as busy hour costs, and must be spread across all minutes through the use of the Busy Hour to Annual Ratio.

C. Total Residential Basic Local Service Costs

Q. USING THE DATA DEPICTED ON EXHIBITS 2 AND 3, COULD YOU CALCULATE AN AVERAGE MONTHLY COST PER LINE FOR FLAT-RATE LOCAL SERVICE FOR RESIDENTIAL CUSTOMERS?

A. Yes. The results are depicted on the following chart:

[BEGIN VERIZON PROPRIETARY]



[ENDVERIZON PROPRIETARY]

The total cost would include the cost for dial tone line and usage. The statewide monthly average residential cost for the dial tone line is depicted on line 28, columns F and J of page 1 of Exhibit 2 **[BEGIN VERIZON PROPRIETARY]** **[END VERIZON PROPRIETARY]** The cost of usage for the

average residential flat-rated customer for Verizon PA was calculated based on most recent actual data assuming **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]** basic local minutes of use per line, per month at **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]** per MOU and **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]** local messages per month at a set-up cost of **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]**. The cost of usage for the average residential flat-rated customer for Verizon North was calculated based on most recent actual data assuming **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]** basic local minutes of use per line, per month at **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]** per MOU and **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]** local messages per month at a set-up cost of **[BEGIN VERIZON PROPRIETARY] [END VERIZON PROPRIETARY]**.

Q. DOES THAT CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

EXHIBIT 1
IS PROPRIETARY
AND THEREFORE IS NOT
ATTACHED TO THIS
EXPURGATED COPY.

EXHIBIT 2
IS PROPRIETARY
AND THEREFORE IS NOT
ATTACHED TO THIS
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EXHIBIT 3
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VERIZON PENNSYLVANIA INC. AND VERIZON NORTH INC.
STATEMENT NO. 2.1

Nbg JK 8/25/03

AT&T COMMUNICATIONS OF PENNSYLVANIA, INC.

V.

VERIZON NORTH INC.

DOCKET NO. C-20027195

VERIZON PENNSYLVANIA INC.

STATEMENT NO. 2.1

(SURREBUTTAL TESTIMONY)

WITNESSES: Ann A. Dean
Gary Sanford

DATED: August 4, 2003

EXPURGATED VERSION

TABLE OF CONTENTS

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 Ann Amalia Dean and Gary Sanford. This testimony is submitted on behalf of Verizon Pennsylvania Inc. ("Verizon PA") and Verizon North Inc. ("Verizon North") (collectively "Verizon").

Q. ARE YOU THE SAME WITNESSES THAT SUBMITTED DIRECT TESTIMONY STATEMENT 2.0 ON JUNE 25, 2003 ON BEHALF OF VERIZON?

A. Yes.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY.

A. The purpose of our testimony is to respond to certain statements relating to Verizon's Dial Tone Line and Access costs made in the rebuttal testimony of Dr. Ola A. Oyefusi on behalf of AT&T Communications of Pennsylvania, L.L.C. ("AT&T"), William Dunkel on behalf of the Office of Consumer Advocate ("OCA"), Dr. Michael D. Pelcovits on behalf of MCI Worldcom Network Services, Inc. ("MCI") and Joseph Kubas on behalf of the Office of Trial Staff ("OTS").

II. UNE RATES AND INPUTS SHOULD NOT BE USED IN LIEU OF VERIZON'S PROPERLY CONDUCTED COST STUDIES OF ACCESS AND DIAL TONE LINE

Q. CERTAIN WITNESSES CONTEND THAT VERIZON'S COST STUDIES WERE NOT PROPERLY PERFORMED AND THAT THEY OVERSTATE VERIZON'S COSTS. *HOW DO YOU RESPOND?*

A. As with their advocacy in this case in general, the parties' arguments regarding the cost studies fall into two camps. On one hand, the IXCs that want to reduce access charges as close to zero as possible argue that the cost of access depicted in Verizon's study is too high, that Verizon should be using much lower costs and that the prices should be set at or near this drastically reduced cost. On the other hand, the parties that want to keep access charges where they are (or, in MCI's case, both slash access charges and preclude Verizon's revenue neutral recovery through basic rate increases) contend that the costs of providing the "dial tone line" depicted in Verizon's studies are too high and should be allocated to other services, like access, in an attempt to show that local exchange service is not being subsidized. Neither contention is correct.

As an initial matter, we understand that Ms. Berry and Dr. Taylor will explain that access cost studies in themselves are of marginal relevance to this case because access costs are not used to set rates, but at most are relied upon to establish the floor below which Verizon would lose money in provisioning access services. They will also refute the parties' attempts to allocate away parts of the costs of providing the dial tone line.

Additionally, however, the parties' criticisms of Verizon's cost studies are without merit, and to the extent the Commission finds any relevance to the use of cost information

in this proceeding, it should use Verizon's studies. The cost studies Verizon produced for purposes of this proceeding utilize a forward-looking, long-run incremental cost methodology to determine the cost of the various network elements required to provide access services to interexchange carriers and dial tone line service to end users. Verizon's methodology identifies the costs Verizon expects to incur going forward to provide the service in question. The results of these studies represent the Total Service Long Run Incremental Costs ("TSLRIC") of providing these services.

Q. DR. OYEFUSI, MR. DUNKEL, MR. KUBAS AND DR. PELCOVITS CONTEND THAT VERIZON SHOULD HAVE USED RATES OR INPUTS FOR UNBUNDLED NETWORK ELEMENTS ("UNES") TO CALCULATE THE COSTS OF ACCESS AND/OR OF THE DIAL TONE LINE IN THIS CASE. WHAT ARE UNE RATES?

A. UNEs are the individual pieces of an incumbent local exchange carrier's network that competing local exchange carriers may lease to provide competing local telephone service under the provisions of the federal Telecommunications Act. Federal law requires the Commission to set these rates at forward-looking cost.[1]

Binding Federal Communications Commission ("FCC") regulations establish a methodology, known as "total-element-long-run-incremental-cost" or "TELRIC," to calculate UNE costs.[2] Essentially, TELRIC costs are not Verizon's expected future actual costs of providing a particular network element, but are the costs of a hypothetical network

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[1] 47 U.S.C. § 252(d)(1).

[2] 47 C.F.R. § 51.501, et seq. *See also AT&T Corp. v. Iowa Utilities Bd.*, 525 U.S. 366

using "the most efficient telecommunications technology currently available and the lowest cost network configuration, given the existing location of the incumbent LEC's wire centers."[3] The TELRIC methodology is unique to UNEs and is neither legally required to be used for any other purpose, nor appropriate to be used for the purposes proffered by the opposing parties.

The opposing parties use Verizon PA's UNE rates in their testimony. Verizon PA's currently effective UNE rates were most recently modified in the *Global Order*.[4] The Commission is currently conducting a proceeding to reevaluate Verizon PA's UNE rates, and on November 4, 2002 issued a Tentative Order directing how those rates should be calculated.[5] Although Verizon PA has filed rates recalculated pursuant to this order (which are some of the rates the parties use in their analyses), the Commission has not yet issued a final order in the proceeding.

Q. IS IT APPROPRIATE TO USE THE COMMISSION'S UNE RATES OR UNE INPUTS TO CALCULATE THE ACCESS AND DIAL TONE LINE COSTS FOR THIS CASE?

A. No. We understand that Dr. Taylor will discuss why using UNE rates and inputs for this purpose is inappropriate from an economic perspective. We also are advised by counsel

(..continued)
(1999); *Verizon Communications, Inc. v. FCC*, 535 U.S. 467 (2002).

3 47 C.F.R. § 51.501(b)(1), (d)(1).

4 *Petition of Nextlink Pennsylvania, Inc.*, No. P-00991648-1649 (Opinion and Order entered September 30, 1999) ("*Global Order*").

5 *See Generic Investigation re Verizon Pennsylvania Inc.'s Unbundled Network Element Rates*, No. R-00016683 (PUC Opinion and Order entered November 4, 2002).

that the FCC and federal courts have repeatedly rejected arguments that access pricing should be based on the TELRIC methodology used for setting UNE rates.[6]

Using the Commission's UNE inputs for the access and dial tone line studies would also be inappropriate because UNE pricing, particularly as TELRIC has been interpreted and applied by this Commission, is based on a standard that would understate the forward looking costs of access and dial tone line service. In applying the TELRIC standard, this Commission has been extremely optimistic (unrealistically optimistic in many instances) regarding the cost-saving efficiencies that the hypothetical network might gain in providing UNE elements, with the result of severely reducing the rates competitors must pay to use Verizon's network. Those same unrealistic assumptions about hypothetical costs are entirely inappropriate to be applied when it comes to evaluating Verizon's own forward looking costs of providing access and dial tone line service. Instead, the forward looking assumptions used in Verizon's access and dial tone line studies are correctly based on how Verizon will engineer, install and maintain its network in the future and the resultant cost of providing these services. Verizon's forward looking assumptions are based on its real life experience in providing a real telecommunications network – not a make believe network.

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[6] *See, e.g., Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, First Report and Order, 11 FCC Rcd 15499 (rel. August 8, 1996) ("*Local Competition Order*") ¶1033; *Access Charge Reform*, CC Docket No. 96-262, First Report and Order, 12 FCC Rcd 15982 (rel. May 16, 1997) ("*Access Reform Order*") ¶ 199; *Access Charge Reform*, CC Docket No. 96-262, Sixth Report and Order, 15 FCC Rcd 12962 (rel. May 31, 2000) ("*CALLS Order*") ¶ 60; *Texas Office of Public Utility Counsel v. FCC*, 265 F.3d 313, 324-26 (5th Cir. 2001), *cert. denied*, 535 U.S. 986 (2002); *Southwest Bell Telephone v. FCC*, 153 F.3d 523, 546-49 (8th Cir. 1998); *Competitive Telecom. Ass'n v. FCC*, 117 F.3d 1069 (8th Cir. 1997).

The FCC has stated that its TELRIC standard should reflect the forward-looking investment and operating costs of reconstructing the incumbent LEC's telecommunications network using the most efficient available technology each time rates are set. Often, the required TELRIC assumptions, as mandated in the decisions of the FCC and this Commission, understate costs because they are extremely ambitious regarding the pace and the nature of technological development. For example, UNE cost studies are frequently based on the assumption that Verizon will be able to achieve large switch discounts on every switch when it reconstructs its network from scratch, while in the real world a carrier would receive a mix of discounts including the smaller discounts given for add-on switching equipment. Indeed, in the Tentative Order the Commission adopted a set of switch discounts for the hypothetical UNE provider that Verizon undisputably will not obtain itself, with the result of drastically reducing the UNE switching costs, which the other parties compare to Verizon's access costs in this case. The Commission's assumptions are incorrect for UNE pricing, even under the TELRIC methodology,[7] and there is certainly *no* basis to incorporate those assumptions to drastically depress the costs of switching for purposes of an access cost study.

[7] This aspect of the Tentative Order is one of the issues Verizon is asking the Commission to reconsider, and is directly contrary to FCC and court precedent on this issue.

III. THE OTHER PARTIES' ATTEMPTS TO EXTRAPOLATE LOWER DIAL TONE LINE COSTS USING UNE RATES AND OTHER INFORMATION ARE INAPPROPRIATE

Q. OTS'S MR. KUBAS AT PAGES 10 AND 11 ATTEMPTS TO CALCULATE DIAL TONE LINE COSTS USING UNE RATES. ARE HIS CALCULATIONS VALID?

A. No. As discussed earlier in this testimony, and in the testimony of Dr. Taylor, it is wrong to use UNE rates to extrapolate the costs of providing dial tone line service. However, even if one accepted Mr. Kubas' theory that the Tentative Order UNE rates are relevant (which Verizon emphatically does not), Mr. Kubas grossly understates the relevant costs of the dial tone line through faulty calculations.

Mr. Kubas postulates that the cost of the residential dial tone line is $15.09, based on his calculation of Verizon PA's statewide average local loop rate under the Commission's Tentative Order. Mr. Kubas's calculations of costs using UNE rates are faulty. To properly do the calculation, the port rate must be included, which Mr. Kubas inexplicably fails to do. The Tentative Order port rate is $1.14. Also, Mr. Kubas uses all lines rather than just the residential lines, even though he is trying to predict residential costs.[8] Mr. Kubas also fails to recognize that UNE rates are an average of the costs of business and residential lines, and since business lines are on average less expensive to provide, the UNE rates understate even the UNE costs of providing a residential line. Mr.

[8] Mr. Dunkel uses only residential lines and reaches a higher $15.86 weighted average loop rate for the two Verizon companies taken together under the Tentative Order rates. See Dunkle Schedule WDA-3 and Supporting Workpaper for Schedule WDA-1 p. 1 of 5.

Dunkel, for example, applies a 10% mark-up to UNE rates to attempt to correct for this clear understatement of residential costs.

Another very significant reason why UNE rates would understate the costs of the dial tone line is that UNE rates, by design, entirely eliminate retail costs. One possible way of estimating the magnitude of the retail costs removed from UNE rates is to look at the discount established for carriers that resell Verizon's services rather than lease UNEs. This discount is intended to make the resale rates reflect Verizon's retail rates, less the costs avoided if Verizon did not provide retail service. The current resale discount for Verizon PA is 25.69% where the reseller provides operator services and agrees to indemnify Verizon PA for the gross receipts tax. Although Verizon does not accept that it is appropriate to use UNE rates to approximate the costs of the dial tone line, at the very least the UNE rates would have to be increased to account for the retail costs that are not included in UNEs but would still be required for retail dial tone line service. A means to do that would be to mark up the rates by 25.69%.

Verizon does not agree that UNE rates are an appropriate measure of dial tone line costs. Even attempting to correct for the errors discussed here does not convert a UNE rate into a correct dial tone line cost because one would still have to correct for all of the changes to the many complex inputs that go into these cost studies that may have been made in the Commission's UNE orders, an exercise that would be too time consuming and difficult to undertake under the schedule provided for this case. Verizon has already provided a dial tone line cost study that reports the correct cost of the dial tone line using all

the proper inputs. Nonetheless, in order to illustrate how faulty Mr. Kubas's calculations are, one could look at the impact on his numbers of attempting to correct for the more obvious errors discussed above. Correcting for these obvious mistakes results in a UNE cost for the Verizon companies taken together under Mr. Kubas's methodology of $23.48 [$15.86 + $1.14 = $17.00 + 10% = $18.68 + 25.69% = 23.48].

Additionally, because Mr. Kubas mixes the Verizon North lines into the Verizon PA lines to calculate his statewide average, he obscures the much higher cost of providing dial tone line in Verizon North's territory. Verizon North operates only within Density Cells 3 and 4, where the UNE loop costs are more expensive than in Density Cells 1 and 2. Using his OTS Exhibit No. 1, Schedule 1, correcting for the omission of the port rate, using only Verizon North's residential lines, and also utilizing Mr. Dunkel's 10% mark-up plus the resale discount mark-up, would yield the following UNE loop and port costs for Verizon North, using Verizon PA's Tentative Order rates:

Cell	VZ North Lines	Percent of VZ North Lines	Tentative Order UNE Rate	Weighted Rate
DC 3	185,421	36.3%	$13.12	$4.76
DC4	325,218	63.7%	$23.76	$15.14
TOTAL LOOP	510,639	100%		$19.90
TOTAL PORT			$1.14	
LOOP + PORT				$21.04
PLUS 10%				$23.14
PLUS 25.69%				$29.08

Q. MR. DUNKEL ALSO ATTEMPTS TO EXTRAPOLATE DIAL TONE LINE COSTS FROM UNE RATES. ARE THERE ANY ERRORS IN HIS CALCULATIONS?

A. Again, Verizon notes that it is generally invalid to use the Commission's current or tentative UNE rates for this purpose. Additionally, Mr. Dunkel's use of Verizon PA's UNE rates suffers from some of the same problems as Mr. Kubas' analysis.

Mr. Dunkel also fails to account for the retail costs that have been removed in the UNE costs. Correcting for this error through the use of the resale discount on Mr. Dunkel's Schedule WDA-3, Analysis 1 would increase the result to $22.35 and on Analysis 2 would increase the result to $23.48. Additionally, as will be explained below, Analysis 3 also excludes costs that are required to provide dial tone line service.

Q. MR. DUNKEL USES NATIONAL EXCHANGE CARRIER ASSOCIATION ("NECA") LOOP COSTS AS A PROXY FOR VERIZON'S DIAL TONE LINE COSTS. IS THIS AN APPROPRIATE USE OF NECA DATA?

A. No. Mr. Dunkel attempts to use the NECA data on loop costs for universal service purposes to demonstrate that Verizon's costs are lower than depicted in its dial tone line cost study and lower than the dial tone line costs of the rural ILECs involved in the virtually identical revenue-neutral access restructure recently approved by the Commission. Dr. Taylor will explain how this is a misuse of the NECA data and that comparing the monthly loop cost derived from the NECA data to the results of Verizon's TSLRIC study of the cost of providing dial tone line service is not an "apples to apples" comparison.

Q. DOES MR. DUNKEL'S USE OF THE NECA NUMBERS DEMONSTRATE THAT VERIZON NORTH'S COSTS ARE SIGNIFICANTLY DIFFERENT FROM THOSE OF THE RURAL ILECS?

A. In addition to comparing Verizon's NECA loop costs to the results of Verizon's dial tone line cost study, Mr. Dunkel uses a composite of the Verizon PA and Verizon North NECA results to compare to the average NECA loop costs of the RTCC and Sprint companies. From this, Mr. Dunkel argues that Verizon's costs are lower than the RTCC companies and Sprint, and Verizon should be treated differently.

NECA actually reports separate loop costs for each company. In fact, Verizon North is reported as 3 separate companies (former GTE, Contel and Quaker State) that merged over the years to form Verizon North. The NECA data actually demonstrates what Verizon has contended all along – that Verizon North is no different from Sprint, Alltel and the other RTCC companies for which the Commission has approved an access restructure offset with revenue neutral increases to basic rates. Using the figures contained in Mr. Dunkel's supporting workpapers for WDA-3, the weighted average monthly NECA loop cost of the three companies that comprise Verizon North is $20.27, which is in the range of the monthly costs of the other ILECs depicted on Mr. Dunkel's Exhibit WDA-4.[9] For

[9] Performing the adjustments reflected in Analysis 3 on WDA-3 (adding the $1.14 UNE port rate and the 10% mark-up for residential) would yield a NECA cost for Verizon North of $23.53.

example, Sprint/United's NECA loop cost is $21.96. Even Verizon PA's monthly NECA loop cost is not the lowest among the ILECs (see Frontier PA's much lower $13.21).[10]

IV. THE OTHER PARTIES' ATTEMPTS TO EXTRAPOLATE LOWER ACCESS COSTS BASED ON UNE RATES ARE INAPPROPRIATE

Q. *DR. OYEFUSI ATTEMPTS TO EXTRAPOLATE VERIZON'S ACCESS COSTS USING UNE RATES. IS THIS A VALID EXERCISE?*

A. No. As discussed before, one would expect the UNE rates, especially those for switching, to understate the costs of providing access. Verizon's access cost studies provide an accurate reflection of the forward-looking cost of access.

Q. DR. OYEFUSI AT PAGE 7, FOOTNOTE 7, STATES THAT VERIZON PROVIDED "READ-ONLY ACCESS" TO ITS VZCOST SYSTEM AND DID NOT PRODUCE THE SCIS AND COSTMOD SWITCHING MODELS USED TO PERFORM SOME OF THE CALCULATIONS OF ITS ACCESS COSTS. IS THIS CORRECT?

A. No. On January 21, 2003 through its response to interrogatory OTS-3 Verizon produced the results of its access cost study and informed all parties to the case at that time (including AT&T) that they could obtain a USER ID and password that would allow them access to the VZCost system. With such an ID and password a user would have more than "read-only" access and could also use the system. AT&T did not request any IDs or passwords

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[10] We understand that under the RTCC Settlement, which the Commission approved and the OCA and others supported, will nonetheless allow Frontier PA to raise its residential rates by **[BEGIN RTCC PROPRIETARY]** **[END RTCC PROPRIETARY]. See Exhibit DMB-2 to Berry/Wirl Surrebuttal.**

until after the date of Mr. Oyefusi's testimony, almost 6 months later. Additionally, along with the response to OTS-3 Verizon produced a set of three proprietary CDs to a number of parties, including AT&T. CD #3 of this set contained the SCIS and COSTMOD models. These models were used to calculate switching costs and their results were uploaded into the VZCost system to produce the final access cost study results. We are aware that AT&T's witnesses have used the SCIS and COSTMOD models in other proceedings. AT&T never contacted Verizon with any questions or issues regarding using the SCIS and COSTMOD models produced on CD#3 on January 21, 2003. Verizon's January 21, 2003 cover letter, response to OTS-3 and Index to CD#3 are attached hereto as Dean/Sanford Surrebuttal Exhibit 1.

Q. DR. OYEFUSI AT PAGE 8 QUOTES A RATE OF $0.0000144 AS VERIZON PA'S CURRENT UNE RATE FOR FIXED TRANSPORT. IS THIS CORRECT?

A No. The current fixed common transport UNE rate is $0.000144. Moreover, the Commission's input decisions in the Tentative Order resulted in a rate for fixed common transport for Verizon PA of $0.00022, which is very close to the comparable access cost element from Verizon's access cost study for "Local Transport Host to Remote Fixed" of **[PROPRIETARY] [PROPRIETARY].**

Q. DR. PELCOVITS AT PAGE 36 IMPLIES THAT RETAIL COSTS ARE INCLUDED IN SWITCHED ACCESS. IS HE CORRECT?

A. Dr. Pelcovits is not being very specific so it is difficult to respond to his claims. There are marketing costs included in the switched access costs – the costs of account managers for

the IXCs that purchase access services – but these costs are properly included in switched access. Regular retail marketing costs are excluded from the switched access cost study. Corporate overhead costs are also properly distinguished in the access study. Dr. Pelcovits' criticism is so general that it is impossible to respond in more detail.

Q. DOES THAT CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

January 21, 2003

VIA E-MAIL AND UPS OVERNIGHT DELIVERY
Kenneth Mickens, Esquire
Office of Trial Staff
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

Re: In re the Joint Application of Bell Atlantic Corporation and
GTE Corporation for Approval of Agreement and Plan of Merger,
Docket Nos. A-310200F0002, A-311350F0002, A-310222F0002
and A-310291F0003;
Access Charge Investigation per Global Order of September 30, 1999,
Docket Nos. P-00991648, P-00991649, M-00021596;
and AT&T Communications of Pennsylvania, Inc. v. Verizon North Inc.,
Docket No. C-20027195

Dear Mr. Mickens,

Enclosed please find the Responses of Verizon Pennsylvania Inc. and Verizon North Inc. ("Verizon") to the Office of Trial Staff's Interrogatories relating to Verizon's December 30, 2002 merger compliance access filing.

In response to OTS-3, all parties who are subject to the proprietary order in the merger docket are receiving an attachment that contains the cost study results, a detailed explanation of the assumptions of the study and other information. In addition, you, Ms. Sheridan (OCA), Mr. Barber (AT&T), Ms. Barnes and Mr. Marinko (Commission Staff) are receiving a set of three CD's containing further back-up material for the cost studies. The contents of the CDs are explained in more detail in the attachent to OTS-3. The CDs will be made available to other parties upon request, subject to the proprietary order. Also, as explained in the response, Verizon will arrange for on-line access to our VZCost system upon request and subject to the proprietary order.

Please do not hesitate to contact me if you have any questions.

Very truly yours,

Suzan DeBusk Paiva

SDP/dkf
Enc.

Via UPS Overnight Delivery
cc: James J. McNulty (cover letter and certificate of service only)
Elizabeth Barnes
Robert Marinko

Via E-Mail and UPS Overnight Delivery
Attached Certificate of Service

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 3 OF OFFICE OF TRIAL STAFF DATED JANUARY 9, 2003, SUBMITTED IN DOCKET M-00021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Gary Stanford
POSITION: Sr. Staff Consultant–Network Engineering

REQUEST:

Provide an electronic copy of the consolidated cost study in Excel described in the footnote at the bottom of page 3 of the

December 30, 2002 Verizon Petition.

RESPONSE:

Attached is a file containing the document set for this filing, including the Overview of the Filing, Cost Study Results, and Global Inputs and Assumptions used in the studies. Please note that the file contains Proprietary information. The Verizon access cost studies were performed in the new VZCost system, and substantial additional information is available to the parties through on-line access to this system. Access to this system requires a password and USER ID. Following is the procedure for obtaining both: Counsel for the Commission Staff and parties should make a written request to Verizon attorneys for access to the VZCost system for this specific proceeding, identifying each individual they wish to have access to the system. The following information must be provided for each individual for whom a USER ID and password will be established: First and Last Name, Business address, Phone number, email address, docket number and date that the USER ID will expire. This request will be referred to the VZCost System Manager who will establish a USER ID and password for the requesting party. The VZCost Manager will send the password to the user via email, instructing the user that (s)he will be receiving the USER ID from the Company's attorney and the system can be accessed upon receipt of that USER ID.

Verizon's Systems group has developed a training program for external users, which is available for immediate scheduling. Training will be provided in two phases. The first phase of the training will demonstrate how to access the system and review the data bases and cost studies that support Verizon's filing. The second phase of the training shows how to make changes within VZCost to what Verizon filed.

CD#3– Third Party Proprietary Documents

Listing of directories and files:

- **Iof**
  - _inst32i.ex_
  - _isdel.exe
  - _setup.l
  - _setup.dll
  - _setup.lib
  - Autorun.inf
  - Disk1.id
  - Setup.exe
  - Setup.ini
  - Setup.ins
  - Setup.iss
  - Setup.pkg

- **Switching**
  - *CostMod*
    - Costmod Installation
      - _inst32i.ex_
      - _isdel.exe
      - _setup.l
      - _setup.dll
      - _setup.lib
      - Autorun.inf
      - Disk1.id
      - Setup.exe
      - Setup.ini
      - Setup.ins
      - Setup.iss
      - Setup.pkg
    - Input
      - PA Costmod Inputs.zip
    - Output
      - PA Costmod Results.zip
  - Discount Workpapers
    - PA Combined Switch Discount Exhibits.xls
  - Scis
    - Input
      - East
        - Excel templates
          - PAAess1.XLS
          - PAAess2.XLS
          - PAAewsd.X:S

- PAdmsA.XLS
- PAdmsTR.XLS
- PAewsdTR.XLS
- PATRes1.XLS
- PATRes2.XLS

– Mouser database
- PAlineA.dbs
- PAlinTR.dbs

– Features Databases for IN
- Ftrsuser.dbsPASwAccFlg Nov02
- Smort.dbsPASwAccFlgUserDef Nov02

– West
– Excel templates
- PAWdmGR.XLS
- PAWdmsA.XLS
- PAWesGR.xls
- PAWessA.xls
- PAWewdA.XLS
- PAWewdG.XLS

– Mouser Database
- PalinWA.dbs
- PAliWGR.dbs

– Output
– East
- PAANLOG.doc
- PATR08.doc

– West
- PAANLW.doc
- PAGRW.doc

– ScisRls2_8
– Scisftrs
– Ftrsdata
- FTRSdata.dbs

– Ftrsuer
- Ftrsuser.dbs

- Compress.exe
- Ctl3d.dll
- Dbwservr.exe
- Features.exe
- Features.hlp
- Listlib.dll
- Message.sql
- Smortin.dll
- Smrtheap.dll
- Split.exe
- Sql.ini

- Sqlapiw.dll
- Sqlwsv.dll
- Tbpro1w.dll
- Tbpro2w.dll
- Tbpro3w.dll
- Tbpro4w.dll
- Tbpro5w.dll
- Tbpro6w.dll
- Winhelp.hlp

– Scismo
  – Batch
  – Excel
    - 1aess.xls
    - 4aess.xls
    - 5aess.xls
    - Dms10.xls
    - Dms100f.xls
    - Dms250.xls
    - Ewsd.xls
    - Moclient.xla
    - Motemplt.xls
  – Exe
  – Modata
    - Modata.dbs
  – Mouser
    - Mouser.blk
    - Mouser.dbs
  – Ncatsui
    – Avg
    – Marg1
    – Marg2
  – Realtime
    - Realtime.dbs
  – Reports
  – Smort
    - Smort.dlk
    - Smort.dbs
  – Tables
  – Transfer
    - Transfer.dbs
  – Upload
  – Word
    - 5ess.doc
    - Dms10.doc
    - Dms100f.doc

    - Dms250.doc
    - Ewsd.doc
    - Prntfrm6.dot
- Instbmp.bmp
- Setup.exe
- Setup.ins
- Setup.lgo

VERIZON PENNSYLVANIA INC. AND VERIZON NORTH INC.
STATEMENT NO. 3.0

8/25/03 Mbg
JK

DOCUMENT
FOLDER

AT&T COMMUNICATIONS OF PENNSYLVANIA, INC.

V.

VERIZON NORTH INC.

DOCKETED
SEP 02 2003

DOCKET NO. C-20027195

VERIZON PENNSYLVANIA INC.

STATEMENT NO. 3.0

(SURREBUTTAL TESTIMONY)

WITNESS: William E. Taylor

DATED: August 4, 2003

EXPURGATED VERSION

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

SURREBUTTAL TESTIMONY

OF

WILLIAM E. TAYLOR, Ph.D.

ON BEHALF OF

VERIZON-PA INC. AND VERIZON NORTH INC.

AUGUST 4, 2003

EXPURGATED VERSION

NERA
Economic Consulting

SURREBUTTAL TESTIMONY OF WILLIAM E. TAYLOR, Ph.D.

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ON BEHALF OF VERIZON-PA INC. AND VERIZON-NORTH INC.

SURREBUTTAL TESTIMONY OF WILLIAM E. TAYLOR, Ph.D.

BEFORE THE PENNSYLVANIA PUBLIC UTILITY COMMISSION

DOCKET NO. C-20027195

AUGUST 4, 2003

I. INTRODUCTION AND SUMMARY

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

A. My name is William E. Taylor. I am Senior Vice President of National Economic Research Associates, Inc. ("NERA"), head of its Communications Practice, and head of its Cambridge office located at One Main Street, Cambridge, Massachusetts 02142.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL, PROFESSIONAL, AND BUSINESS EXPERIENCE.

A. I have been an economist for over thirty years. I earned a Bachelor of Arts degree from Harvard College in 1968, a Master of Arts degree in Statistics from the University of California at Berkeley in 1970, and a Ph.D. from Berkeley in 1974, specializing in Industrial Organization and Econometrics. For the past twenty-five years, I have taught and published research in the areas of microeconomics, theoretical and applied econometrics, and telecommunications policy at academic and research institutions. Specifically, I have taught at the Economics Departments of Cornell University, the Catholic University of Louvain in Belgium, and the Massachusetts Institute of Technology. I have also conducted research at Bell Laboratories and Bell Communications Research, Inc.

I have participated in telecommunications regulatory proceedings before many state public service commissions, including the Pennsylvania Public Utility Commission ("Commission").

In addition, I have filed affidavits before the Federal Communications Commission ("FCC") and the Canadian Radio-television Telecommunications Commission on matters concerning incentive regulation, price cap regulation, productivity, access charges, local competition, interLATA competition, interconnection and pricing for economic efficiency. Recently, I was chosen by the Mexican Federal Telecommunications Commission to arbitrate the renewal of the Telmex price cap plan in Mexico.

I have also testified on market power and antitrust issues in federal court. In recent years, I have studied — and testified on — the competitive effects of mergers among major telecommunications firms and of vertical integration and interconnection of telecommunications networks.

My curriculum vita is attached as Exhibit WET-1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. I have been asked by Verizon-PA Inc. and Verizon-North Inc. (collectively referred to as "Verizon") — incumbent local exchange carriers ("ILECs") operating in Pennsylvania — to comment on the testimonies of Mr. Robert J. Kirchberger and Mr. E. Christopher Nurse on behalf of AT&T, Mr. Joseph Kubas on behalf of the Office of Trial Staff, Mr. William Dunkel on behalf of the Pennsylvania Office of Consumer Advocate and Dr. Michael D. Pelcovits on behalf of MCI WorldCom Network Services.

Q. WHAT ARE YOUR PRINCIPAL CONCLUSIONS?

A. I reach several conclusions.

First, several intervenors claim that Verizon's basic local exchange service is not priced below cost and is not receiving a subsidy. They use these claims to support their position that basic local exchange rates should not be increased and/or access charges should not be decreased. Their incorrect conclusion is based on the erroneous premise that the local loop is a shared or common cost and not part of the forward-looking direct cost of basic local exchange service.

They are wrong. The cost of the local loop is not a shared cost but is incremental to basic local exchange service (in particular, to Dial Tone Line service, which is the service that provides network connectivity to the subscriber). According to the principles of cost causation and efficient pricing, if a cost is incremental, it must be recovered in its entirety from the source that caused that cost, e.g., Dial Tone Line service. Failure to do so would lead to the wasteful use of society's scarce resources, and would distort consumption and production incentives and harm competition for basic local exchange.

Recent action at the FCC clearly demonstrates that local loop costs are properly recovered directly from end users. The service that recovers that cost is Dial Tone Line service, which along with local usage service makes up the basic local exchange service package. Once it is properly recognized that the entire cost of the loop is part of the direct cost of basic local exchange, it becomes evident that basic local exchange service is receiving a subsidy, because the cost of that service exceeds its price.

Second, other intervenors argue that switched access service should be priced at cost or at levels equal to the Total Element Long Run Incremental Cost ("TELRIC"). I disagree for several reasons. In pricing services — as opposed to network elements — the incremental cost of those services is a price floor only; prices need to reflect market conditions and to recover the shared and common costs of the firm so that overall the firm can remain viable. Services are not priced at "cost" in competitive markets; indeed, firms could not remain viable if they were required to price all their services at cost.

Third, I also disagree with the position in intervenor testimony that pricing switched access above cost leads to a price squeeze or is otherwise anticompetitive. Verizon does not have the ability or incentive to engage in the type of anticompetitive behavior alleged by MCI and AT&T, irrespective of their claims that wireless and bundled local competition require immediate reductions in switched access charges.

II. DIAL TONE LINE COSTS ARE PART OF THE COST OF BASIC LOCAL SERVICE AND SHOULD NOT BE "ALLOCATED" TO OTHER SERVICES.

A. The local loop is not a shared or common cost in telecommunications.

Q. SEVERAL WITNESSES IN THIS PROCEEDING (KUBAS AT 5, BUCKALEW AT 6, DUNKEL AT 21) ARGUE THAT BECAUSE THE LOOP OR DIAL TONE LINE IS A FACILITY THAT IS USED BY DIFFERENT TELECOMMUNICATIONS SERVICES, THE COST OF THE LOOP SHOULD ALSO BE ALLOCATED TO THE DIFFERENT SERVICES THAT USE THE LOOP. DO YOU AGREE?

A. No, I do not. Dial Tone Line service — basic connectivity to the network — is a separate service with its own separate costs. The cost of the facilities used to provide that service — dial tone line facilities, also referred to as the local loop[1] — are properly included in the cost of Dial Tone Line service and recovered from the basic local exchange customers who subscribe to that service. Those costs are not shared or common and should not be allocated to other services.

Q. WHAT ARE THE ERRONEOUS CONCLUSIONS REACHED BY INTERVENORS AS A RESULT OF THEIR BELIEF THAT LOCAL LOOP COSTS SHOULD BE ALLOCATED TO ALL TELECOMMUNICATIONS SERVICES THAT USE THE LOCAL LOOP?

A. There are several erroneous conclusions reached by intervenors as a result of their mistaken belief that local loop costs should be assigned to different services. These include the following:

- The Total Service Long Run Incremental Cost ("TSLRIC") of basic local exchange service (which includes Dial Tone Line and usage services) does

[1] Throughout this testimony, I shall use the terms "local loop" and "dial tone line" interchangeably. They refer to the same facility – the network connection between the individual subscriber and the telephone company central office facility.

not include the investment and expenses associated with the local loop, [Dunkel at 48];

- As a result, a comparison of basic local exchange revenues and costs indicates that basic local exchange service is not receiving a subsidy from other telecommunications services, and therefore, other services are not supporting basic local exchange service, [Dunkel at 46, 58 Buckalew at 13];
- Because the local loop is not part of a TSLRIC study of basic local exchange, the TSLRIC of basic local exchange is only **[Begin Proprietary]** . **[End Proprietary]** per month, much lower than incremental revenue and indicating that basic local exchange is providing a significant contribution to the recovery of Verizon' shared and common costs, [Dunkel at 49];
- Other services provide less contribution to Verizon's shared and common costs than basic local exchange and for these reasons there should be no price increase for basic local exchange, [Dunkel at 58, 17];
- Since the local loop is not part of the TSLRIC of basic local exchange, but is instead a shared or common cost, the cost of the local loop must be "allocated" to the different telecommunications services based upon some criterion, [Kubas at 5, Buckalew at 6, Dunkel at 53];

Q. WHY IS THE COST OF THE LOCAL LOOP NOT A SHARED OR COMMON COST?

A. Local loop costs are direct costs of network connectivity to the public switched telephone network ("network"). From an economic perspective, the function of the local loop is to enable an end-user to gain *connectivity* to the network. The end-user's decision to gain connectivity to the network causes the telephone company to incur costs, which are the costs of providing the local loop facility that connects the customer to the network. These facilities are dedicated to that end-user for the purpose of connecting to the network. The connectivity gained by use of the loop is a pre-condition for being able to receive various forms of *usage* services, e.g., local calling, long distance (toll) calling, Internet calling, Call Waiting and other custom features, voice messaging, etc. That is, the local loop is the single delivery vehicle used by various providers of usage services to bring their services to the end-user. But merely because the loop is "used" by other services does not mean that the local loop is a shared facility and, hence, a source of shared cost. As I explain in my testimony, from an economic perspective, the local loop, or Dial Tone Line service, is an "output" service that is demanded in its own right.

Therefore, the costs of the local loop are part of the incremental cost of Dial Tone Line service, which is a separate service connecting Verizon customers to the network. Regardless of the many *uses* or *benefits* of the local loop, it cannot be thought of as an "input" and, most importantly, must be identified with the full incremental cost that is added to the network when a local loop is placed in service.

It is contrary to sound economic principles and an incorrect approach to cost recovery to believe the premise that the loop is a shared cost of telecommunications services that use the loop and must, as a result, be allocated among different services. Unfortunately, any public policy about cost recovery and pricing for regulated services that is based on that premise can only promote economic inefficiency, lead to a wasteful use of society's scarce resources, and distort consumption and production incentives

Q. WHAT IS THE DIFFERENCE BETWEEN THE DIRECT COSTS THAT ARE PROPERLY ATTRIBUTED TO A SERVICE, AND SHARED OR COMMON COSTS?

A. From an economic perspective, there are many different kinds of "cost" to be considered in determining how a firm should price services to recover those costs.

Economic cost is the actual forward-looking cost of accomplishing an activity in the most efficient possible way. Forward-looking costs are those associated with present and future uses of the firm's (or society's) resources. *Total service long-run incremental cost* (TSLRIC) is the incremental cost of the total volume of a service. That is, total service incremental cost for a *new* service measures the increase in costs causally associated with the supply of the new service at the full volume of its likely demand, other things being constant. For an *existing* service, TSLRIC measures the decrease in costs associated with discontinuing supply of the service in its entirety, other things being constant. When parties speak of the "cost" of a specific service, they are most likely speaking of the TSLRIC of that service.

In addition to these costs attributable to a specific service, there are also

joint and common costs that must be recovered from the pricing of some or all services in order for a firm to remain financially viable.

Shared fixed costs are those associated with the supply by a firm of *a group of services* comprising more than one, but less than all, of its services.[2] "Fixed" in this context means that those costs do not vary with either the level of any individual service in the group or the decision to produce or not produce any service or subset of services within the group. For example, the cost of some software right-to-use fees is a shared fixed cost of all switched services.

Common fixed costs are not associated with a specific service or group of services. Instead, those fixed costs are shared by *all* services produced by the firm. The president's desk is a classic example of a fixed cost that is common to all services.

Q. DOESN'T THE VIEW THAT THE LOCAL LOOP IS "USED" BY MANY SERVICES IMPLY THAT ITS COSTS ARE NOT INCREMENTAL TO ANY SPECIFIC SERVICE BUT, RATHER, ARE "SHARED" BY ALL SERVICES DELIVERED OVER THE LOOP?

A. No, the local loop is most assuredly *not* a shared facility, and it is *not* the source of shared fixed costs to a LEC like Verizon. Instead, its cost is incremental to Dial Tone Line service, which is a separate service that provides network connectivity to that specific subscriber. According to the principles of cost causation and efficient pricing, if the cost is incremental, it must be recovered in its entirety from the source that caused that cost, e.g., basic Dial Tone Line Service in this instance. On the other hand, if the cost is shared, then it may be recovered from the different services that share the local loop.

Some intervenors in this proceeding hold the view that the local loop is a shared facility because it is the means for delivering not just basic local exchange

[2] A special case of shared cost is *joint cost* which is the cost that is shared by a group of services or products that are produced in *fixed proportions* to each other.

service but also long distance (toll) service, vertical services, and other services. These observers urge the Commission to allocate the cost of the loop to all of its different *uses* and challenge any effort to assign all of that cost to residential basic local exchange service of which the loop is an integral part. But the fact that the loop is used for (and necessary for) access to other telecommunications services, as Mr. Kubas argues (at 5), does not mean that Dial Tone Line service is not a separate service with separate costs. The same arguments made by Mr. Kubas could also be made for the telephone set itself, which is necessary for local and toll services and all other telephone services. According to the intervenors' flawed logic, the costs of the telephone set should be allocated to all of the services that require its use, yet it is clear that telephone sets are separate facilities with separate and definable costs. Toll users do not pay a per-minute charge to recover the cost of the telephone set. The same economic logic applies to the local loop.

Q. IS THERE ECONOMIC SUPPORT FOR THIS VIEW?

A. Yes. Economists generally disagree with the view that the local loop is a shared facility because it conflicts with the fundamental principle of cost causation.[3] That principle requires that costs be attributed by asking what caused the specific resources to be expended. In the case of the local loop, the answer is simple: the costs associated with the loop are caused by *a customer gaining access to the network*. That is true whether that access is gained when a residential end-user subscribes to residential basic local exchange service (which includes both the Dial Tone Line service and local usage packages) or, in the new wholesale environment, when a competitive LEC purchases an unbundled loop. Once the loop is

[3] See, e.g., Rebuttal Testimony of John W. Mayo (on behalf of AT&T), *In re: Investigation into NTS Cost Recovery, Phase I*, Florida Public Service Commission Docket No. 860984-TP, June 1, 1987; John T. Wenders, *The Economics of Telecommunications: Theory and Policy*, Cambridge, MA: Ballinger, 1987; Alfred E. Kahn, "Pricing of Telecommunications Services: A Comment," *Review of Industrial Organization*, 8, 1993, at 39-41; William E. Taylor, "Efficient Pricing of Telecommunications Services: The State of the Debate," *Review of Industrial Organization*, 8, 1993, at 21-37; and Lester D. Taylor, "Pricing of Telecommunications Services: Comment on Gabel and Kennet," *Review of*

(continued...)

provisioned, the cost is incurred. The way in which it is *used* (or even if it is used not at all) *does not change that cost.*

This is a subtle, but important, point. A customer that purchases (or leases) the loop essentially acquires the *right* to connect to the network and receive services of his or her choosing. Actual usage of the loop does not matter for cost causation. The loop has been provisioned — and a cost incurred — regardless of whether the customer uses the loop at all, uses only one service, or uses multiple services. The cost of that loop must be recoverable regardless of actual use. The contrary intervenor position — that the loop's cost should depend on *how* it is used — is based on a fallacy.

To see why that is so, it is reasonable to ask whether the cost of the loop should be recovered differently from different customers, depending on how many services (including none at all) they connect with it. The answer is clear; the costs of the loop are the same — and must be recovered — regardless of how, or how much, the end-user uses the connection to the network.

Examples in other industries illustrate the fallacy of the contrary view that the loop is a shared cost because of the way it is "used." For example,

- should the cost of constructing a highway be considered a shared or joint cost to butchered meats, milk, stereo equipment, and dry cleaning if distributors of these products use that highway to receive them?

- should a car be considered a shared cost of motels since access to motels is facilitated by the car?[4]

The fallacy of equating shared cost with shared use can be eliminated by thinking of the loop facility as a provider of connectivity to the network — a service in its own right and, therefore, a facility with its own unique cost and price. This requires that

(...continued)

Industrial Organization, 8, 1993, at 15-19.

[4] Steve G. Parsons, "Seven Years After Kahn and Shew: Lingering Myths on Costs and Pricing Telephone Service," *Yale Journal on Regulation*, 11, 1994, at 159, note 35.

the loop be thought of as an "output" rather than as an "input."[5] This is completely consistent with how Verizon has calculated its Dial Tone Line costs.

MCI's witness in this proceeding Dr. Pelcovits agrees with the notion that the local loop is not a shared or common cost of Dial Tone Line services. He states (at 38):

> The loop is needed to provide any form of telephone service to the end user, and it is not driven or caused by the amount of usage, or the category of services, utilized by the customer. For this reason, the most economically rational way to recover the full cost of the loop is in prices charged to retail customers or the CLECs that lease the entire loop using the UNE tariff. [footnotes omitted]

Moreover, in a recent Maryland proceeding, AT&T witness Terry Murray also made similar arguments.

> Basic exchange service is really a bundle of services, which always includes network access service, *i.e.*, the connection from the customer's premises to the incumbent's first point of switching. The network access component of basic exchange service includes the loop, which is dedicated to the use of a particular customer.
>
> *Loops are not shared between customers.* Instead, each customer who orders basic exchange service causes Verizon to incur the full cost of a loop, regardless of how or even whether the customer chooses to use his or her loop at all. Therefore, each customer should pay the full cost of a loop regardless of the number of uses to which the customer puts his or her loop.[6]

Q. IS IT ECONOMICALLY EFFICIENT TO CHARGE FOR THE LOCAL

[5] Professor John Mayo, testifying on behalf of AT&T, has endorsed this view of the loop. For example, in a 1996 case, he disagreed with the notion of recouping the loop cost through an allocation mechanism, stating instead: "It is well known in the economic analysis of the telecommunications industry that there is a well-defined demand for, and supply of, access to the telecommunications network. The costs of providing that access can, and should be borne by the consumers that cause these costs to be incurred." Rebuttal Testimony of John W. Mayo, on behalf of AT&T, Maryland Public Service Commission Case No. 8715, March 14, 1996, at 9.

[6] Rebuttal Testimony of Terry L. Murray, on behalf of AT&T and Covad, Maryland Public Service Commission Case No. 8918, September 13, 2002.

LOOP AS A SEPARATE NETWORK CONNECTIVITY SERVICE LIKE DIAL TONE LINE SERVICE?

A. Yes. Under Verizon's current tariffs, that is exactly how it is priced (with Dial Tone Line service and usage packages offered together as the core residential basic local exchange service). The cost causation principle provides guidance about the economically efficient pricing of the loop. Consider the following passage from a paper published by economists Alfred Kahn and William Shew over a decade ago.

> ... First, does subscriber access have a separate identifiable incremental cost associated causally with providing it? The answer is, unquestionably, yes. Connecting a customer to the network uses scarce resources, even if he or she never uses the connection. The customer who subscribes to two access lines imposes a greater cost than a customer who subscribes to one, even if they make the same number of calls, at the same times and places.
>
> Second, does charging for access separately serve a purpose? The answer is that it serves the very important purpose of economic efficiency if buyers are confronted, in each of their purchase decisions, with prices that reflect the respective incremental costs to society of their taking more or less of each available good and service or, to put it another way, what costs society would save if they took less of each.
>
> Using the price of telephone calls to recover access costs that do not in fact vary as more or fewer calls are made therefore induces wasteful choices by customers. It encourages them to order underpriced access lines that they value less than the incremental costs to society of providing the lines, and it discourages them from making overpriced calls whose value to them would have exceeded the incremental cost to society. The same result would follow if an electric utility were to supply its customers with all the appliances they wanted at no charge and recovered the costs in the price of electricity—wasteful overpurchasing of appliances and underconsumption of electricity.[7]

Only a price reflecting the full economic cost of the loop ensures the socially optimal level of use of that facility. If the loop is part of a bundled basic local

[7] *See*, Alfred E. Kahn and William B. Shew, "Current Issues in Telecommunications Regulation: Pricing," *Yale Journal on Regulation*, Vol 4; 1987 at 201-202 (footnotes omitted).

exchange service, then the full economic cost of the loop should be a part of the cost of that service.

Q. SHOULD THE INVESTMENT AND EXPENSES OF THE LOCAL LOOP BE INCLUDED IN A TSLRIC STUDY OF BASIC LOCAL EXCHANGE SERVICE?

A. Yes, the investment and expenses of the local loop should be included in a TSLRIC study of Dial Tone Line service, which is part of basic local exchange service. In order to meet an increase in the demand for Dial Tone Line service, holding other factors constant, a telephone company needs to build more local loop plant in order to connect the customer to the network. The expenses incurred in order to provide this service comes about because of a request by the customer to be connected to the network.

Notice that a telephone company does not have to build loop plant in order to meet an increase in demand for toll, vertical services or other telecommunications services. For this reason, the investment and expenses associated with local loop plant are not part of a TSLRIC study of other telecommunications services.

Q. MR. DUNKEL (AT 43) ARGUES THAT BASIC LOCAL EXCHANGE IS NOT RECEIVING A SUBSIDY. BASED ON THE COST EVIDENCE PRESENTED BY VERIZON, DO YOU BELIEVE THAT BASIC LOCAL EXCHANGE SERVICE RECEIVES A SUBSIDY?

A. Yes, I do. The proper test for determining whether a service is receiving a subsidy is based upon the TSLRIC for that service. The TSLRIC is often regarded as a price floor for the entire service because it represents the minimum cost per unit — averaged over all units of the service — that the service must recover in order that it not be subsidized by some other service. Specifically, the price of a service is said to be subsidized when that price is below the TSLRIC per unit of the service, but the firm earns sufficient revenue across all of the services it provides to at least

break even, i.e., recover its total cost from all services. The TSLRIC for residential basic local exchange is significantly greater than revenues and, as a result, residential basic local exchange is receiving a subsidy.

Q. MR. DUNKEL ARGUES (AT 48) THAT THE DIAL TONE LINE IS NOT PART OF THE TSLRIC OF LOCAL SERVICE BECAUSE "IF LOCAL SERVICE WERE DISCONTINUED, WHILE ALL OTHER SERVICES CONTINUE TO BE PROVIDED, THE DTL FACILITY COST WOULD NOT BE AVOIDED." AS A RESULT, HE ARGUES THAT THE TSLRIC OF BASIC LOCAL EXCHANGE SERVICE IS LESS THAN ITS REVENUES AND BASIC LOCAL EXCHANGE IS NOT RECEIVING A SUBSIDY. *HOW DO YOU RESPOND?*

A. Mr. Dunkel is able to reach this conclusion only by ignoring the fact that Dial Tone Line service itself is a separate service with its own separate costs — i.e., the costs of the local loop. He therefore excludes Dial Tone Line service from his definition of "local exchange service" and thereby completely ignores the costs of the local loop in constructing his TSLRIC of local exchange service. As a result of this erroneous position, his other conclusion that basic local exchange service is not receiving a subsidy is also incorrect.

Mr. Dunkel begins with the economically correct definition of TSLRIC that, in principle, costs that would be incurred even if the service were not provided would be excluded from the TSLRIC of that service. Specifically, he claims that if basic local exchange service were discontinued, while all other services continue to be provided, the local loop cost would not be avoided.

There are several problems with Mr. Dunkel's argument, however. There is no denying the fact that the local loop is required within a wireline network to deliver *any* wireline service. In order to gain connectivity to the network, even if a customer makes no subsequent *use* of it, the customer must first obtain service by subscribing to Dial Tone Line service — the service that provides basic connectivity to the network. The only way to avoid the cost of the loop is by

discontinuing Dial Tone Line service altogether. I could not selectively drop Dial Tone Line service but continue to consume the other services and any argument to the contrary is simply nonsense.

In effect, residential basic local exchange service and toll service both require the presence of Dial Tone Line Service, just like software requires the presence of a computer and hot dog buns require the presence of hot dogs. No one would claim, however, that the cost of software includes some portion of the cost of the computer hardware or that the cost of a hot dog bun includes the cost of the hot dog. And, no one believes that software prices should recover hardware costs or hot dog bun prices should be marked up to cover some costs of the hot dog.

Q. PLEASE DESCRIBES THE PRACTICAL PROBLEMS THAT COULD ARISE FROM TREATING THE LOOP AS A SHARED COST.

A. Consider the case of two customers, say, Fred and Barney. Fred makes only local calls while Barney makes use of all available services. If Fred had a local loop installed for the sole purpose of making local calls, then the loop cost ought to be recovered entirely from his local service. On the other hand, following the logic of the loop-is-a-shared-cost view, Barney's loop cost would have to be distributed across the various services he uses. Assuming that all customers are located somewhere on the spectrum between Fred's usage and Barney's usage, loop costs would have to be recovered differently from each customer in proportion to their different usage mixes. That is nothing short of a logistical nightmare! Moreover, if such a practice were defended by an appeal to "cost causation" then clearly the manner in which loop cost is caused would appear to be different for each customer. Even resorting to some fictional "average" mix of usage for distributing loop cost would be arbitrary, meaningless, and economically inefficient. That is because for Fred (who only makes local calls and uses no other services), the price of local service — based on this average usage procedure — would be lower than what it ought to be, thus encouraging over-consumption of local service. In contrast, for Barney (who uses every service), the price of any given service would

be "too high" if his usage of that service were below the average usage, or "too low" if his usage of that service were above the average usage. In either case, consumption of services would be artificially distorted and resources would be allocated inefficiently.

In contrast to this highly garbled scenario, the assignment of loop costs uniquely to the Dial Tone Line service portion of local exchange service eliminates any confusion. Whether the customer is Fred or Barney or someone with usage in between, each pays the same price for basic Dial Tone Line service (which costs the same to provide to Fred and Barney) and each pays prices for other services that are based on their respective incremental costs.

Q. WHAT PRACTICAL PROBLEMS COULD ARISE FROM ALLOCATING THE COST OF THE LOOP TO VARIOUS SERVICES THAT MAY BE PROVIDED OVER IT?

A. Opting to allocate the cost of the loop to different services that can be provided over it quickly gets us down the slippery slope of having to: (1) estimate the share that each service should carry, (2) use arbitrary allocators that have no economic justification (e.g., should a non-usage-sensitive cost be recovered through usage-sensitive charges?), and (3) spread recovery across not merely different services but across different *service providers* as well. None of these actions have any economic validity.

B. Section 1325 Does Not Require Allocation of Loop Costs.

Q. MR. DUNKEL [AT 53] HAS COME UP WITH A WAY OF ALLOCATING LOOP COSTS AMONG THE DIFFERENT SERVICES BASED ON HIS READING OF SECTION 1325(C). SPECIFICALLY, HE CALCULATES THE STAND-ALONE COST OF THE DIFFERENT SERVICES AND USES THIS AS A BASIS OF ASSIGNMENT. DO YOU AGREE WITH HIS INTERPRETATION OF SECTION 1325?

A. No. As I stated throughout this testimony, from an economic perspective it is

improper to allocate the costs of the local loop to different services because the loop is a direct cost of basic local services and is properly included in a TSLRIC study of basic local service.

But even assuming for the moment that the loop should be allocated — which it should not — Mr. Dunkel's allocation methodology suffers from serious problems. In practice, it is extremely difficult to estimate stand-alone costs, and Mr. Dunkel's approach is wholly unsatisfactory. Mr. Dunkel's approach is simply to add shared and common costs to TSLRIC for a service in order to arrive at a stand-alone cost estimate. But this is not an economically appropriate method of estimating stand-alone costs.

Q. WHAT IS THE "STAND-ALONE" COST OF A SERVICE?

A. The stand-alone cost of a service is the forward-looking incremental cost of supplying the service in question in isolation — that is, without any other services.[8] It differs from the TSLRIC of the service because the stand-alone cost includes all common costs that are required to produce the service, whereas the TSLRIC of a service includes only those additional costs that are caused by the decision to supply the service.[9]

The stand-alone cost thus equals the highest price that could be charged for a service before an efficient competitor could enter the market for that single service, charge the market price and cover its total costs. Obviously, a price set above stand-alone cost is not sustainable if there are no barriers to entry, and in economic theory, a price set above stand-alone cost is defined as providing a

[8] If the total forward-looking cost of supplying all n of the firm's current services at their current levels of output $X_1, X_2,...,X_n$ is given by $TC(X_1,X_2,...,X_n)$, then the stand-alone cost of service 1 is given by $TC(X_1,0,0,...0)$. In this notation, the TSLRIC of service 1 is given by $TSLRIC(X_1) = TC(X_1,X_2,...,X_n) - TC(0,X_2,...,X_n)$.

[9] For example, the stand-alone cost of local exchange service includes all of the local network costs and corporate overhead costs necessary to supply local exchange service in isolation. The TSLRIC of local exchange service in a multi-service firm includes just those costs that are incurred when local exchange service is added to the menu of services otherwise provided.

subsidy.

Q. HOW IS THE STAND-ALONE COST OF A SERVICE CALCULATED?

A. The simplest stand-alone cost study for a service would use engineering models to design and cost out a firm having the least expensive network — including maintenance and overhead costs — required to provide the service in isolation at its current level of demand. Thus, to calculate the stand-alone cost of toll service, one would design a hypothetical network for a firm that provided only toll service — e.g., a local switch-to-local switch long distance network such as those used by interexchange carriers like AT&T or MCI before they entered Pennsylvania local exchange markets.[10]

There are two immediate problems in performing such a calculation. First, a hypothetical stand-alone network to provide one particular service is likely to be extremely unrealistic and theoretical: e.g., a stand-alone network to supply only call waiting service would use a specialized switch that has never been built (and therefore never been costed out) simply because the scope economies of joint supply of vertical services, and local and toll switching are so pervasive that such a specialized switch has no market. To base stand-alone cost estimates and Mr. Dunkel's resulting cost allocations on such hypothetical calculations would be poor public policy.

Second, the stand-alone cost measure pertains to a hypothetical firm starting from scratch and does not represent the cost to society of Verizon's future supply of a service in isolation. For example, prices are set to recover Verizon's forward looking total cost, not the total cost of a new entrant supplying the current levels of demand in a new network. Hence, the stand-alone cost of service 1 represents Verizon's long run forward-looking cost of supplying the current volume of output

[10] Note that this network design would not be affected by the existing network of the LEC whose stand-alone costs are being measured. Hence, there is no meaningful sense in which such costs could be called Verizon's stand-alone costs of toll service.

of service 1 starting with its current network when the output of all other current services is set to zero.

Q. WOULD AN INTERPRETATION OF THE STAND-ALONE COST PROVISION OF § 1325 THAT REQUIRED THAT DIAL TONE LINE COSTS BE ALLOCATED ACROSS SERVICES THAT USE A DIAL TONE LINE BE CONSISTENT WITH ECONOMIC PRINCIPLES?

A. No. In the first place, § 1325 defines the "cost of local exchange service" as the sum of two numbers: (i) the direct cost of providing the service plus (ii) a share of the costs of the Dial Tone Line. The direct cost of providing Dial Tone Line service means the costs that are caused when an additional Dial Tone line is supplied or the costs saved when a Dial Tone line is no longer used for service. This is the entire cost of the Dial Tone Line, which includes the cost of the loop. The phrase "a share of the costs of the dial tone line" simply adds a fraction of the Dial Tone line costs to the direct costs of the Dial Tone line resulting in a cost for Dial Tone line service that must exceed the cost of Dial Tone line service. Thus, even if one (incorrectly) treats Dial Tone line costs as a common cost of supplying the various services that use the Dial Tone line, it is incorrect as a matter of arithmetic to add a share of Dial Tone line costs to the direct cost of Dial Tone line service to obtain the cost of anything. This method would inflate the costs of Dial Tone Line service.

Second, an interpretation of § 1325 as requiring that the direct cost of the Dial Tone Line service be measured excluding the cost of the Dial Tone line itself — the interpretation that Mr. Dunkel apparently embraces — would be illogical and inconsistent with basic economic principles for two reasons. First, as Dr. Alfred Kahn once observed, defining the direct cost of Dial Tone line service without including the cost of a Dial Tone line is like defining *Hamlet* without the Prince of

Denmark.[11] The direct cost of Dial Tone line service is precisely the direct cost of a Dial Tone line because consumption of an additional unit of the service causes the additional cost of a Dial Tone line to be incurred. Economic efficiency requires that consumers of Dial Tone lines face prices that reflect the cost literally caused by their decision to subscribe to Dial Tone line service.

In addition, even if the cost of the Dial Tone line were a common cost of all of the services that use a Dial Tone line,[12] it would still be incorrect in economic theory to use the cost of local exchange service as defined in § 1325 as the basis for pricing local exchange service. The cost that results from the definition is a fully distributed cost which attempts to recover common costs in some arbitrary way from services that share those common costs. It is a basic economic principle that only forward-looking incremental costs should be used for pricing decisions, not fully distributed costs that already have arbitrary formulas for pricing built in to the definition of cost. For example, the common costs of maintaining a railroad bed must be borne by shippers; reasonable allocations of these common costs by weight, volume or value will have very different consequences for shippers of coal, feathers and diamonds. There is no right answer to this general cost allocation problem; but we must recognize that § 1325 defines a cost of local exchange service, not a cost recovery mechanism.[13] Hence, it would be economically incorrect to include any allocation of common costs — however classified and however allocated — in a measure of the cost of local exchange service.

Q. IF SECTION 1325 DOES NOT REQUIRE LOOP ALLOCATION, WHAT DOES IT REQUIRE?

[11] Dr. Alfred E. Kahn, Rebuttal Testimony on behalf of Bell Atlantic - Pennsylvania, Inc., Docket No. I-940035 at 15.

[12] A succinct refutation of this fallacy is supplied in Dr. Kahn's direct testimony in the Universal Service proceeding.

[13] Ramsey principles provide a reasonable solution to the cost recovery problem, but the cost allocation problem has no solution. It has been described as having to find a black cat in a dark room where there

(continued...)

A. Although I am not an attorney, my understanding of § 1325 as an economist is that it seeks to protect local exchange service customers from bearing a disproportionate burden of a general rate increase in the traditional rate base, rate-of-return regulatory regime:

> In any rate proceeding...no public utility shall be granted a percentage increase in local exchange service unless that percentage increase is just and reasonable. In no event shall the public utility be granted an increase in local exchange rates which is greater than the overall average percentage increase in total intrastate revenues authorized by the commission...
>
> unless the burden can be justified based on the cost of supplying that local exchange service:
>
> ...unless the utility proves by record evidence that a greater percentage increase for local exchange service is justified based upon the cost of providing that service (66 Pa.C.S.A. § 1325 (a).

When the statute was promulgated in 1986, all Pennsylvania telephone utilities were regulated by traditional rate of return methods. Thus, for example, if the utility requested a 5 percent increase in its intrastate revenue requirement, its proposed increase in local exchange rates could not exceed 5 percent without a cost justification.

Q. IS VERIZON PROPOSING A "PERCENTAGE INCREASE" IN ITS INTRASTATE REVENUE REQUIREMENT IN THIS CASE?

A. No. It is my understanding that Verizon is proposing access restructuring that is revenue neutral, not a general rate increase, percentage or otherwise. The proposal's purpose is not to increase rates and revenues overall, but rather to reduce and realign the access rates of the two Verizon telephone companies in response to a merger commitment, and to make that realignment revenue neutral. . .

(...continued)

is no cat.

Q. IF THE COMMISSION WERE TO DETERMINE THAT SECTION 1325 DOES APPLY, ARE VERIZON'S PROPOSED INCREASES IN DIAL TONE LINE RATES CONSISTENT WITH THIS SECTION?

A. Yes. Even if this section were read to apply here to the discrete price increases for dial tone line service (the local exchange service price that is proposed to be increased), Verizon's proposal complies with the statute because the Dial Tone Line service price increases are "justified based upon the cost of providing that service."

Q. HOW WOULD AN ECONOMIST UNDERTAKE SUCH A JUSTIFICATION?

A. Most economists would compare a proposed rate structure with the rate structure that would exist in unregulated markets under competitive conditions. In competitive markets, the price of each service is pushed towards the forward-looking incremental cost of the service. However, in markets such as telecommunications, which are characterized by economies of scale and scope, competitive market prices are not quite so simple. In such markets, all service prices could not be forced to equal incremental costs because such prices would not recover the total cost of the firm. Thus, prices for individual services must be marked-up above incremental cost, and, under certain general conditions, competition would result in mark-ups for services that are inversely proportional to their price elasticities of demand.[14]

In summary, an economic standard by which to appraise a disproportionate price increase for any service would be first that all service prices at least equal incremental cost. Next, for markets characterized by common costs and economies of scale and scope, the mark-ups of service prices above incremental cost should be roughly inversely proportional to the price elasticities of demand for

[14] *See*, W.J. Baumol, J.C. Panzar and R.D. Willig, *Contestable Markets and the Theory of Industry Structure*, New York: Harcourt Brace Jovanovich, Inc., 1982, at Chapter 12.

the individual services.

Verizon's Dial Tone Line increases to offset the access decreases are "justified" because the Dial Tone Line service rates are well below the costs of that service.

Q. MR. DUNKEL [AT 40] USES EMBEDDED COST ESTIMATES FROM NECA IN ORDER TO SHOW THAT VERIZON'S COST STUDIES ARE INFLATED. HOW DO YOU RESPOND?

A. Mr. Dunkel is comparing apples to oranges. NECA embedded cost estimates reflect the embedded or historical record of the costs a firm attributed to the pursuit of its activity in a past accounting period. The embedded cost reflects what the firm actually paid to acquire capital equipment,[15] to operate and maintain that equipment, and other costs incurred in operating the enterprise in the past. In contrast to embedded costs, forward-looking costs are those associated with present and future uses of the firm's (or society's) resources. These costs are relied upon for making present and future production and investment decisions, for placing resources in alternative uses, and for setting efficient prices for the services to be provided presently or in the future.

Moreover, it is not appropriate to rely upon embedded cost estimates to determine whether residential basic local exchange will receive an economic subsidy — an important part of this proceeding. As mentioned above, the correct costing principle for this purpose is TSLRIC, which is a forward-looking incremental cost estimate. Use of embedded cost to determine the size of an economic subsidy and prices results in consumption and investment decisions that are not based on the actual value of society's scarce economic resources.[16]

[15] Embedded costs also include the annual depreciation expenses associated with the stock of equipment that (1) was purchased in the current and previous years and (2) is still in use.

[16] Of course, embedded costs are relevant for other purposes. For example, to determine whether a regulated firm has had a reasonable opportunity to earn its authorized rate of return, it is the embedded costs on which that calculation would be based.

Q. ARE THERE OTHER REASONS WHY IT IS IMPROPER TO COMPARE VERIZON'S FORWARD-LOOKING COST STUDIES WITH NECA NUMBERS?

A. Yes. The inputs and assumptions that make up a forward-looking cost study are different from the inputs and assumptions that are part of an embedded cost study. For example, installing loop plant is a labor-intensive process. An embedded loop cost study reflects the historical cost of labor associated with placing loop plant as opposed to the forward-looking wage level that Verizon incurs over the relevant forward-looking planning horizon. Nor does an embedded cost study reflect the forward-looking prices that Verizon pays for material such as cable, conduit and poles. When these factors are taken into account, it is not surprising that the two studies differ.

Moreover, the NECA loop costs exclude certain costs that are included in Verizon's forward-looking cost study such as certain retail costs. For example, the NECA loop costs do not include marketing or customer support expenses whereas the Verizon Dial Tone Line studies and other studies of retail services do include such costs.

C. Neither the FCC Nor This Commission's Precedent Require Allocation of Loop Costs.

Q. MR. DUNKEL [AT 25] CLAIMS THAT THIS COMMISSION HAS FOUND THAT LOOPS ARE A JOINT COST. WHAT HAS THIS COMMISSION SAID ON THIS ISSUE?

A. The parties are correct in noting that in the *Universal Service* proceeding this Commission concluded — contrary to the economic testimony of most parties — that the local loop is a "joint" or shared cost. However, the parties ignore more recent decisions that move away from this conclusion, or adopt conclusions that are flatly inconsistent with the treatment of the local loop as a "joint" cost that should be allocated to other services, like switched access.

First, the Commission granted reconsideration in the *Universal Service*

investigation on this very issue. The Commission stated the following regarding loop allocation:

> While the argument of the parties seeking reconsideration on the allocation of the local loop have for the most part been considered and rejected by this Commission, subsequent events including the FCC's findings in its May 8, 1997 Report and Order require that we reexamine this issue.
>
> While as already noted we do not find the majority of arguments presented persuasive and not that many of them have already been considered and rejected by this Commission in its January 28, 1997 Opinion and Order, we do agree that a degree of consistency between our funding mechanism and the mechanism adopted by the FCC is desirable. The Pennsylvania costing method allocates loop cost based on SLU, whereas the FCC mechanism does not.
>
> We agree that it is important that the federal and state funding mechanism be consistent in this respect so that distributions under both do not result in either under-funding or over-funding of BUS in high cost areas. While we continue to believe that the loop is a joint cost which should be allocated among the services that utilize it, **we believe that consistency in this regard with the approach taken by the FCC in its May 8, 1997 Report and Order is critical.**[17]

Subsequently, in the 1998 *Generic Investigation of Intrastate Access Charge Reform*, ALJ Schnierle recognized the problems of treating the loop as a joint cost in an increasingly competitive environment. While he acknowledged that "the Commission has, historically, viewed the loop as a 'joint cost,' Judge Schnierle proceeded to observe:

> On the other hand, the "loop is a joint cost" theory simply will not work in a competitive environment because it fails to recognize the physical and financial reality that most of the cost of providing a telephone network is incurred in simply providing basic service. If society wants to replace the monopoly regulation of local telephone service with open competition, (as it has indicated by the enactment of Chapter 30 and the

[17] *See*, Before the Pennsylvania Public Utility Commission, *In re: Formal Investigation to Examine and Establish Updated Universal Service Principles and Policies for Telecommunications Services in the Commonwealth*, Docket No. I-00940035, July 31, 1997.

Telecommunications Act of 1996), then it must be prepared to allow prices for local telephone service to be more reflective of reality.[18]

The record in the 1998 Access Charge proceeding was the basis for the findings in the *Global Order* that resulted in reducing access charges, and that set the stage for this proceeding. There is nothing in the *Global Order* that suggests that the Commission intended to allocate loop costs to other services, like the cost of switched access. On the contrary, both in the *Global Order* and in subsequent orders (most recently in its recent Order adopting the RTCC access settlement which is the model for Verizon's proposal) the Commission has indicated that it intends to move access charges closer to cost — a cost which does not include allocation of loop costs.

Finally, the Commission's cost proceedings to set rates for Unbundled Network Elements (UNEs) set rates for UNE loops based on the direct cost of that service. The Commission has never allocated UNE loop costs to other services as "joint" or shared costs, in its wholesale cases, nor has any party — including the OCA or OTS — even suggested that the Commission should do so. Plainly, the same loop facilities are being used to provide both UNE loops on the wholesale side, and Dial Tone Line Service on the retail side. There is no plausible economic justification to treat these same facility costs as "direct costs" in one context — the UNE loop context — but then to treat them as "joint" or "shared costs" when they are sold as part of retail local exchange services.

Q. BUT MR. DUNKEL (AT 31) ARGUES THAT THE FCC ACCEPTS HIS VIEW THAT THE LOCAL LOOP IS A SHARED COST. IS HE CORRECT?

A. No. First, the FCC does *not* allocate the cost of the loop in its own cost model, the Synthesis Model, which is the basis for computing universal service support needs

[18] *See*, Before the Pennsylvania Public Utility Commission, *In re: Generic Investigation of Intrastate Access Charge Reform*, Docket No. I-00960066, June 30, 1998.

and making federal universal service distributions. If the FCC believed that loop costs were shared, it would not have set up its cost model in this manner. Since this Commission stated in its order on reconsideration in the universal service proceeding that "consistency" with the FCC's approach was critical,[19] the FCC's treatment of the loop cost is particularly significant.

Second, the FCC has decided to recover the *full* cost of the local loop that is allocated to the federal jurisdiction through fixed subscriber line charges that are charged to end-users, not IXCs. This point also refutes Mr. Dunkel's implication (at 30) that the U.S. Supreme Court also accepted the notion that the loop is a shared cost in *Smith vs. Illinois Bell Telephone*. While *Smith vs. Illinois Bell* may imply that interstate services must be priced to recover some portion of loop plant, it is silent on how those costs should be recovered from interstate services. The FCC has decided that interstate loop costs should be recovered through flat-rated charges from the end user, i.e., from the ultimate cost-causer of loop facilities.

Third, Mr. Dunkel relies (at 32) on an FCC Notice of Proposed Rulemaking addressing one option out of several to modify the then-existing Universal Service Fund plan, yet even that passage does not support his contention that the FCC has endorsed the notion that the loop is a shared cost. A closer review of that passage, and the context in which it appeared, reveals that the FCC was referring to the *separations process*, i.e., the process by which costs are allocated between the interstate and intrastate jurisdiction for purposes of setting rates. That proposal is neither apposite to the decision before this Commission nor does it reflect a final decision of the FCC in any event.

A recent FCC decision provides more appropriate guidance for the Commission here.[20] In that decision, the FCC accepted many of the salient features

[19] See footnote 17.

[20] *See,* Before the Federal Communications Commission, *In the Matter of Access Charge Reform* (CC Docket No. 96-262), *Price Cap Performance Review for Local Exchange Carriers* (CC Docket No. 94-1), *Low Volume Long Distance Users* (CC Docket No. 99-249), and *Federal-State Joint Board on*

(continued...)

of an integrated proposal by the Coalition for Affordable Local and Long Distance Service ("CALLS") — a group of prominent local exchange and long distance carriers including AT&T and Sprint — for universal service and access charge reform. Most significantly, the FCC decided to replace implicit subsidies historically embedded in the interstate access rate structure with explicit support needed for the interstate portion of the universal service obligation. To this end, the FCC increased the subscriber line charge on residential and business customers with the aim eventually to recover the entire interstate portion of the non-traffic-sensitive local loop in fixed flat-rated charges. The following excerpts from the *CALLS Order* amply demonstrate the FCC's firm commitment to the view that the cost of the local loop is not — and should not — be shared with usage services.

> The Eighth Circuit upheld the Commission's increases to various LEC SLC caps, however, and found that "Texas Counsel's contention that increasing the SLC price ceiling violates the prohibition against using non-competitive services to subsidize competitive services [wa]s unpersuasive." In doing so, the court reaffirmed the *Commission's long standing view that the subscriber "causes" local loop costs, whether the subscriber uses the service for intrastate or interstate calls.* These costs are, in any event, recovered from the end user, either through direct end-user charges or indirectly through higher rates or additional charges paid to IXCs. The court further affirmed the Commission's conclusion *that it was appropriate and rational for the Commission to impose these costs on the end user.* The court concluded as a result that increasing SLC caps on certain lines did not result in a windfall for IXCs.[21]

Q. HOW DO YOU RESPOND TO MR. DUNKEL'S ARGUMENT (AT 29) THAT SECTION 254(K) OF THE TELECOMMUNICATIONS ACT OF 1996 MEANS THAT THE LOOP IS A SHARED COST?

(...continued)

Universal Service CC Docket No. 96-45, Sixth Report and Order in CC Docket Nos. 96-262 and 94-1, Report and Order in CC Docket No. 99-249, and Eleventh Report and Order in CC Docket No. 96-45 ("*CALLS Order*"), May 31, 2000.

[21] *Id.*, ¶95 (footnotes omitted, emphasis added).

A. That portion of the 1996 Act says merely that services included in the definition of universal service bear no more than a reasonable share of the joint and common costs of facilities used to provide them. I understand this to mean that the markup on the direct cost of universal service must be reasonable in the sense that other non-supported services must also recover a reasonable amount of shared and common cost. Nowhere does the statement say that the loop is a shared and common cost as Mr. Dunkel asserts.

Q. HAVE OTHER STATES REACHED CONCLUSIONS ABOUT WHETHER THE LOCAL LOOP IS A DIRECT COST OF BASIC LOCAL?

A. Yes. For example, the Massachusetts Commission recently found that:

> We agree with Verizon and AT&T that the local loop is demanded in its own right, and that the cost of the loop is incurred and easily identified when it is provisioned—irrespective of subsequent usage...Therefore, we determine that the entire cost of the loop is properly identified on a cost-causative basis with the provision of access, whether as an unbundled loop or bundled with local usage as basic residential service.[22]

In a recent proceeding on the cost of basic local exchange in Florida, the Florida Commission reached a similar conclusion.[23] In a proceeding in California, the Commission reached the following conclusion:

> Pacific and GTEC argue that the utility strings the line and purchases switch capacity in response to the end-user's subscription to basic telephone service. According to this argument, the expense of the line and switch is incurred regardless of whether they are ever used; thus, much of the loop plant is characterized as nontraffic-sensitive (NTS). Pacific and GTEC assert that it is reasonable to collect NTS plant costs from the "cost-causer" (i.e., the end-user) through the basic monthly rate... **We concur with the general principle that NTS costs should**

[22] *See*, Massachusetts Department of Telecommunications and Energy, D.T.E. 01-31-Phase II, April 11, 2003, Public Utilities Reports—223 PUR4th, p 396.

[23] *See*, "Report of the Florida Public Service Commission on the Relationship Among the Costs and Charges Associated with Providing Basic Local Service, Intrastate Access, and Other Services Provided by Local Exchange Companies, in Compliance with Chapter 98-277, Section 2(1), Laws of Florida," Florida Public Service Commission Tallahasee, Florida February 15, 1999.

be assigned to subscribers' basic exchange services.[24]

III. ACCESS RATES SHOULD NOT BE SET AT COST OR AT UNE RATE LEVELS

Q. SEVERAL INTERVENORS [KIRCHBERGER AND NURSE AT 30-31, PELCOVITS AT 24-26, 34, KUBAS AT 10, DUNKEL AT 34] ARGUE THAT UNES, WHICH MUST BE SET AT TELRIC, ARE AN APPROPRIATE COST STANDARD TO USE FOR ACCESS AND BASIC LOCAL SERVICE. DO FIRMS IN COMPETITIVE MARKETS SET PRICES EQUAL TO A TELRIC-LIKE MEASURE OF INCREMENTAL COST AS AT&T AND MCI HERE URGE THE COMMISSION TO IMPOSE ON VERIZON?

A. No. Intoxicated with TELRIC-based prices for interconnection and UNEs, the IXCs enthusiastically urge similar treatment for carrier access services. However, nothing in economic theory or practice suggests that multiproduct firms in competitive markets should price services at forward-looking incremental cost or even at forward-looking incremental cost marked up by some arbitrary allocation of shared fixed and common costs. Firms in competitive markets recover shared fixed and common costs where market conditions — not accounting conventions — permit. A market-based approach reveals the economic price of access, not as the sum of a TELRIC study and an allocation of fixed costs, but as the level to which competitive pressure forces access prices. As the FCC recognized when it rejected the proposition that interstate carrier access charges be set at TELRIC, "competition will do a better job of determining the true economic cost of providing such services."[25] The Commission would do well to be guided by the FCC's analysis rather than that of the other parties in this case.

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[24] *See*, California Public Utilities Commission, *In the Matter of Alternative Regulatory Frameworks for Local Exchange Carriers and Related Matters*. (Part 2 of 9) Decision 94-09-065, September 15, 1994, p. 64-65, emphasis added.

[25] *See*, Before the Federal Communications Commissions, *In the Matter of Access Charge Reform* (CC Docket No. 96-262), First Report and Order, Release No. FCC 97-158, May 7, 1997, at ¶265.

The key point is that regulated services should be priced taking into account market conditions. In service markets where market and firm demand permit the recovery of substantial amounts of shared fixed and common costs, such as the telecommunications industry, prices are marked up above incremental cost more than in markets where conditions force prices close to incremental costs. At divestiture, the burden to recover the lost contribution from interLATA toll services was placed on switched access service — a service for which customers then had few substitutes and which therefore offered a comparatively efficient means to recover the lost contribution.[26]

Switched access charges still can and should provide some support to the shared fixed and common costs of the network by being priced above incremental cost.

Q. DOES THE TELECOMMUNICATIONS ACT OF 1996 INDICATE THAT ACCESS SHOULD BE SET AT TELRIC?

A. No. The 1996 Act and subsequent FCC local competition order set the price of access to the local network (using UNEs) equal to TELRIC.[27] These rules do not apply to switched access charges.

Q. IS IT TRUE THAT IN COMPETITIVE MARKETS, COMPETITIVE FORCES PUSH THE MARKET PRICE DOWN TO THE TELRIC OF EACH SERVICE?

A. Absolutely not. In unregulated competitive markets, market forces do not push the

[26] Though carrier access is a relatively efficient source from which to recover lost contribution, it is not absolutely efficient. The initial levels of interstate and intrastate carrier access charges were sufficiently high to engender facilities-based competition from competitive access providers such as MFS and Teleport—now part of WorldCom and AT&T. Since 1984, carrier access charges have fallen dramatically to reflect facilities-based competition for exchange access, particularly to high-volume customers.

[27] *See*, Before the Federal Communications Commission, *In the Matter of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket 96-96, First Report and Order, released August 8, 1996.

market price down to equal the incremental cost of each service. Firms in unregulated competitive markets must price to recover all of their forward-looking costs or they will be forced to exit the market. In the presence of significant shared fixed and common costs, prices in competitive markets necessarily exceed the incremental cost of each service.

For example, in the U.S. long distance market, which is generally thought to be workably competitive now, the average revenue per minute for toll service was about 8 cents in 2001.[28] Marginal network costs might have averaged about 1-2 cents per minute[29] and carrier access charges about 1.34 cents per minute,[30] so that the markup of price over incremental cost was about 140 percent in that market.[31] Thus, the assertion that price in a competitive market is fairly close to incremental cost does not hold true in telecommunications markets. In this example, the absolute markup of price over marginal cost for retail residence long distance service far exceeds the entire magnitude of carrier access charges, let alone the markup of carrier access charges over TELRIC.

Q. SEVERAL INTERVENORS [KIRCHBERGER AND NURSE AT 33, PELCOVITS AT 33] QUESTION THE ABILITY OF THE MARKET TO CONSTRAIN VERIZON'S SWITCHED ACCESS RATES. HOW DO YOU

[28] *See,* FCC, *Reference Book of Rates, Price Indices and Household Expenditures for Telephone Services,* July 2003, Table 1.23.

[29] Sources of the 1-2 cent per minute figure are Lewis J. Perl and Jonathan Falk, *The Use of Econometric Analysis in Estimating Marginal Cost*, Presented at Bellcore and Bell Canada Industry Forum, San Diego, California, April 6, 1989, Table 2; Paul W. MacAvoy, *The Failure of Antitrust and Regulation to Establish Competition in Long-Distance Telephone Services*, MIT and AEI Presses, 1996, at 115, citing an estimate by Wharton Econometric Forecasting Associates; and Lehman Brothers, *Telecom Services: Buy the Bundle Builders, Get the Growth*, March 18, 1996: "Large customers and large resellers can purchase transport at close to long-run incremental costs, or at about the $0.02 per minute in average depreciation and network engineering costs of the major players (this is the rate that the federal government recently negotiated on its multiyear FTS 2000 contract for POP-to-POP transport)." (at 28).

[30] *See,* FCC, Industry Analysis Division. *CALLS Analysis*, May 25, 2000, Graph 8.

[31] [0.08 – 0.0334] / 0.0334 = 1.39.

RESPOND?

A. As I mention below, as of December 31, 2002 CLECs provided 16 percent of total network access lines in Pennsylvania, meaning that there are alternatives to Verizon for the origination and termination of carrier access services. Moreover, the issue of whether the market is able to constraint Verizon's switched access rates is irrelevant to this proceeding because Verizon is not asking for its switched access rates to be deregulated.

Q. DR. PELCOVITS' [AT 14, 23] ARGUES THAT IT IS NOT NECESSARY FOR REDUCTIONS IN ACCESS CHARGES TO BE OFFSET WITH INCREASES IN DIAL TONE RATES AND POINTS TO THE FCC'S CALLS ORDER FOR SUPPORT. HOW DO YOU REPLY?

A. First, the CALLS Order is the result of complex compromise negotiations with many different elements and interrelationships arrived at through years of discussions and it reflects compromises among all the different parties. Nonetheless, the *CALLS Order did result* in increases in end-user subscriber line charges (SLCs), as well as decreases in access charges. As noted by the CALLS members, who included both ILECs and interexchange carriers, the different parts of the CALLs plan are "essential and inter-dependent."[32]

Second, the fact that Verizon's Dial Tone service is priced below cost means that it is important for the Commission to address the problem and set rates to levels that more accurately reflect costs. This will lead to more rational utilization of telecommunications resources in Pennsylvania and will also provide CLECs improved incentives to compete in the marketplace.

[32] *See*, Memorandum in Support of Revised Plan, CC Docket No. 94-1, p. 3, March 8, 2000.

IV. SETTING ACCESS CHARGES ABOVE COSTS DOES NOT HARM EFFICIENT COMPETITORS OR THE COMPETITIVE PROCESS

Q. SEVERAL INTERVENORS IN THIS PROCEEDING ARGUE THAT SETTING ACCESS CHARGES ABOVE COST IS ANTI-COMPETITIVE BECAUSE ITWILL UNFAIRLY BENEFIT VERIZON [KIRCHBERGER AND NURSE AT 20, PELCOVITS AT 18]. CAN IXCS COMPETE WITH VERIZON ON A FAIR BASIS EVEN WHEN ACCESS CHARGES ARE SET ABOVE COST?

A. Yes, as demonstrated by the steady growth in competition, particularly by AT&T and MCI. The tired argument that, absent reducing carrier access prices to incremental cost, IXCs cannot compete has no basis in economics and has not improved with frequent repetition. My understanding is that IXCs have captured almost [**BEGIN VERIZON PROPRIETARY**] [**END VERIZON PROPRIETARY**] of intraLATA toll traffic in the Verizon and Verizon North territories, respectively.

There is common agreement that current carrier access rates — like many other telecommunications prices — are set *above* the forward-looking incremental cost of supplying the service. The difference between price and cost for carrier access services contributes to recovery of shared fixed and common costs of the firm as well as to services such as residential basic exchange service that are intentionally priced by the Commission at prices below their efficient level to achieve social goals. This fact does not imply that such prices harm competition in the long distance market, and there is substantial historical evidence that such practices have not harmed competition.

This Commission has reached the same conclusion, rejecting the IXC's "price squeeze" and other recurring arguments about the supposed anti-competitive effects of pricing access above cost:

> We agree with the PTA that there is no evidence that [IXCs] are unable to compete today with the ILECs in the IntraLATA toll market. Further, we

> take administrative notice of the fact that the toll market is subject to increasingly intense price competition as many IXCs are setting their rates on a national level using flat rates that have no relationship with the access rates of any specific ILEC. Finally, we know of no evidence to refute AT&T's own witness that predatory pricing is extremely unlikely to occur; and, even if predatory pricing does occur, the federal antitrust laws are already available to address this type of conduct. Frankly, we are wary of taking any regulatory action that may discourage the aggressive pricing of toll services by any and all competitors, including ILECs, in that market...[33]

Q. HAS THE COMMISSION CONCLUDED THAT INTRALATA TOLL SERVICES ARE COMPETITIVE?

A. Yes, irrespective of the fact that switched access services are priced above costs, the Commission has concluded that intraLATA toll services are competitive. In 1999, the Commission concluded:

> We agree that BA-PA's intraLATA toll service is a competitive service, pursuant to 66 Pa. C.S. §3005. This determination is supported by the record in Docket No. P-97001293, the fact that no party has introduced any evidence to demonstrate that the Commission should make negative findings with respect to the requisite statutory findings, and by our concomitant decisions with respect to access charge reform and intraLATA presubscription cost recovery.[34]

Q. DOES PRICING ACCESS ABOVE COST GIVE VERIZON THE FREEDOM TO PUT ITS COMPETITORS IN AN ANTI-COMPETITIVE PRICE SQUEEZE?

A. No. Pricing access above cost does not give Verizon the freedom to engage in a price squeeze. A price squeeze is possible when a firm (i) controls an upstream essential facility; (ii) competes in the downstream retail market; and (iii) is not compelled to impute the contribution it earns from providing the essential facility to

[33] *See, Implementation of the Telecommunications Act of 1996: Imputation Requirements for the Delivery of IntraLATA Services by Local Exchange Carriers*, No. M-00960799 (Opinion and Order entered January 29, 2002) at 14.

[34] *See*, Docket Numbers P-00991648 and P-00991649, p. 231, ("*Global Order*").

its downstream retail price. (In the current case, the upstream facility would be Verizon's local loops and switches, which it uses to provide carrier access services to IXCs, and the downstream retail market is the intrastate and interstate toll market.) Even if we assume that the first two conditions were true for some of Verizon's customers,[35] the third is not.

In addition, there is an imputation safeguard in place in Pennsylvania that means that Verizon cannot price its toll service below the price that it charges competitors for access.[36] This imputation rule effectively places Verizon in the same position as the IXCs insofar as the pricing of toll services is concerned. Instead of basing its toll price entirely on the incremental cost of the service, Verizon must use its competitors' incremental cost for the access portion of the service: *i.e.*, the tariff price of switched access that IXCs pay to Verizon. Verizon thus must price its toll service as if it purchased the necessary access facilities under the same conditions as its competitors. The economic purpose of imputation rules is to safeguard competition in a market by ensuring that equally efficient firms are not denied the ability to compete in a market because of the prices that a firm with market power charges for essential inputs. Under the Pennsylvania imputation rule, Verizon is neither advantaged nor disadvantaged in the toll market because it supplies access to competitors at a price above incremental cost.

Finally, in compliance with the separate affiliate safeguards in Section 272 of the Telecommunications Act, Verizon's long distance affiliate must purchase carrier access from the same tariff under the same terms and conditions as other long distance carriers.

Q. ARE THERE ANY ADDITIONAL REASONS WHY IXCS' FEARS ABOUT A PRICE SQUEEZE ARE UNFOUNDED?

[35] Since CLECs can buy unbundled network elements to avoid paying Verizon's carrier access charges, even the first condition is of doubtful validity.

[36] 66 Pa. C.S. § 3005 (e).

A. Yes. The simple assumption — inherent in their argument — that IXCs must purchase ILEC switched access services for all of their traffic is simply wrong. That assumption is particularly false for the two largest IXCs — AT&T and MCI: AT&T owns TCG (the nation's largest competitive access providers ("CAP")), and WorldCom owns MFS and Brooks Fiber. Practically since divestiture, IXCs have been using dedicated access facilities — self-supplied or purchased from CAPs or from the ILECs' special access tariffs — to serve their high-volume customers and to bypass ILEC access facilities.

In addition, access competition from CLECs is proliferating. According to the FCC, as of December 31, 2002 CLECs had captured 13 percent of total access lines in the United States.[37] In Pennsylvania, the figure is even higher, with the CLECs having captured 16 percent of total lines. This means that the supposition that IXCs have to rely on Verizon for access is simply incorrect and, thus, Verizon's ability to engage in a price squeeze is nonexistent.

Finally, a price squeeze is analytically the same as predatory pricing because the firm sacrifices profits whenever it supplies the retail service rather than the essential input. For predatory pricing or a price squeeze to be a successful competitive strategy, three conditions must hold: (i) the predator must be a dominant firm or likely to become one; (ii) the predator must suffer a loss (or lose profits) in order to eliminate its competitor; and (iii) the market structure must allow the predator to recoup at a later date the profits it has lost through predation. These conditions are not met in Pennsylvania.

First, the strategy requires that the predator have deeper pockets than the victims, and the "victims" in this case would be AT&T, MCI, and Sprint, each of which is a major national and international carrier that sells telecommunications services outside of Pennsylvania, where it would be unaffected by Verizon's pricing

[37] *See*, "Local Telephone Competition: Status as of December 31, 2002," Federal Communications Commission, June 2003.

in Pennsylvania. Even with its recent bankruptcy, MCI is still a major provider of telecommunications services.

Second, the strategy would require that Verizon be able to control intraLATA and interLATA prices and maintain barriers to entry in Pennsylvania, neither ability is present here. The Verizon companies must compete against some of the largest telecommunications firms in the world, whose names are household words. Even if Verizon could drive the Big Three out of the Pennsylvania toll markets, their capacity would remain in the market, so that other competitors could prevent the Verizon companies from ever raising prices to recoup its lost profits.

Q. DR. PELCOVITS [AT 19] AND KIRCHBERGER AND NURSE [AT 20] ARGUE THAT VERIZON IS ABLE TO GAIN AN UNFAIR ADVANTAGE BECAUSE IT DOES NOT FACE THE SAME COST STRUCTURE AS ITS COMPETITORS. HOW DO YOU RESPOND?

A. Implicit in this argument is the assertion that to maximize overall corporate profits, the local exchange carrier's long distance service would set prices using the true economic cost of carrier access in its calculations rather than the tariff price of carrier access that the incumbent interexchange carriers must pay. As the argument goes, the LEC long distance service could profitably take customers away from its competitors even if it were less efficient because it effectively paid a lower price for carrier access service. However, this argument is economic nonsense. If a LEC's long distance service were to win a long distance customer from a competitor, then the LEC would no longer receive carrier access revenues for that customer from that competitor. To maximize corporate profits, the LEC must recognize the lost access revenues as an opportunity cost of having its long distance service carry those minutes instead of supplying carrier access service to a competitor. If the LEC's long distance service cannot earn enough revenue to cover both its own costs and the opportunity cost of access, then its taking the minutes away from the competitor would be unprofitable for the LEC as a whole. If the vertically integrated LEC finds it profitable to take minutes away from competitors, it must

either be: (i) because the LEC and its affiliate are more efficient than the competitor IXCs or (ii) because the competitor IXCs charge long distance rates too far above their costs.

Q. DR. PELCOVITS [AT 20] PROVIDES AN EXAMPLE, WHICH ALLEGEDLY SHOWS HOW VERIZON COULD ANTICOMPETITIVELY PROFIT FROM ACCESS CHARGES THAT ARE ABOVE COST. HOW DO YOU RESPOND?

A. Using Dr. Pelcovits' own numbers, it is clear that the Verizon companies do not have an incentive to engage in a price squeeze. Dr. Pelcovits' examples, as discussed above, do not properly take into account the opportunity cost that Verizon incurs when it wins over a long distance customer instead of providing switched access to an IXC.

For example, at a long distance price of 5 cents a minute, Verizon is indifferent between carrying the toll call for the end user or providing switched access to the IXC because under both scenarios Verizon's contribution is 2 cents a minute. If Verizon prices its long distance service below 5 cents a minute, at 4.5 cents a minute, as in Dr. Pelcovits' example, then its contribution falls to 1.5 cents a minute. The lost profit of .5 cents a minute is a real opportunity cost that Dr. Pelcovits should have taken into account in his analysis. When this opportunity cost is taken into account, it demonstrates that Verizon does not have the incentive to engage in a price squeeze.

Q. DR. PELCOVITS [AT 20-21] ALSO DISCUSSES THE POSSIBILITY THAT VERIZON WOULD ENGAGE IN A PRICE SQUEEZE BY ESTABLISHING A VARIETY OF PRICING PLANS THAT COMPETITORS ARE NOT ABLE TO MATCH. HOW DO YOU RESPOND?

A. First, as discussed above, his numerical example ignores the fact that when the LEC prices below 5 cents per minute, it imposes a real economic cost on itself that removes its incentive to offer such a plan.

More importantly, however, economic analyses about whether Verizon is or is not engaged in a price squeeze should, from an economic perspective, be applied to the relevant economic market in question and not the individual calling plans. Once the market has been defined, it is sensible to consider the integrated firm's pricing practices over the market as a whole rather than over any subset of this market. If a vertical price squeeze is occurring in only part of the market, theoretically there is nothing preventing the non-integrated firms from shifting their focus to those parts of the market that are not subject to a price squeeze. If these other parts of the market are substantial enough that competitors are not disadvantaged, then the price squeeze cannot be said to be having an anticompetitive impact. Thus, when MCI offers a flat-rate long distance plan, despite the fact that some of its costs are usage-sensitive, it expects to lose money on some garrulous customers but make money overall on the offering. Pricing below cost for heavy-user customers is not anticompetitive, despite the fact that no other carrier could possibly compete with MCI for those particular customers.

In addition, obtaining margins from the plans that are not affected provides carriers the opportunity to make up for losses in the affected plans. This is the reason that imputation tests in Pennsylvania are correctly conducted at the level of the market, i.e., a more aggregated level than the individual calling plan.

Q. HAS THE COMMISSION ALREADY MADE A DETERMINATION ABOUT WHETHER IMPUTATION TESTS SHOULD BE CONDUCTED AT THE SERVICE LEVEL AS DR. PELCOVITS SEEMS TO BE SUGGESTING?

A. Yes, it has. In 1999 the Commission disagreed with intervenors who requested that the language in the imputation statute of 66 Pa. C.S. §3005(e)(2), be interpreted to require imputation at the service rather than the aggregate level. As the Commission stated in the *Global Order* issued in 1999:

> We accept Judge Schnierle's recommendation that BA-PA's version of the imputation test is the one we should adopt, and conclude that the access charge reductions which we have directed BA-PA to

undertake vitiate the imputation concerns of the 1648 Petition.

> We, therefore, direct that, effective upon BA-PA's receipt of Section 271 approval from the FCC, BA-PA's intraLATA toll service be designated competitive under 66 Pa. C.S. §3005. At that time, we also direct that with respect to service level imputation, BA-PA must affirmatively demonstrate that **total toll revenues must exceed total imputed switched access and carrier charges on an aggregated toll services level.**[38]

Q. DR. PELCOVITS [AT 22] PRESENTS DATA THAT HE ALLEGES PROVIDES INDIRECT EVIDENCE THAT A PRICE SQUEEZE "CURRENTLY EXISTS IN THE PENNSYLVANIA TOLL MARKET." HOW DO YOU RESPOND?

A. The so-called "evidence" that Dr. Pelcovits lists does not support his contention that there is currently a price squeeze in the Pennsylvania toll market. Dr. Pelcovits reaches his conclusion from his observation that the average revenue per minute for intrastate switched access services that are sold to IXCs differs from the average revenue per minute for intrastate switched access services that are sold to Verizon's affiliate.

However, this is not indirect evidence of a price squeeze. The Verizon companies long distance affiliate purchases its intrastate switched access services from the same tariff and under the same terms and conditions as the IXCs. As discussed above in detail, this imputation requirement ensures that the Verizon companies are not engaged in a price squeeze.

Moreover, the data presented in Dr. Pelcovits' Table 4 is not price information, but rather average revenue per minute information. There are many factors that could affect average revenues per minute. The Verizon long distance affiliate and other IXCs likely have significantly different network designs that affect the type of switched access services and the nature of switched access

[38] *See, Global Order*, p. 232-233, [emphasis added].

elements that each carrier requires. For example, an IXC that tends to be located closer to the end office requires less interoffice transport and tandem switching services than other carriers that tend not to be located as close to the end office. Intrastate switched access services have different fixed and variable rate elements that have an impact on a carrier's revenue per minute even though, on a per unit basis, carriers are paying the same price. This phenomenon is what is reflected in Dr. Pelcovits' Table 4; it is not evidence of a price squeeze.

Q. MESSRS. KIRCHBERGER AND NURSE [AT 11-12] ARGUE THAT THERE HAS BEEN SOME NEW DEVELOPMENTS IN THE MARKET SINCE THE COMMISSION'S GLOBAL ORDER MAKING ACCESS CHARGE REDUCTIONS EVEN MORE IMPORTANT. SPECIFICALLY, THEY POINT TO THE GROWTH OF WIRELESS AND VERIZON'S ENTRY INTO PENNSLVANIA LONG DISTANCE MARKETS. IS THERE ANY MERIT TO THEIR ARGUMENT?

A. No. Let me start with their second argument first. Messrs. Kirchberger and Nurse (at 19) state the following:

> Access charges already were an inefficient burden on the long distance market before Verizon was given permission to enter that market. While inflated access charges resulted in unnecessarily high rates to consumers, however, for the most part they did not tilt the playing field among the IXC competitors. That is, the IXC who were competing with each other were at least doing so on an equally inefficient basis, since they all were required to pay Verizon the same bloated rates for originating and completing their calls.

Of course I disagree with Messrs. Kirchberger and Nurses' rhetoric about inefficiencies and bloated rates. What is important from their statement is the fact that they seem to have forgotten that Verizon has been competing in Pennsylvania toll markets since divestiture! Verizon has been offering intraLATA toll since divestiture, and this market was opened to equal access competition in July 1997 and September 1996 for Verizon PA and Verizon North, respectively. As mentioned above, Verizon PA and Verizon Norths's market share are **[BEGIN**

VERIZON PROPRIETARY] **[END VERIZON PROPRIETARY]**. Clearly, IXCs have been able to successfully compete against the Verizon companies in the toll markets even with the current access rates. And the fact that Verizon North, having higher access charges in general, has lost more intraLATA traffic provides additional evidence that high access charges are not anticompetitive.

The FCC has consistently reiterated its belief that regulatory and non-regulatory safeguards are sufficient to rule out a price squeeze:[39]

> ...because it is relatively easy to compare a BOC's access charges with its own retail prices, price discrimination is relatively easy for the Commission and others to detect, and therefore, is unlikely to occur. In addition, several important non-regulatory safeguards exist. As the Commission noted in the *AT&T/TCI Order*, the presence of extensive sunk facilities in both the local and interexchange markets suggests that the merged firm would be unable successfully to raise prices if any competitors were driven out of the market by the price squeeze. The Commission stated in the *Access Charge Reform Order*: "[w]e take comfort in the fact that such remedies exist should an anticompetitive price squeeze occur in spite of the safeguards we have adopted."

Q. HOW DO YOU RESPOND TO MESSERS. KIRCHBERGER AND NURSE'S ARGUMENTS [AT 12-18] REGARDING THE ADVANTAGE TO WIRELESS, EMAILS AND INSTANT MESSAGING AS A RESULT OF HIGH ACCESS CHARGES?

A. Messrs. Kirchberger and Nurse argue that by providing "free" long distance calling, wireless providers have been winning toll traffic from IXCs like AT&T and they attribute the success of wireless carriers to "the artificial cost and pricing advantage these wireless carriers, who pay no access charges on calls within their huge "local" calling areas, wield over interexchange carriers like AT&T, who pay those access

[39] *See,* Memorandum Opinion and Order, *In re Applications of Ameritech Corp. and SBC Communications Inc.*, CC Docket No. 98-141, FCC 99-279 (released October 8, 1999) ("SBC-Ameritech"), ¶ 234.

charges on *all* of the interstate calls they provide to Verizon's local exchange customers."

There is no merit to their argument. Messrs. Kirchberger and Nurse observe that part of the advantage for wireless carriers is that they serve the customer directly thereby avoiding originating access charges. But this simply means that wireless carriers are vertically integrated providers of telecommunications services. IXCs are also able to vertically integrate into the local exchange market, and AT&T and MCI are actively engaged in that effort. Their ability to vertically integrate, unlike wireless carriers, includes the ability to obtain UNEs from Verizon, in particular UNE-P, in which case they retain the access charges incurred by IXCs. As I mentioned above, carriers other than Verizon provide 16 percent of all access lines in Pennsylvania.

Messrs. Kirchberger and Nurse also observe that Verizon's billed intrastate access minutes of use has decreased considerably since 2000 while total minutes that wireless carriers have terminated on Verizon's network have increased substantially. They conclude: "This data shows that the market distortions caused by carrier access charges are inefficiently driving traffic off of the wireline network."

I agree with AT&T's observation that alternative technologies like wireless and email are competing with the fixed telephony network. However, Messrs. Kirchberg and Nurse's conclusions are simply too far-reaching. There are many reasons that explain the growth of wireless and its use as a substitute for traditional landline phones. These reasons include: (i) changes in customers taste and preferences—*e.g.*, college age and young professionals tend to be more willing to use primarily wireless for telecommunications needs, (ii) improved wireless service quality as technology advances, (iii) newer advanced data services such as web browsing and sending pictures via wireless calls and (iv) increasingly attractive equipment, pricing, services and packages (such as family shared plans offered by wireless carriers). All of these factors reflect the increasing maturity of the wireless

market. Messrs. Kirchberger and Nurse simply ignore these important factors that are driving the growth of wireless at the expense of traditional fixed lines.

Q. MESSRS. KIRCHBERGER AND NURSE [AT 21-23] ARGUE THAT VERIZON'S NEW BUNDLED OFFERINGS, SUCH AS THE "FREEDOM" PLANS ARE CREATING A PRICE SQUEEZE FOR IXCS. HOW DO YOU RESPOND?

A. It is important to note that Verizon's Freedom plan came about as a response to other IXCs flat-rated plans, such as MCI's The Neighborhood plans. Nevertheless, as discussed above, imputation analyses should be conducted based upon the relevant economic market, and not some subset of the market. This is a point with which the Commission agrees as discussed in its *Global Order*.[40] Conducting an imputation test of the Freedom Plan on a standalone basis does not provide evidence one way or another whether Verizon is engaged in an anticompetitive price squeeze in the relevant economic market.

Q. DR. PELCOVITS [AT 29-31] ALSO RAISES THE ISSUE OF BUNDLING AND CITES TO THE "INCREASING DIVERGENCE IN THE NATURE OF SWITCHING COSTS INCURRED BY THE INCUMBENT AND THE USAGE-SENSITIVE RATE STRUCTURE IMPOSED UPON CLECS AND IXCS." HOW DO YOU RESPOND?

A. Dr. Pelcovits is specifically referring to his belief that switching costs incurred by local exchange carriers are increasingly line-driven rather than driven by usage. This belief seems to be driven by his assertion (at 30) that, "[i]n recent years, the prices charged by switch manufacturers for end office switches has moved from a usage sensitive structure to one driven by the number of lines served by the switch." Dr. Pelcovits argues that by charging CLECs and IXCs on a minute of use basis, these entities are less able to provide the type of bundled packages that consumers

[40] See footnote 38.

seem to be demanding, i.e. flat-rate monthly pricing.

I disagree with his conclusion. It is not clear that modern telecommunications switch costs are driven by line rather than by usage. Dr. Pelcovits' recommendation ignores the fact that the switch processor and common equipment are a shared resource and that customers must be given accurate signals so that the resource is shared in an economically efficient manner. In order to achieve economic efficiency, LECs should recover costs in the manner in which they are incurred and from the appropriate cost-causing entity. This principle means that costs that vary with usage should be recovered on a usage-sensitive basis while costs that do not vary with usage should be recovered through flat-rated charges (*i.e.*, charges invariant to the amount of usage).

If indeed it is the case that switches rarely exhaust based on usage — as Dr. Pelcovits implies — then the economic implication is that the costs of the switch processor and common equipment should be considered equivalent to upfront fixed or startup costs that must still be recovered in the aggregate from Verizon's switched services. The manner in which these costs are recovered — if it is the case that switches rarely exhaust based on usage — is less evident because it would then be the case that neither minutes (peak or off peak), trunks nor switch ports are wholly responsible for incurring those costs. It would be economically incorrect, therefore, to require that the entirety of these costs be recovered through flat-rated tariffs for switched services. In competitive markets, the firm would recover these costs from its different services based on the conditions and characteristics in the market — and there is no reason to believe that all these (alleged) startup costs would be recovered through flat-rated prices.

Q. DR. PELCOVITS [AT 31] STATES, "THE POPULARITY OF FLAT-RATED BUNDLED OFFERINGS OF LOCAL AND LONG DISTANCE SERVICES MAY, IN RELATIVELY SHORT ORDER, MAKE IT IMPOSSIBLE FOR CLECS/IXCS TO MATCH THE RATE THAT THE ILECS CAN OFFER?" IS HE CORRECT?

A. No. The fact that Verizon is offering a flat-rated local and long distance service does not mean that its costs do not vary with usage. As Dr. Pelcovits observes, it is the popularity of flat-rated bundled offerings (including popular plans offered by both AT&T and MCI) that is driving these packages and Verizon, just as its competitors, finds itself having to provide flat-rated service options in order to remain competitive.

This is not uncommon in telecommunications. Flat-rated local service has been a mainstay of U.S. telecommunications pricing throughout the 20th century. Even though telephone companies incurred local costs that varied with usage, regulators required — because many customers demanded — flat-rated pricing. The cost of usage was simply recovered through the flat-rated price by determining an average amount of usage for the average customer. Similarly today, the market is demanding flat-rated pricing and companies are able to recover their average usage costs through a flat-rated pricing scheme.

This type of pricing strategy is common. For example:

- Wireless carrier incurs costs that vary with additional usage — *e.g.* base station, cell cites, mobile switches, yet flat-rated pricing plans are common for wireless carriers primarily because consumers demand such plans. Wireless carriers are able to recover their usage costs via flat-rated tariffs.
- Many restaurants offer all you can eat options for a standard flat price, even though the cost of the food increases the more food that is consumed.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Exhibit WET-1

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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, 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*.

EDUCATION

UNIVERSITY OF CALIFORNIA, BERKELEY
Ph.D., Economics, 1974

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EMPLOYMENT

NATIONAL ECONOMIC RESEARCH ASSOCIATES, INC. (NERA)
1988- Senior Vice President, Office Head, Telecommunications Practice Director.

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.

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

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Université Catholique de Louvain, Belgium.
1974-1975 Post Doctoral Research Associate: basic research on finite sample econometric theory and on cost function estimation.

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1972-1975 Assistant Professor, Department of Economics. (On leave 1974-1975.) taught graduate and undergraduate courses on econometrics, microeconomic theory and economic principles.

MISCELLANEOUS

1985-1995 Associate Editor, *Journal of Econometrics*, North-Holland Publishing Company.
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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).

TESTIMONIES

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Federal Communications Commission (Docket 87-313) on behalf of the United States Telephone Association: "Productivity Offsets for LEC Interstate Access," June 8, 1990.

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.

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.

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.

Delaware Public Service Commission (Docket No. 89-24T) on behalf of The Diamond State Telephone Company: rebuttal testimony describing appropriate costing and pricing methods for local exchange carrier provision of contract Centrex services. Filed August 17, 1990.

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.

Arizona State Air Pollution Control Hearing Board (Docket No. A-90-02) on behalf of Arizona Public Service Company. Statistical study of SO_2 emissions entitled, "Analysis of Cholla Unit 2 SO_2 Compliance Test Data," (October 24, 1990). Affidavit (December 7, 1990).

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.*: statistical analysis of air pollution data to determine emissions limits for the Detroit municipal waste-to-energy facility, February, 1992.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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

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.

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.

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.

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.

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.

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.

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.

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.

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).

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.

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.

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).

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.

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.

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.

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).

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).

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Federal Communications Commission on behalf of Bell Atlantic Corporation, affidavit examining

cost support for Bell Atlantic's video dialtone tariff. Filed March 6, 1995.

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.

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.

Kentucky Public Service Commission on behalf of South Central Bell Telephone Company, testimony concerning telecommunications productivity growth and price cap plans, April 18, 1995.

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.

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.

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.

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.

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.

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.

The 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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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).

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.

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.

New England Telephone and Telegraph Company, D/B/A NYNEX, State of Rhode Island (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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Federal Communications Commission (CC Docket No. 96-98) videotaped presentation on economic costs for interconnection, FCC Economic Open Forum, May 20, 1996.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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).

The 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).

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.

The 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.

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.

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.

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.

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.

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.

The 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.

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.

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.

The 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.

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.

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.

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.

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

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.

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).

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.

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).

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.

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.

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.

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).

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.

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.

Public Service Commission of Maryland, 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.

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.

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 January 17, 1997. Rebuttal testimony filed May 2, 1997.

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.

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.

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.

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.

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.

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.

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).

Public Utilities Commission of Ohio (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.

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.

The 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.

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).

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.

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.

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.

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.

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.

Public Utilities Commission of Ohio (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.

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.

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.

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.

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.

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.

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).

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.

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.

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.

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.

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.

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.

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.

The 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.

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.

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.

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.

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).

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.

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.

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.

Federal Communications Commission (CC Docket No. 80-286), on behalf of Bell Atlantic: affidavit concerning proposed reforms of jurisdictional separations. Filed December 10, 1997.

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.

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.

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.

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).

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

California Public Utilities Commission, on behalf of Pacific Bell: reply comments regarding proposed changes to the price cap plan, filed June 19, 1998.

The 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.

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.

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.

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.

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.

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.

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.

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.

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).

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.

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.

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)

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.

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.

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)

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.

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

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.

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.

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).

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.

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.

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).

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Public Service Commission of South Carolina, *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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

New York Public Service Commission, (Case 98-C-1357), on behalf of Bell Atlantic-New York, Panel Testimony on costs for wholesale services, filed February 7, 2000. Panel Rebuttal Testimony filed October 19, 2000.

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.

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.

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.

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.

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 in arbitration with Sprint. Filed March 27, 2000, rebuttal testimony filed April 3, 2000

Colorado Public Utilities Commission (Docket No. 00B-011T), on behalf of US West Communications, Inc., direct testimony regarding intercarrier compensation for Internet-bound traffic in arbitration with Sprint. Filed March 28, 2000.

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.

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.

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.

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.

Delaware Public Service Commission (PSC Docket No. 00-205), on behalf of Bell Atlantic-Delaware, direct testimony regarding intercarrier compensation for Internet-bound traffic in arbitration with Focal Communications Group. Filed April 25, 2000.

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.

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 in arbitration with Sprint. Filed April 26, 2000. Rebuttal testimony filed May 10, 2000. Surrebuttal testimony filed May 26, 2000.

The 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 in arbitration with Focal Communications Group. Filed April 28, 2000. Rebuttal testimony filed May 5, 2000.

The 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. Rebuttal testimony filed September 8, 2000. Surrebuttal testimony filed October 13, 2000.

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.

North Dakota Public Service Commission, (Case No. PU-314-99-119) on behalf of US WEST Communications, rebuttal testimony regarding allocation of loop costs to telecommunications services, filed May 30, 2000.

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.

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).

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.

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.

Louisiana Public Service Commission (Docket No. U-22632) on behalf of BellSouth Telecommunications, rebuttal testimony concerning payphone access services, July 17,2000.

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.

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.

The 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.

Washington Transportation and Utilities Commission, *In the Matter of the Continued Costing and Pricing of Unbundled Network Elements and Transport and Termination*, Docket UT-003013, Part B. Direct testimony regarding intercarrier compensation for Internet-bound traffic. Filed August 4, 2000. Rebuttal testimony filed February 7, 2001.

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. Rebuttal testimony filed September 13, 2000. Reply Testimony filed on September 27, 2000.

Arizona Corporation Commission (Docket No. T-01051B-99-105), on behalf of Qwest Corporation., rebuttal testimony regarding rate design. Filed August 21, 2000. Rejoinder testimony filed September 1, 2000.

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.

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.

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.

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.

Arizona Corporation Commission, *In the Matter of Investigation into Qwest Corporation's Compliance with Certain Wholesale Pricing Requirements for Unbundled Network Elements and Resale Discounts*, Docket No. T-00000A-00-0194. Direct testimony regarding intercarrier compensation for Internet-bound traffic. Filed October 11, 2000.

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.

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

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.

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.

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.

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.

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.

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 testimony filed February 16, 2001.

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.

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.

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.

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.

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

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.

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.

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.

Florida Public Service Commission (Docket No. 000121-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. Rebuttal in Phase II filed April 19, 2001.

Before the Public Service Commission of Maryland (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.

Before the 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.

Florida Public Service Commission (Docket No. 000075-TP) on behalf BellSouth Telecommunications, Inc., rebuttal testimony regarding efficient intercarrier compensation, filed April 12, 2001.

On behalf of Verizon New England Inc., D/B/A/ Verizon Massachusetts (Docket D.T.E. 01-20), direct testimony regarding cost concepts and pricing principles for UNEs, filed May 4, 2001. Rebuttal testimony filed December 17, 2001.

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

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.

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.

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.

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 testimony filed October 15, 2001.

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.

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.

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.

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.

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.

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.

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.

Alabama Public Service Commission (Docket No. 25835), on behalf of BellSouth Telecommunications, Inc., economic aspects of structural separations. Surrebuttal testimony filed July 24, 2001.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

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.

Before the Public Utilities Commission of the State of California 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.

Before the Commerce Commission of New Zealand on behalf of New Zealand Telecom, "Review of CostQuest Associates' Benchmarking Survey" En banc hearings May 13-17, 2002.

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.

Rhode Island Public Utilities Commission (Docket No. 3179), on behalf of Verizon Rhode Island, direct testimony regarding alternative regulation, filed July 1, 2002.

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.

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.

Massachusetts Department of Telecommunications and Energy (D.T.E. 01-31, Phase II (Track B)), on behalf of Verizon Massachusetts, regarding benefits of alternative regulation. Filed August 28, 2002. Rebuttal testimony filed September 18, 2002.

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 Mrach3, 2003. Surrebuttal testimony filed April 11, 2003.

Federal Communications Commission (CC Docket Nos. 01-338, 96-98, 98-47), on behalf of BellSouth Corporation, ex parte on local switching as a UNE, October 4, 2002.

Federal Communications Commission (CC Docket Nos. 01-338, 96-98, 98-47), on behalf of BellSouth Corporation, ex parte on inter-office transport as a UNE, October 11, 2002.

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.

State of Rhode Island And Providence Plantations Public Utilities Commission (Docket Nos. 3179 and 3445), on behalf of Verizon Rhode Island, regarding alternative regulation. Filed July 1, 2002 (Docket No. 3179). Rebuttal testimony filed October 22, 2002 (Docket No. 3445).

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.

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.

Affidavit on Behalf of Bell Atlantic-Maryland, Inc., Case No. CAL 99-21004 in connection with a late payment overcharge. Filed October 15, 2002.

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.

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.

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.

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.

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.

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.

Before the Commerce Commission of New Zealand on behalf of New Zealand Telecom, "The Wholesale Discount" En banc hearings February 10, 2003.

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.

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 Mrach3, 2003. Surrebuttal testimony filed April 11, 2003.

Public Service Commission of South Carolina, Docket No. 2001-209-C on behalf of BellSouth Telecommunications, Inc.. Direct testimony regarding statistical issues in performance penalty plans, filed March 5, 2003.

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.

Maine Public Utilities Commission (Docket No. 99-851), on behalf of Verizon- Maine, affidavit regarding economics pf price cap regulation. Filed April 29, 2003.

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.

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.

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.

August, 2003

Exhibit WET-1

ATTACHMENT A

VERIZON'S ACCESS PROPOSAL IN RESPONSE TO A MERGER REQUIREMENT AND THE COMMISSION'S ACCESS CHARGE INVESTIGATION – PHASE II

Defined Terms

As employed herein, the following terms shall have these specified meanings:

- "ILEC" means Verizon Pennsylvania Inc. ("Verizon PA") or Verizon North Inc. ("Verizon North") (collectively "Verizon").

Elements of Proposal

1) **Step 1:** If an ILEC's intrastate traffic sensitive (TS) rates exceed its interstate TS rates, the ILEC may, at its sole discretion, lower its intrastate TS rates to match or move closer to its interstate TS rates, and simultaneously increase its Carrier Charge (CC) by a corresponding revenue neutral amount using the 12 months ended August 31, 2002, or the most current 12 month period, thereby creating a revised CC. An ILEC may, at its sole discretion, lower its intrastate TS rates to match or move closer to its interstate TS rates, and simultaneously increase its Carrier Charge (CC) by a corresponding revenue-neutral amount, again in 2004, using a recent 12 month period, thereby creating a further revised CC. All references to CC herein shall be to the then current revised CC if the ILEC has chosen to implement this element of the proposal. Concurrent with this TS rate reduction, the ILECs will align their intrastate switched access rate structure with the current interstate switched access rate structure.[1]

2) **Step 2:** Pursuant to an Order entered adopting this access proposal without modification, and after notice through bill insert, bill message or separately mailed notice to all customers at least 30 days prior to the date of any rate change, each ILEC will increase local rates, based upon a one-day tariff compliance filing, to be effective on a date between January 1, 2003 and January 1, 2004 (as to be determined at the sole discretion of the individual ILEC) as follows:

   (a) Each ILEC with a weighted average R-1 rate below $10.83 as of December 31, 2002, will increase its R-1 rates in a manner to achieve a weighted average R-1 rate of $11. If the increase results in R-1 rates greater than 150% of the current rate, then the increase shall be implemented in two steps, the second of which shall become effective no later than January 1, 2004. This increase shall be subject to the Company's Chapter 30 Plan rate rebalancing limitation with respect

[1] The restructure will include the implementation of Local Transport Restructure by Verizon North and the introduction by both Verizon PA and Verizon North of items, such as trunk ports, currently found in the interstate rate structure.

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to the limitation on calendar year per line increases, i.e. not more than $3.50 per line per month in rate increases in any one year, but shall not be subject to any other Chapter 30 process or requirements. To the extent that any ILEC shall not be able to complete the required rate increase within any year, such rate increase may be deferred to the following year subject to the Company's Chapter 30 Plan rate rebalancing limitations. Any rate rebalancing in excess of that specifically referenced in Paragraph 2 shall be subject to the Chapter 30 Plan rate rebalancing process and requirements.

(b) Each ILEC with a weighted average R-1 rate between $10.83 - $12 as of December 31, 2002, will increase its R-1 rates in a manner to achieve a weighted average R-1 rate of $13.50.

(c) Each ILEC with a weighted average R-l rate between $12.01 - $14 as of December 31, 2002, will increase its R-1 rates in a manner to achieve a weighted average R-1 rate of $15.

(d) Each ILEC with a weighted average R-l rate between $14.0l-$16 as of December 31, 2002, will increase its R-l rates in a manner to achieve a weighted average R-l rate of $16.

(e) Each ILEC may, at its sole option, increase its weighted average Business line rate by up to the same amount on a dollar basis that its weighted average R-1 rate is increased, but in no event may the B-1 rate be less than the R-1 rate.

3) **Step 3:** Pursuant to an Order entered adopting this access proposal without modification, and after notice through bill insert, bill message or separately mailed notice to all customers at least 30 days prior to the date of any rate change, each ILEC may increase local rates, based upon a one-day tariff compliance filing, to be effective on a date between January 2, 2004 and December 31, 2004 (as to be determined at the sole discretion of the individual ILEC) as follows:

(a) Each ILEC with a weighted average R-1 rate of $11 (or less) as of January 1, 2004 (as described and calculated in Step 2 above) may increase its R-1 rates in a manner to achieve a weighted average R-l rate of $13.50.

(b) Each ILEC with a weighted average R-l rate of $13.50 as of January 1, 2004 (as described and calculated in Step 2 above) may increase its R-l rates in a manner to achieve a weighted average R 1 rate of $15.

(c) Each ILEC with a weighted average R-l rate of $15 as of January 1, 2004 (as described and calculated in Step 2 above) may increase its R-1 rates in a manner to achieve a weighted average R-l rate of $17.

(d) Each ILEC with a weighted average R-1 rate of $16 as of January 1, 2004 (as described and calculated in Step 2 above) may increase its R-1 rates in a manner

to achieve a maximum weighted average R- 1 rate of $18.

(e) Each ILEC may, at its sole option, increase its weighted average Business line rate by up to the same amount on a dollar basis that its weighted average R-1 rate is increased, but in no event may the B-1 rate be less than the R-1 rate.

Any rate rebalancing in excess of that specifically referenced in Paragraphs 2 and 3 shall be subject to the Chapter 30 Plan rate rebalancing process and requirements.

4) The monthly $16.00 cap on R-1 average rates established in the Global Order and any ILEC-specific weighted average rate cap which may have been established in any individual ILEC's Chapter 30 Plan will be increased for all ILECs to the weighted average $18.00 cap for a minimum three (3) year period January 1, 2004 through December 31, 2006.

5) Pursuant to an Order entered adopting this access proposal without modification, each ILEC shall have the right, in whole or in part, in lieu of raising local service rates as provided in Paragraphs 2 and 3 hereof to raise rates on other services by an equivalent amount, based on a one-day tariff compliance filing.

6) To offset the increase to local rates described above in Paragraphs 2 and 3, each ILEC will file a compliance tariff(s) to reduce its CC or TS rates, or any combination thereof, by a revenue-neutral amount (depending upon changes undertaken in Paragraph 1, above), effective on dates consistent with the increases in Paragraphs 2 and 3. For purposes of this revenue neutrality requirement, the ILECs shall be considered as one entity and the implementation of this proposal may be revenue neutral within the combined Verizon entity as a whole or within each individual Verizon ILEC, at the ILECs' sole discretion. The implementation of the local service rate increases as provided in Paragraphs 1, 2 and 3 would allow Verizon to achieve access charge parity between the two companies.

7) On/or after January 1 of each year beginning in 2005 each ILEC may request such rate changes or rate rebalancing as are permitted by any Chapter 30 Plans and/or applicable statutory and regulatory provisions.

Conditions of Proposal

1) Each ILEC reserves the right, subject to Chapter 30 Plan requirements, to change its access rates to ensure that each access rate element at least recovers its cost and the ILEC's service price index continues to be equal to or less than the ILEC's price stability index, in the event the ILEC's access rates are determined to be below cost based upon the development of a cost study.

2) This proposal is made in its entirety and no part hereof is valid or binding unless all components are accepted. Should any part be specifically modified or otherwise adversely impacted at any later date as to any ILEC, the ILEC shall have full unilateral

rights to withdraw the proposal or revisit the proposal at its sole discretion. This proposal is put forward by Verizon to meet a merger requirement and to settle the instant controversy and is made without any admission against or use that is intended to prejudice any positions which the ILECs might adopt during subsequent litigation, including further litigation in related proceedings. This proposal is conditioned upon the Commission's approval of all terms and conditions contained herein, except for the terms of this paragraph. If the Commission should fail to grant such approval or should modify the terms and conditions herein, this proposal may be withdrawn upon written notice to the Commission within five business days and, in such event, shall be of no force and effect. In the event that the Commission does not approve the Proposal or Verizon elects to withdraw as provided above and any proceeding continues, Verizon reserves the right to submit testimony or other pleadings and briefs in this or a related proceeding.

3) Elements of this Proposal shall constitute rate rebalancings or rate filings as defined and allowed under each ILEC's Chapter 30 Plan only to the extent of determining the maximum amount of an increase allowed per year, but shall not preclude the filing of one additional rate restructuring/rebalancing filing in the calendar year so long as the total rate rebalancing rate increases do not exceed the maximum annual increase allowed and comply with other Chapter 30 Plan limitations and requirements. That is, implementation of proposed Paragraphs 2, 3 and 5 under Elements of Proposal are not considered rate rebalancings under the Chapter 30 Plans except in determining the maximum limitation on per year line rate increases to monthly dial tone rates. The ILECs retain all other rights under the approved Chapter 30 Plan to implement or oppose all rate rebalancings and other rate filings permitted under its Chapter 30 Plan. The ILECs reserve all rights in any proceedings relative to Chapter 30.

4) Increases to weighted average business rates on a dollar basis will be less than or equal to the increases to weighted average residential rates on a dollar basis.

5) This access proposal will be revenue neutral relative to the ILECs implementing a rate change. Absolutely no changes shall be required which are not revenue-neutral. Other access reductions that are not revenue neutral are permissible at the ILEC's sole option, but not required. For purposes of this revenue neutrality requirement, Verizon PA and Verizon North shall be considered as one entity and the implementation of this access proposal may be revenue neutral within the combined Verizon entity as a whole, or within the individual Verizon ILEC, at the ILECs' sole discretion.

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RESPONSE OF VERIZON NORTH INC. AND VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 11 OF AT&T COMMUNICATIONS OF PENNSYLVANIA, LLC. DATED JUNE 10, 2003, SUBMITTED IN DOCKET C-20027195 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Identify the total number of minutes that VZ-PA exchanged with all other carriers over local interconnection facilities as of EOY 2000, 2001, 2002 and TYD 2003. Please separate the total into the number of minutes coming to VZ-PA and those going to other carriers.

RESPONSE:

(Data in Millions)

	EOY 2000	EOY 2001	EOY 2002	YTD 2003
Local MOU's to Verizon PA	1,808.6	2,710.4	3,154.9	1,260.3
Local MOU's to CLECs	18,996.9	25,012.8	35,222.2	12,589.6

RESPONSE OF VERIZON NORTH INC. AND VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 12 OF AT&T COMMUNICATIONS OF PENNSYLVANIA, LLC. DATED JUNE 10, 2003, SUBMITTED IN DOCKET C-20027195 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Identify the total number of minutes that VZ North exchanged with other carriers over local interconnection facilities as of EOY 2000, 2001, 2002 and TYD 2003. Please separate the total into the number of minutes coming to VZ-North and those going to other carriers.

RESPONSE:

(Data in Millions)

	EOY 2000	EOY 2001	EOY 2002	YTD 2003
Local MOU's to Verizon North		31.9	59.5	24.8
Local MOU's to CLECs	279.0	335.0	324.0	126.0

DOCUMENT
FOLDER

AT&T Communications of Pennsylvania, Inc. v. Verizon North Inc.,
Docket No. C-20027195

OCA Cross Examination Exhibit No. 1
Date Entered: 8/25/03
Hbg DK

NECA

80 South Jefferson Road
Whippany, NJ 07981

Richard Rhyner
Director
Universal Service Programs Support

Voice: 973-884-8035
Fax: 973-884-8469
E-mail: rrhyner@neca.org

October 1, 2002

Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 - 12th Street, SW
Washington, DC 20554

Attention: Wireline Competition Bureau

Re: Universal Service Fund Data Collection

Dear Ms. Dortch:

Enclosed are two copies of the Universal Service Fund 2002 Submission of 2001 Study Results by the National Exchange Carrier Association, Inc. (NECA), filed in accordance with section 36.613 of the Commission's rules (47 C.F.R. § 36.613). One personal computer compact disk, containing similar information in Excel 2000 format, is also enclosed.

NECA is also providing one copy of this submission, including the PC compact disk, to the Administrator, the Universal Service Administrative Company.

As of September 30, 2002, one exchange carrier advised NECA that it plans to request confidential treatment of its data. Therefore, this filing contains masked data for this particular company. The actual data has also been provided to the Commission today. This data was accompanied by a request to withhold such data from public inspection until such time as the affected company can file a formal confidentiality request in accordance with section 0.459 of the Commission's rules. *See* Attached Letter.

Acknowledgment and date of receipt of this filing is requested. A duplicate letter is provided for this purpose. All correspondence and inquiries concerning this filing should be addressed to me.

Sincerely,

Enclosures
Duplicate Letter
PC Compact Disk

cc: Universal Service Administrative Company

NATIONAL EXCHANGE CARRIER ASSOCIATION, INC.
UNIVERSAL SERVICE FUND
All STUDY AREAS
STUDY AREA DETAIL FOR ALL EXCHANGE CARRIERS

SA CODE	S S S	R U	SA NAME BUY/SELL SA APP_TO	USF UNSEPARATED REVENUE REQUIREMENT	USF LOOPS	USF COST PER LOOP	ANNUAL EXPENSE ADJ	MONTHLY EXPENSE ADJ	% OF TOTAL
532393	3 C	R	PIONEER TEL COOP	8,951,124.52	16,243	551.08	2,818,856.92	234,904.74	10.79
532396	3 A	R	ST PAUL COOP ASSN	260,399.90	674	386.35	34,665.76	2,888.81	.13
532397	3 C	R	SCIO MUTUAL TEL ASS	1,799,733.92	1,959	918.70	880,096.18	73,341.35	3.37
532399	3 A	R	STAYTON COOP TEL CO	2,115,582.80	8,084	261.70	.00	.00	.00
532400	2 C	R	UTC OF THE NW - OR	20,807,110.73	76,909	270.54	.00	.00	.00
532404	2 C	R	ASOTIN TEL - OR	168,202.74	137	1227.76	93,304.24	7,775.35	.36
532416	1 C	N	VERIZON N'WEST-OR	130,147,171.34	480,498	270.86	.00	.00	.00
532456	1 C	R	MALHEUR HOME TEL CO	4,843,055.98	13,994	346.08	353,451.71	29,454.31	1.35
533401	2 C	R	CITIZENS-OREGON	6,722,015.91	14,581	461.01	1,545,445.66	128,787.14	5.91
535163	1 C	N	QWEST CORP-OR	372,719,519.92	1,424,151	261.71	.00	.00	.00
OREGON Totals:				616,946,827.04	2,171,014	284.17	26,129,478.25	2,177,456.52	100.00
Study Area Count : 33									
PENNSYLVANIA									
170145	3 A	R	THE BENTLEYVILLE TE	942,801.60	3,480	270.92	.00	.00	.00
170149	2 C	R	FRONTIER-BREEZEWOOD	1,409,485.08	4,477	314.83	22,138.21	1,844.85	1.07
170151	2 A	R	BUFFALO VALLEY TEL	6,414,587.20	24,740	259.28	.00	.00	.00
170152	2 C	R	FRONTIER-CANTON	1,254,122.43	4,320	290.31	.00	.00	.00
170156	3 A	R	CITIZENS - KECKSBUR	1,543,186.06	5,837	264.38	.00	.00	.00
170161	2 A	R	COMMONWEALTH TEL EN	89,045,003.76	332,084	268.14	.00	.00	.00
170162	2 A	R	THE CONESTOGA TEL	16,476,198.75	62,469	263.75	.00	.00	.00
170165	2 A	R	DENVER & EPHRATA	16,367,312.70	62,927	260.10	.00	.00	.00
170168	2 C	R	FRONTIER-PA	4,695,813.27	29,630	158.48	.00	.00	.00
170169	1 C	N	VERIZON NORTH-PA	140,693,071.99	568,900	247.31	.00	.00	.00
170170	1 C	R	VERIZON N-PA(CONTEL	14,423,666.95	68,185	211.54	.00	.00	.00
170171	3 A	R	HICKORY TEL CO	500,946.00	1,450	345.48	36,057.69	3,004.81	1.74
170175	3 A	R	IRONTON TEL CO	1,660,392.96	6,297	263.68	.00	.00	.00
170176	2 C	R	ALLTEL PENNSYLVANIA	67,907,881.69	241,904	280.72	.00	.00	.00
170177	3 C	R	LACKAWAXEN TEL CO	1,153,358.97	3,998	288.48	.00	.00	.00
170178	2 C	R	FRONTIER-LAKEWOOD	378,457.05	1,677	225.68	.00	.00	.00
170179	3 A	R	LAUREL HIGHLAND TEL	1,729,494.03	6,347	272.49	.00	.00	.00
170183	2 C	R	MAHANOY & MAHANTONG	1,468,081.38	4,305	341.02	94,573.85	7,881.15	4.58
170185	2 C	R	MARIANNA - SCENERY	1,450,407.97	2,925	495.87	386,495.97	32,208.00	18.70
170189	3 C	R	ARMSTRONG TEL CO-PA	1,082,622.15	1,844	587.11	369,842.55	30,820.21	17.90
170191	3 A	R	NORTH EASTERN PA TE	4,389,321.80	13,124	334.45	232,266.91	19,355.58	11.24
170192	3 C	R	NORTH PENN TEL CO	2,678,464.65	5,674	472.06	648,412.66	54,034.39	31.38
170193	2 A	R	NORTH PITTSBURGH TE	21,242,385.75	81,623	260.25	.00	.00	.00

NATIONAL EXCHANGE CARRIER ASSOCIATION, INC.
UNIVERSAL SERVICE FUND
All STUDY AREAS
STUDY AREA DETAIL FOR ALL EXCHANGE CARRIERS

SA CODE	S S	S T	R U	SA NAME BUY/SELL SA APP_TO	USF UNSEPARATED REVENUE REQUIREMENT	USF LOOPS	USF COST PER LOOP	ANNUAL EXPENSE ADJ	MONTHLY EXPENSE ADJ	% OF TOTAL
170194	2	C	R	FRONTIER-OSWAYO RIV	558,183.57	2,368	235.72	.00	.00	.00
170195	3	A	R	ARMSTRONG TEL NORTH	221,988.56	556	399.26	33,262.35	2,771.86	1.61
170196	3	A	R	PALMERTON TEL CO	3,683,169.16	13,574	271.34	.00	.00	.00
170197	3	A	R	PENNSYLVANIA TEL CO	501,978.96	1,454	345.24	35,930.34	2,994.20	1.74
170200	3	A	R	PYMATUNING IND TEL	737,515.94	2,674	275.81	.00	.00	.00
170201	1	C	R	VERIZON N-PA(QUAKER	12,106,945.20	50,262	240.88	.00	.00	.00
170204	3	A	R	SOUTH CANAAN TEL CO	1,107,556.80	3,324	333.20	56,126.99	4,677.25	2.72
170206	2	C	R	SUGAR VALLEY TEL CO	494,108.73	1,290	383.03	63,564.59	5,297.05	3.08
170209	2	C	R	UTC OF PENNSYLVANIA	105,852,383.32	401,740	263.48	.00	.00	.00
170210	3	A	R	VENUS TEL CORP	495,159.00	1,428	346.75	36,689.43	3,057.45	1.78
170215	3	A	R	YUKON - WALTZ TEL C	402,396.46	1,103	364.82	41,294.53	3,441.21	2.00
170277	3	A	R	WEST SIDE TEL CO-PA	27,899.00	46	606.50	9,894.96	824.58	.48
175000	1	C	N	VERIZON PENNSYLVANI	1,270,620,596.64	6,283,372	202.22	.00	.00	.00
PENNSYLVANIA Totals:					1,795,716,945.53	8,301,408	216.31	2,066,551.03	172,212.59	100.00
Study Area Count : 36										
PUERTO RICO										
633200	1	C	N	P R T C - CENTRAL	72,070,722.52	179,843	400.74	10,468,211.42	872,350.95	45.79
633201	1	C	N	PUERTO RICO TEL CO	482,985,445.44	1,153,813	418.60	12,393,105.43	1,032,758.79	54.21
PUERTO RICO Totals:					555,056,167.97	1,333,656	416.19	22,861,316.85	1,905,109.74	100.00
Study Area Count : 2										
RHODE ISLAND										
585114	1	C	N	VERIZON RHODE ISLAN	130,539,337.25	641,977	203.34	.00	.00	.00
RHODE ISLAND Totals:					130,539,337.25	641,977	203.34	.00	.00	.00
Study Area Count : 1										
SOUTH CAROLINA										
240479	1	C	N	VERIZON SOUTH-SC	50,985,380.61	190,612	267.48	.00	.00	.00
240506	2	C	R	UTC OF THE CAROLINA	30,948,058.83	102,686	301.39	.00	.00	.00
240512	2	C	R	BLUFFTON TEL. CO.	10,840,222.64	17,665	613.66	3,894,741.66	324,561.81	12.60
240515	3	A	R	CHESNEE TEL CO	1,493,020.80	5,640	264.72	.00	.00	.00
240516	3	A	R	CHESTER TEL CO - SC	5,014,653.03	19,023	263.61	.00	.00	.00

DOCUMENT
FOLDER

AT&T Communications of Pennsylvania, Inc. v. Verizon North Inc.,
Docket No. C-20027195

OCA Cross Examination Exhibit No. 2
Date Entered: 8/25/03

Wolf, Block, Schorr and Solis-Cohen LLP

1650 Arch Street
22nd Floor
Philadelphia, PA 19103-2097

T: 215 977 2000
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www.wolfblock.com

Gerald Gornish
Direct Dial: 215 977 2118
Direct Fax: 215 405 3718
E-mail: ggornish@wolfblock.com

April 17, 2002

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
PO Box 3265
Harrisburg, PA 17105-3265

Re: Pennsylvania Public Utility Commission
AT&T Communications of Pennsylvania, Inc.
Office of Consumer Advocate v. The Bentleyville Telephone Company
Docket Nos. R-00974174, R-00974174C0001, R-00974174C002

Dear Mr. McNulty:

On behalf of AT&T Communications of Pennsylvania, Inc., we have no objection to the Petition to Formally Resolve and Terminate the above-referenced proceeding filed by The Bentleyville Telephone Company and Office of Consumer Advocate.

Sincerely,

Gerald Gornish
For WOLF, BLOCK, SCHORR and SOLIS-COHEN LLP

GG/k
cc: Certificate of Service

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	R-00974174
	:	
AT&T Communications of Pennsylvania, Inc.	:	R-00974174C0001
Office of Consumer Advocate	:	R-00974174C0002
v.	:	
The Bentleyville Telephone Company	:	

CERTIFICATE OF SERVICE

I hereby certify that I have this 17th day of April, 2002, served a true and correct copy of the foregoing document upon the persons listed below, by first-class mail, postage prepaid:

Philip F. McClelland, Esquire
Barrett C. Sheridan, Esquire
Office of Consumer Advocate
Forum Place - 5th Floor
555 Walnut Street
Harrisburg, PA 17120

D. Mark Thomas, Esquire
Thomas, Thomas, Armstrong & Niesen
Suite 500
212 Locust Street
PO Box 9500
Harrisburg, PA 17108-9500

Honorable Michael C. Schnierle
Administrative Law Judge
Pennsylvania Public Utility Commission
2 West, Commonwealth Keystone Building
Harrisburg, PA 17105-3265

Gerald Gornish
Attorney for AT&T Communications
of Pennsylvania, Inc.

Dated: April 17, 2002

Thomas, Thomas, Armstrong & Niesen
Attorneys and Counsellors at Law
SUITE 500
212 LOCUST STREET
P. O. BOX 9500
HARRISBURG, PA 17108-9500

www.ttanlaw.com

FIRM (717) 255-7600
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D. MARK THOMAS

Direct Dial: (717) 255-7619
E-Mail: dmthomas@ttanlaw.com

CHARLES E. THOMAS
(1913 - 1998)

ORIGINAL

BTL

April 12, 2002

James J. McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
P.O. Box 3265
Harrisburg, PA 17105-3265

DOCUMENT

RECEIVED
02 APR 12 PM 3:54
SECRETARY'S BUREAU

Re: Pennsylvania Public Utility Commission
AT&T Communications of Pennsylvania, Inc.
Office of Consumer Advocate
v.
The Bentleyville Telephone Company
Docket Nos. R-00974174, R-00974174C0001; R-00974174C002

Dear Sir:

Enclosed herewith on behalf of The Bentleyville Telephone Company and Office of Consumer Advocate are an original and three (3) copies of their Petition seeking to formally resolve and terminate the above-referenced proceeding. A Certificate of Service is attached to the Petition.

If there are any questions concerning this Petition, please advise.

Very truly yours,

THOMAS, THOMAS, ARMSTRONG & NIESEN

By

D. Mark Thomas

Enclosures
cc: See Certificate of Service (w/enclosure)

19

ORIGINAL

Before The
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	: R-00974174
AT&T Communications of Pennsylvania, Inc.	: R-00974174C0001
Office of Consumer Advocate	: R-00974174C0002
v.	:
The Bentleyville Telephone Company	:

PETITION TO FORMALLY RESOLVE AND TERMINATE PROCEEDING

NOW COMES, The Bentleyville Telephone Company ("Bentleyville" or "Company") and Office of Consumer Advocate ("OCA"), by their attorneys, and respectfully petition to formally resolve and terminate the above-referenced consolidated proceeding, as follows:

1. On September 30, 1997, Bentleyville filed Supplement No. 37 to its Local Tariff - Telephone Pa. P.U.C. No. 6, Supplement No. 395 to the Pennsylvania Telephone Association's ("PTA") Toll Tariff - Telephone Pa. P.U.C. No. 10, and Supplement No. 283 to PTA Access Tariff - Telephone Pa. P.U.C. No. 9, for the purpose of restructuring rates on a revenue neutral basis, to be implemented over two phase-in periods, to become effective December 1, 1997, and voluntarily postponed until April 13, 1998.

2. The proposed rate changes included reducing and restructuring intraLATA toll rates, reducing optional calling plan rates, reducing access rates,

rolling-in touch-tone charges, eliminating two-party service, increasing local rates including directory assistance rates and miscellaneous other rate changes.

3. On November 20, 1997, AT&T Communications of Pennsylvania, Inc. ("AT&"T) filed a complaint at Docket No. R-00974174C0001 challenging the proposed toll and access rate changes. On December 3, 1997, the OCA filed a complaint at Docket No. R-00974174C0002 challenging the proposed rate changes claiming that the increases in basic service rates were too large.

4. By Opinion and Order entered April 9, 1998, Docket No. R-00974174, the Commission adopted the proposed rate changes concluding, as follows:

> 1. That Supplement No. 37 to The Bentleyville Telephone Company's Tariff-Telephone Pa. P.U.C. No. 6, Supplement No. 395 to Pennsylvania Telephone Association's Toll Tariff-Telephone Pa. P.U.C. No. 10, and Supplement No. 283 to the Pennsylvania Telephone Association's Access Tariff-Telephone Pa. P.U.C. No. 9, which were filed, or caused to be filed by The Bentleyville Telephone Company, on a revenue neutral basis for the purpose of restructuring rates for local, toll and access services, to be implemented over two phase-in periods, be, and hereby are permitted to become effective April 13, 1998.

See April 9, 1998 Opinion and Order at 13 (Appendix A hereto).

5. Pursuant thereto, both AT&T and OCA notified the Commission that they desired to pursue their complaints.[1]

6. During this same time period, the Commission had instituted its Global Conference at Docket Nos. P-00991648 and P-00991649. The issues in the Global proceeding included the Small Company Universal Service Plan. This plan, which was filed by the majority of the incumbent local exchange carriers ("ILECs") in

[1]AT&T also on April 29, 1998, filed a request seeking reconsideration of the April 9, 1998 Opinion and Order.

Pennsylvania, sought the initiation of revenue-neutral universal service funding reflecting decreases in the ILECs access and toll rates with increases in local rates. Consequently, Bentleyville's counsel, by letter dated November 5, 1998, to Commission Secretary James J. McNulty. requested that the AT&T and OCA complaints be stayed pending resolution of the Global proceeding. Pursuant thereto, Administrative Law Judge Morris J. Solomon, by Order entered July 30, 1999, continued the complaint proceedings. The Commission in ordering paragraph 21 of the Global Order, entered September 30, 1999, directed that the *complaint proceedings concerning Bentleyville shall be marked closed.*[2] Following the entry of the said Global Order, Judge Solomon issued further orders continuing the complaint proceedings pending resolution of the appeals from the said Global Order.

7. By letter dated January 28, 2002, Administrative Law Judge Michael C. Schnierle noted that the appeals from the Global Order involving Bentleyville had been resolved and concluded, "that these proceedings stand closed by order of the commission." Judge Schnierle also directed that, "If the parties wish to continue litigation of the proceedings, they should seek to have the Commission reopen the cases." See Appendix B hereto.

8. Notwithstanding the Global Order and Judge Schnierle's January 28, 2002 directive, there is still an open issue. Neither the Global Order nor Judge Schnierle's letter address the status of the Bentleyville tariff supplements identified

[2]It is emphasized that Bentleyville, in Supplement No. 283 to PTA Access Tariff - Telephone Pa. P.U.C. No. 9 *in the current proceeding, was seeking reductions in its intrastate access charges* and was subsequently permitted in the Global proceeding to reduce its intrastate access charges.

in paragraph 1 above. These tariff supplements were permitted to become effective pursuant to Commission Opinion and Order entered April 9, 1998, but Bentleyville did not implement the rate changes due to the AT&T and OCA complaints. It must be noted that the said tariff supplements included various rate changes that were not at issue in the Global proceeding.

9. Under the circumstances, the OCA and Bentleyville jointly file this Petition seeking to formally resolve and terminate this consolidated proceeding on the following basis:

a. Bentleyville be permitted to implement the following rate changes with the filing of a tariff supplement to be effective on one day's notice:

Directory Assistance Rate

(1) The local rate changes in Supplement No. 37 to Bentleyville's Local Tariff - Telephone Pa. P.U.C. No. 6, as approved by the Commission in the April 9, 1998 Opinion and Order, included an increase in the Company's directory assistance charge from $0.60 to $0.80 per call. Bentleyville requests that it be permitted to file a tariff supplement implementing this minor rate change on one day's notice. As shown in the Company's supporting information (page 1) filed at Docket No. R-00974174, this rate change provides a de minimis $4,323 increase to the Company's annual revenues.

Elimination of R-2 Service

(2) The local rate changes in Supplement No. 37 to Bentleyville's Local Tariff - Telephone Pa. P.U.C. No. 6, as approved by the Commission in the April 9, 1998 Opinion and Order, eliminated R-2 service.

Bentleyville is currently installing a new Taqua central office switch. This new switch is expected to be in service in a matter of months and, with its installation, the Company will no longer be able to provide R-2 service. Consequently, it is imperative that Bentleyville be permitted to make this tariff change. At the time Supplement No. 37 was filed, Bentleyville had 7 R-2 customers whose monthly rate would have increased from $5.95 to $6.60. Today, Bentleyville has only 4 R-2 customers. Thus, the impact of this tariff change eliminating R-2 service would be only $31.20 per year.

Sales Promotion

(3) Supplement No. 37 also revised the wording in the sales provision of Bentleyville's local tariff, Section 1, Sheet 18, to shorten the notice period and the limitation on the number of promotions per year in order to enhance the Company's ability to promote services successfully. The supplement provided for a 10-day notice period. This tariff change would not impact the Company's revenues.

Trunk Service

(4) Supplement No. 37 provided for the elimination of key trunk service and PBX trunk service and established trunk service at the key trunk rate. The April 9, 1998 Opinion and Order, at 6, approved this rate change for the following reason:

> The Company's rate structure prices business lines, key trunks and PBX trunks at multiples (2, 2.5 and 3 times, respectively) of the single line residence rate even though the cost to provide each of these services is virtually the same. Eliminating the possibility of charging the high PBX trunk rate helps to move the charges for this service in

the direction of cost. Also, charging different rates for services that cost the same does not make economic sense in an increasingly competitive market. We agree with the Company's proposal to establish a single trunk rate.

This tariff change, if now implemented, would have no effect on the Company's revenues or customer bills since there are no PBX trunk customers at the present time.

Touch-Tone Charge

(5) Supplement No. 37 provided for the roll-in of the Touch-Tone Charge. At the time of the filing, this rate change would have resulted in a $.50 monthly increase for 684 customers (80% of the customers had Touch-Tone service) or $4,104 per year. Today this roll-in would only increase rates for 351 customers resulting in an annual increase in the Company's revenues of only $2,106. The roll-in was approved by the Commission in the April 9, 1998 Opinion and Order, at 5.

Non-Recurring Rate Changes

(6) Supplement No. 37 also provided for increases in the following non-recurring charges:

(1) Residence Service Order charge increased from $12.50 to $22.50.

(2) Business Service Order charge increased from $20.00 to $30.00.

(3) Residence Access Line non-recurring charge increased from $10.00 to $18.00.

(4) Business Access Line non-recurring charge increased from $12.50 to $20.50.

(5) NSF check charge increased from $15 to $20 per occurrence.

(6) Restoration charge increased from $25 to $30 per occurrence.

Those miscellaneous rate changes, all of which were approved by the Commission in the April 9, 1998 Opinion and Order, were calculated to result in an increase of only $12,185 in the Company's annual revenues.

b. These changes are consistent with rate changes permitted by the Commission for other rural telephone companies and, as stated, were previously approved by the Commission in the April 9, 1998 Opinion and Order. Further, the directory charge increase is consistent with the directory assistance charge increases permitted by the Commission for other small rural telephone companies during the pendency of this proceeding. See Petition of the Pennsylvania Telephone Association For Adjustment of Directory Assistance Charges, P-00981397, Opinion and Order entered February 16, 1999.[3] If the changes are permitted to become effective, the impact on the Company's annual revenues will be less than $20,000 and it will eliminate Bentleyville having to have a consultant and lawyer to refile a tariff supplement with supporting information in order to again make the aforesaid rate changes. Under the circumstances, the OCA is not opposed to these rate changes becoming effective as approved in the April 9, 1998 Opinion and Order.

[3]As modified by individual stipulations between the OCA and Pennsylvania Telephone Association member companies to resolve the OCA's formal complaint at Docket No. P-00981397C0001.

c. With the exception of the aforesaid rate changes, the parties hereto agree that Bentleyville shall not implement, at this time, the other rate changes in Supplement No. 37 to its local Tariff - Telephone Pa. P.U.C. No. 6, Supplement No.395 to PTA Toll Tariff - Telephone Pa. P.U.C. No. 10, and Supplement No. 283 to PTA Access Tariff - Telephone Pa. P.U.C. No. 9, and that Bentleyville shall issue tariffs canceling these supplements.

d. Upon the filing of a tariff supplement implementing the rate changes on one day's notice with the cancellation supplements, the OCA and Bentleyville respectfully request that this proceeding be formally terminated.

WHEREFORE, The Bentleyville Telephone Company and Office of Consumer Advocate pray that this Petition be granted.

Respectfully submitted,

THOMAS, THOMAS, ARMSTRONG & NIESEN

By _____
D. Mark Thomas

Attorneys for
The Bentleyville Telephone Company

OFFICE OF CONSUMER ADVOCATE

By _____
Philip F. McClelland
Barrett C. Sheridan

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Before The
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Pennsylvania Public Utility Commission	:	R-00974174
AT&T Communications of Pennsylvania, Inc.	:	R-00974174C0001
Office of Consumer Advocate	:	R-00974174C0002
v.	:	
The Bentleyville Telephone Company	:	

CERTIFICATE OF SERVICE

I hereby certify that I have this 12th day of April, 2002, served a true and correct copy of the foregoing Petition upon the persons listed below, by first class mail, postage prepaid:

Philip F. McClelland, Esquire
Barrett C. Sheridan, Esquire
Office of Consumer Advocate
Forum Place, 5th Floor
555 Walnut Street
Harrisburg, PA 17120

Gerald Gornish, Esquire
Wolf, Block, Schorr and Solis-Cohen LLP
22nd Floor
1650 Arch Street
Philadelphia, PA 19103-2097

Honorable Michael C. Schnierle
Administrative Law Judge
Pennsylvania Public Utility Commission
2 West, Commonwealth Keystone Bldg.
Harrisburg, PA 17105-3265

D. Mark Thomas

Attorneys for The Bentleyville Telephone Company

Dated: April 12, 2002

DOCUMENT
FOLDER

AT&T Communications of Pennsylvania, Inc. v. Verizon North Inc.,
Docket No. C-20027195

OCA Cross Examination Exhibit No. 3
Date Entered: 8/25/03
Hbg TX

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA PUBLIC UTILITY COMMISSION
P.O. BOX 3265, HARRISBURG, PA 17105-3265

IN REPLY PLEASE
REFER TO OUR FILE
2002.0302.00

November 8, 2002

D. Mark Thomas, Esquire
Thomas, Thomas, Armstrong
& Niesen
212 Locust Street
Suite 500
P.O. Box 9500
Harrisburg, PA 17108-9500

Re: Pennsylvania Public Utility Commission
AT&T Communications of Pennsylvania, Inc.
Office of Consumer Advocate
v.
The Bentleyville Telephone Company
Docket Nos. R-00974174, R-00974174C0001, R-00974174C0002

Dear Mr. Thomas:

On April 12, 2002, you submitted a joint petition on behalf of your client, Bentleyville Telephone Company (Bentleyville) and the Pennsylvania Office of Consumer Advocate (OCA) requesting the Commission to formally resolve and terminate the proceedings at Docket Nos. R-00974174, R-00974174C0001, R-00974174C0002. AT&T Communications of Pennsylvania, Inc. filed a response to the Joint Petition indicating that it had no objection to the Commission formally resolving and terminating the above-captioned proceedings as requested.

It is our understanding that these proceedings arose as a result of your client, Bentleyville, filing three separate supplements for the purposes of restructuring rates for local, toll and access services, to be implemented over two phase-in periods, on a revenue neutral basis. The filings were made in September 1997 and involve Supplement No. 37 to Bentleyville's Local Tariff No. 6, Supplement No. 395 to the Pennsylvania Telephone Association's Toll Tariff - Telephone Pa. P.U.C. No. 10, and Supplement No. 283 to Bentleyville's Access Tariff - Telephone Pa. P.U.C. No. 9. By an Order entered April 9, 1998, at Docket R-00974174, the Commission considered and approved all of the rates changes proposed in the supplements. However, due to various circumstances, Bentleyville did not implement these specific rate changes.

SRB

In the joint petition, you request that Bentleyville be permitted to implement the following rate changes proposed in Supplement No. 37 to Bentleyville's Local Tariff-Telephone Pa. P.U.C. No. 6 by the filing of a tariff supplement to be effective on one day's notice:

1. The local rates changes regarding an increase in the Directory Assistance rate.
2. The local rate changes regarding the elimination of R-2 service.
3. The revisions to wording in the sales provision on Section 1, Sheet 18 of Bentleyville's Local Tariff - Telephone Pa. P.U.C. No. 6.
4. The elimination of key trunk and PBX trunk service.
5. The roll-in of the Touch-Tone Charge.
6. The local rate changes regarding increases in the following non-recurring charges:

    (1) Residence Service Order charge.
    (2) Business Service Order charge.
    (3) Residence Access Line non-recurring charge
    (4) Business Access Line non-recurring charge.
    (5) NFS check charge.
    (6) Restoration charge.

You further indicate that your client does not wish to implement the other local rate changes proposed in Supplement No. 37.

The Commission's April 9, 1998 Order, approved all of the local rate changes proposed in Supplement No. 37. Your client wishes to implement only the above-referenced local rates proposed in Supplement No. 37. Accordingly, your client should simply file a compliance tariff supplement that sets forth only the local rate changes proposed in Supplement No. 37 that it wishes to implement. The compliance tariff supplement should implement these rates on one day's notice as your client has requested. Furthermore, for the other rate changes originally proposed in Supplement No. 37, they will be deemed moot once the compliance tariff supplement is filed with the Commission.

Additionally, you stated that Bentleyville is desirous of canceling Supplement No. 395 to PTA Toll Tariff - Telephone Pa. P.U.C. No. 10 and Supplement No. 283 to PTA Access Tariff - Telephone Pa. P.U.C. No. 9. It is only necessary for your client to file a letter withdrawing these two supplements. These filings should be submitted to the Commission with a copy to the Bureau of Fixed Utility Services. Upon the receipt of the compliance tariff supplement and the letter of withdrawal, the Secretary's Bureau shall mark these proceedings closed.

Sincerely,

James J. McNulty
Secretary

cc: Frank B. Wilmarth, Deputy Chief Counsel
Gary Wagner, Telecommunication Manager, FUS
David E. Screven, Assistant Counsel
Gerald Gornish, Esquire (Attorney for AT&T)
Philip F. McClelland, Esquire (Attorney for OCA)

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HARRISBURG PA 17105-3265

DOCUMENT FOLDER

AT&T Communications of Pennsylvania, Inc. v. Verizon North Inc.,
Docket No. C-20027195

OCA Cross Examination Exhibit No. 4
Date Entered: 8/25/03
Hbg JK

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 4 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-00021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Does Verizon PA agree that intrastate switched access service utilizes the dial tone line? If Verizon PA determines that intrastate switched access service does not utilize the dial tone line, then provide an explanation and support for that opinion.

RESPONSE:

While Verizon agrees that intrastate switched access service employs the dial tone line to connect to end user customers, the company also believes that the rate for dial tone line service needs to at least cover its costs. Since consumers impose the cost of the dial tone line on Verizon by the act of subscribing to telephone service, the causation principle requires that the cost of providing dial tone line service be fully covered by its rate.

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 5 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Does Verizon PA agree that interstate switched access, intrastate toll service, interstate toll, basic local service and non-basic local services (e.g. vertical services) all utilize the dial tone line? If Verizon PA determines that some or all of those services do not share the dial tone line, then provide an explanation and support for that opinion.

RESPONSE:

Yes but see the response to OCA I-4.

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 6 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Marcie A. Conner
POSITION: Manager-Product Management

REQUEST:

For the most recent period available, please provide a breakdown of the carrier charge charged by Verizon PA to each interexchange toll carrier (including Verizon PA, Verizon North, and Verizon Long Distance). For example, if Verizon North's share of the intrastate toll minutes was 50%, then 50% of the carrier charge would have been charged to Verizon North.

RESPONSE:

The information requested is not available and would require a special study. In addition, even if available, the information would be proprietary to the individual carriers and Verizon would not be free to disclose it without each carrier's consent.

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 7 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Separately for business and residence, provide the average number of Verizon PA lines in service for the year 2002.

RESPONSE:

	Residence	Business
2002 average in-service	4,056,290	2,110,338

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 16 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Identify the current Verizon PA residential Subscriber Line Charges (SLC). Separately show the rate for each residential SLC category (primary, non-primary).

RESPONSE:

Verizon PA Residence SLC Rates

Primary and SLB	Non-Primary and BRI
$6.00	$6.08

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 17 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-00021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Identify the number of Verizon PA residential lines for each each SLC category (primary, non-primary) as of year end 2002.

RESPONSE:

Residence Retail Lines in service as of 12/31/02:

Primary	3,088,580
Non-primary	589,741

RESPONSE OF VERIZON NORTH INC. TO SET II, INTERROGATORY NO. 4 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Does Verizon North agree that intrastate switched access service utilizes the dial tone line? If Verizon North determines that intrastate switched access service does not utilize the dial tone line, then provide an explanation and support for that opinion.

RESPONSE:

While Verizon agrees that intrastate switched access service employs the dial tone line to connect to end user customers, the company also believes that the rate for dial tone line service needs to at least cover its costs. Since consumers impose the cost of the dial tone line on Verizon by the act of subscribing to telephone service, the causation principle requires that the cost of providing dial tone line service be fully covered by its rate.

RESPONSE OF VERIZON NORTH INC. TO SET II, INTERROGATORY NO. 5 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Does Verizon North Agree that interstate switched access, intrastate toll service, interstate toll, basic local service and non-basic local services (e.g. vertical services) all utilize the dial tone line? If Verizon North determines that those services do not share the dial tone line, then provide an explanation and support for that opinion.

RESPONSE:

Yes but see the response to OCA I-4.

RESPONSE OF VERIZON NORTH INC. TO SET II, INTERROGATORY NO. 7 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Separately for business and residence, provide the average number of Verizon North lines in service for the year 2002.

RESPONSE:

	Residence	Business
2002 average in-service	505,968	196,870

RESPONSE OF VERIZON NORTH INC. TO SET II, INTERROGATORY NO. 16 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

For Verizon North, provide the current residential Subscriber Line Charges (SLC). Separately show the rate for each residential SLC category (primary, non-primary).

RESPONSE:

Verizon North Residence SLC Rates

Primary and SLB	Non-Primary and BRI
$6.00	$7.00

RESPONSE OF VERIZON NORTH INC. TO SET II, INTERROGATORY NO. 17 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

For Verizon North, provide the end of 2002 quantities of residential lines in each SLC category (primary, non-primary).

RESPONSE:

Residence Retail Lines in service as of 12/31/02:

Primary	454,945
Non-primary	47,667

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET V, INTERROGATORY NO. 6 OF OFFICE OF CONSUMER ADVOCATE DATED JULY 3, 2003, SUBMITTED IN DOCKET NO. R-00016683 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Please provide the SLCs recovered for the residential and business primary, non-primary lines for VPA and VN. Provide this information as of July 1, 2003, and for the 3 preceding years.

RESPONSE:

fBell Atlantic	7/00	7/01	7/02	7/03
Primary Res/SLB	$4.35	$5.00	$6.00	$6.09
NP Res/BRI	$6.01	$6.01	$6.08	$6.09
MLB/Centrex	$6.01	$6.01	$6.08	$6.09
ISDN PRI	$30.05	$30.05	$30.40	$30.45
fContel	**7/00**	**7/01**	**7/02**	**7/03**
Primary Res/SLB	$4.35	$5.00	$6.00	$6.50
NP Res/BRI ISDN	$7.00	$7.00	$7.00	$7.00
MLB/Centrex	$9.20	$9.20	$9.20	$9.20
PRI	$46.00	$46.00	$46.00	$46.00
fGTE	**7/00**	**7/01**	**7/02**	**7/03**
Primary Res/SLB	$4.35	$5.00	$6.00	$6.50
NP Res/BRI ISDN	$7.00	$7.00	$7.00	$7.00
MLB/Centrex	$8.11	$8.11	$8.11	$8.11
PRI	$40.55	$40.55	$40.55	$40.55

DOCUMENT FOLDER

AT&T Communications of Pennsylvania, Inc. v. Verizon North Inc.,
Docket No. C-20027195

OCA Cross Examination Exhibit No. 6
Date Entered: 8/25/03
Hbg TX

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 2 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-00021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Gary Sanford
POSITION: Sr. Staff Consultant–Network Engineering

REQUEST:

Please identify what "share of the costs of the dial tone line" Verizon PA has allocated to "each class of service which utilizes the dial tone line" (e.g. what share was allocated to intrastate switched access, what share was allocated to interstate switched access, what share was allocated to intrastate toll, what share was allocated to interstate toll, what share was allocated to basic local exchange service, what share was allocated to other local services such as vertical services, etc.). Provide all workpapers, studies, analyses, etc. which support the Company's allocation of costs.

RESPONSE:

It is Verizon PA's position that Dial Tone Line is a separate service and the costs should not be allocated to other services. Therefore, Dial Tone Line costs were not allocated to different classes of service.

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 3 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-00021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Gary Sanford
POSITION: Sr. Staff Consultant–Network Engineering

ANSWERED BY: Thomas Mazziotti
POSITION: Sr. Staff Consultant–Network Engineering

REQUEST:

Please identify the "stand-alone cost of each class of service which utilizes the dial tone line" as calculated by Verizon PA. Provide all workpapers, studies, analyses, etc. which show the calculation of Verizon's claimed stand-alone cost for each service which utilizes the dial tone line.

RESPONSE:

The information requested is not available and would require a special study that what would be burdensome to produce. Please see the responses to OCA Set I #s 1, 2, 11, 12 and 15.

RESPONSE OF VERIZON NORTH INC. TO SET II, INTERROGATORY NO. 2 OF OFFICE OF CONSUMER ADVOCATE DATED JANUARY 31, 2003, SUBMITTED IN DOCKET M-0021596 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Gary Sanford
POSITION: Sr. Staff Consultant–Network Engineering

REQUEST:

Please identify what "share of the costs of the dial tone line" Verizon North has allocated to "each class of service which utilizes the dial tone line" (e.g. what share was allocated intrastate switched access, what share was allocated to interstate switched access, what share was allocated to basic local exchange service, what share was allocated to other local services such as such as vertical services, etc.). Provide all workpapers, studies, analyses, etc. which support the Company's allocation of costs.

RESPONSE:

It is Verizon North's position that Dial Tone Line is a separate service and the costs should not be allocated to other services. Therefore, Dial Tone Line costs were not allocated to different classes of service.

VERIZON PENNSYLVANIA INC.'S AND VERIZON NORTH INC.'S RESPONSE TO THE OFFICE OF CONSUMER ADVOCATE'S INTERROGATORIES SET V

Pursuant to 52 Pa. Code Section 5.342, Verizon Pennsylvania Inc. and Verizon North Inc. hereby respond as follows to the Office of Consumer Advocate's Interrogatories, Set V:

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET V, INTERROGATORY NO. 1 OF OFFICE OF CONSUMER ADVOCATE DATED JULY 3, 2003, SUBMITTED IN DOCKET NO. R-00016683 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Gary Sanford
POSITION: Sr. Staff Consultant–Network Engineering

ANSWERED BY: Ann A. Dean
POSITION: Senior Staff Consultant

REQUEST:

Please reference the Recommended Decision of ALJ Schnierle of May 3, 2002 at Docket No. R-00016683. On June 11, 2002, Verizon reran its UNE cost studies in order to accommodate the proposed changes in methodology as proposed by ALJ Schnierle. On June 25, 2003, Verizon filed Statement 2.0 including Dean/Sanford Exhibits 2 and 3. Please recalculate such Exhibits using the modifications employed in response to the Schnierle RD as noted above.

RESPONSE:

Verizon has not performed a rerun of its switched access studies using the inputs in question, and to do so would constitute a burdensome and expensive special study not required by the Commission's discovery rules. Responding to this request would require extensive rerunning not only of the global inputs within the VZCost system, but also of significant resources outside the system, such as the SCIS and COSTMOD switching models and models for calculation of expense factors. Moreover, the inputs and assumptions that were determined in ALJ Schnierle's recommendation were modified by the Commission's Tentative Order in Docket No. R-00016683 and also relate to UNE pricing for just Verizon PA under the federal TELRIC standard. TELRIC does not apply to switched access services.

VERIZON PENNSYLVANIA INC.'S AND VERIZON NORTH INC.'S RESPONSE TO THE OFFICE OF CONSUMER ADVOCATE'S INTERROGATORY V-2

Pursuant to 52 Pa. Code Section 5.342, Verizon Pennsylvania Inc. and Verizon North Inc. hereby respond as follows to the Office of Consumer Advocate's Interrogatory V-2:

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET V, INTERROGATORY NO. 2 OF OFFICE OF CONSUMER ADVOCATE DATED JULY 3, 2003, SUBMITTED IN DOCKET NO. R-00016683 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Gary Sanford
POSITION: Sr. Staff Consultant–Network Engineering

ANSWERED BY: Ann A. Dean
POSITION: Senior Staff Consultant

REQUEST:

In Dean/Sanford Exhibit 2 different costs are shown for loops and ports as direct, shared and common. Please identify and explain what costs are included in these categories and explain why various costs were placed in those categories.

RESPONSE:

There are two main determinants for assigning direct and shared costs. The first, as the labels suggest, is whether the cost is directly attributable to a service or is shared by multiple services. The second and probably the most important criterion is whether the cost varies with increases or decreases in the output of the product or service. Direct costs are those costs that vary with the output of a product or service or with the output of the entire service. These costs would include the product or service specific fixed costs if the increment of output used is the total service. Shared costs are those costs that are required for the production of two or more products or services and do not vary with increases or decreases in output.

For DLC equipment, direct costs are equal to the cost of the line cards, plus the cost of common equipment capacity used for working lines. The remaining common equipment costs were treated as shared costs. DLC common equipment includes components such as the DLC enclosure and the shelf units into which individual line cards are inserted. The investments associated with conduit systems, poles, anchors and guys are treated as shared. All other network investments are treated as direct costs.

For expense-to-investment factors, a portion of the expenses in these factors follows investment. This means that when these factors are applied to direct investment the resulting cost will be direct. When they are applied to shared investment, the resulting cost will be shared.

A portion of the expenses in the expense-to-investment factors is considered shared. When this piece of the expense-to-investment factor is applied to investment, the resulting cost will always be shared, regardless of the Direct/Shared designation of the investment. The expenses in the shared portion of the expense-to-investment factors include network engineering and administration, testing, land and building and any other support equipment associated with the investment.

For expense-to-expense loadings, some loadings follow the expenses. After the expense-to-investment factors are applied to investment, the resulting expense will be direct or shared. For example, if the marketing expense-to-expense loading is applied to the direct or shared expense, the result will take on the Direct/Shared designation of the original expense.

Other expense-to-expense loadings are designated as shared when they cannot be directly attributed. For example, the Other Marketing Support loading is designated as shared. This loading includes expenses such as land and building, furniture and office equipment that cannot be directly attributable to one product.

The Common Overhead Loading is designated as Common. When this loading is applied to expense, whether the expense has been determined to be direct or shared, the resulting corporate overhead expenses will be Common.

Common overhead costs are the costs that are common to the firm as a whole such as the expenses incurred in connection with General and Administration ("G&A") functions, including executive, planning, general accounting and finance, external relations, human resources, legal, regulatory and any associated General Support Facility costs.

VERIZON PENNSYLVANIA INC.'S AND VERIZON NORTH INC.'S RESPONSE TO THE OFFICE OF CONSUMER ADVOCATE'S INTERROGATORIES SET VI

Pursuant to 52 Pa. Code Section 5.342, Verizon Pennsylvania Inc. and Verizon North Inc. hereby respond as follows to the Office of Consumer Advocate's Interrogatories, Set VI:

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET VI, INTERROGATORY NO. 1 OF OFFICE OF CONSUMER ADVOCATE DATED JULY 3, 2003, SUBMITTED IN DOCKET NO. R-00016683 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Gary Sanford
POSITION: Sr. Staff Consultant—Network Engineering

ANSWERED BY: Ann A. Dean
POSITION: Senior Staff Consultant

REQUEST:

Please reference the Commission's November 4, 2002 Tentative Order at Docket No. R-00016683. On December 4, 2002, Verizon reran its UNE cost studies in order to accommodate the tentatively proposed changes in methodology as proposed by the Commission. The OCA references the revised recurring and nonrecurring unbundled network element ("UNE") rates filed by Verizon on that date. On June 25, 2003, Verizon filed Statement 2.0 including Dean/Sanford Exhibits 2 and 3. Please recalculate such Exhibits using the modifications employed in response to the Tentative Order as noted above.

RESPONSE:

Verizon has not performed a rerun of its switched access studies using the inputs in question, and to do so would constitute a burdensome and expensive special study not required by the Commission's discovery rules. Responding to this request would require extensive rerunning not only of the global inputs within the VZCost system, but also of significant resources outside the system, such as the SCIS and COSTMOD switching models and models for calculation of expense factors. Moreover, the inputs and assumptions that were determined in the Commission's Tentative Order in Docket No. R-00016683 relate to UNE pricing for just Verizon PA under the federal TELRIC standard. TELRIC does not apply to switched access services.

MCI cum Ex 2
8/25/03 Hbg Tr

RESPONSE OF VERIZON NORTH INC. AND VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 17 OF AT&T COMMUNICATIONS OF PENNSYLVANIA, LLC. DATED JUNE 10, 2003, SUBMITTED IN DOCKET C-20027195 BEFORE THE PA PUC (ACCESS CHARGE)

ANSWERED BY: Debra M. Berry
POSITION: Director - Regulatory

REQUEST:

Does Verizon agree with the statement that "from a network perspective, the termination of local calls and toll calls are identical." Rebuttal Testimony of Catherine A. Eichenlaub, BA-PA Stmt. 5.1, Docket No. I-00940035, at 16. If not, fully explain why not.

RESPONSE:

From a network perspective, the termination of local and toll calls are identical. However, the translations made by the network to the dialed telephone number to allow a local call to progress through the network are different than the translations made by the network to the dialed telephone number to allow a toll call to progress through the network.