

MCI Cr EX 1
I-00030099 14pg JK
1/26/04

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 9 OF MCI
WORLD COM NETWORK SERVICES, INC. DATED NOVEMBER 25, 2003 SUBMITTED IN DOCKET
I-00030099 BEFORE THE PA PUC (UNE)

ANSWERED BY: Carlo Michael Peduto, II
POSITION: INDEPENDENT CONSULTANT

REQUEST:

For each Verizon wire center in Pennsylvania, please identify the amount of
available unused collocation space, in terms of total square feet of space
and type(s) of collocation for which available space can be used.

VERIZON STATED THE FOLLOWING OBJECTION ON 12/05/03:

See Specific Objections 6 and 7. Subject to and without waiving the
foregoing General and Specific Objections, Verizon will provide a response to
this interrogatory.

RESPONSE:

The total amount of unused space for collocation at any given time, in any
given office, is difficult to determine due to the numerous variables that
impact space availability. Providing this information would require a
special study and would only be valid for a very short period of time.
Verizon makes every attempt to provide collocation space when requested by
converting administrative space, removing unused obsolete equipment and by
making structural adjustments to an office.

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JAN 30 2004

DOCUMENT

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2004 JAN 28 PM 3:07
SECRETARY'S BUREAU

MCI Cr Ex 2

1/27/04 Hsg R 1-00030099

RESPONSE OF VERIZON PENNSYLVANIA INC. TO SET I, INTERROGATORY NO. 46 OF MCI WORLDCOM NETWORK SERVICES, INC. DATED NOVEMBER 25, 2003 SUBMITTED IN DOCKET I-00030099 BEFORE THE PA PUC (UNE)

ANSWERED BY: Carlo Michael Peduto, II
POSITION: INDEPENDENT CONSULTANT

REQUEST:

Of the dedicated transport routes listed in Verizon's Attachment 5 to its testimony, please state the total number of routes that have one end in Pennsylvania and the other end in another state. Please provide a listing of all interstate routes.

VERIZON STATED THE FOLLOWING OBJECTION ON 12/05/03:

Subject to and without waiving its General Objections, Verizon will provide non-public, non-privileged information.

RESPONSE:

There are 33 routes (INTRALATA) with one end in PA and the other end in DE. The listing is provided as Attachment MCI-46.

DOCUMENT

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**ATTACHMENT TO
VERIZON RESPONSE TO
MCI I-46**

Wire Center 1	Wire Center 1 Name	Wire Center 2	Wire Center 2 Name
AMBLPAAM	AMBLER	WLMGDEWL	WILMINGTON
ARMRPAAR	ARDMORE 1	WLMGDEWL	WILMINGTON
BCYNPABC	BALA CYNWYD	WLMGDEWL	WILMINGTON
HTBOPAAB	HATBORO	WLMGDEWL	WILMINGTON
PHLAPALO	LOCUST 1	WLMGDEWL	WILMINGTON
PHLAPAMK	MARKET 1	WLMGDEWL	WILMINGTON
PHLAPAPE	PENNYPACKER 1	WLMGDEWL	WILMINGTON
AMBLPAAM	AMBLER	NWRKDENB	NEWARK
AMBLPAAM	AMBLER	TLVLDETV	TALLEYVILLE
ARMRPAAR	ARDMORE 1	NWRKDENB	NEWARK
ARMRPAAR	ARDMORE 1	TLVLDETV	TALLEYVILLE
BCYNPABC	BALA CYNWYD	NWRKDENB	NEWARK
BCYNPABC	BALA CYNWYD	TLVLDETV	TALLEYVILLE
BRYMPABM	BRYN MAWR	WLMGDEWL	WILMINGTON
CNSHPACN	CONSHOHOCKEN	WLMGDEWL	WILMINGTON
HTBOPAAB	HATBORO	NWRKDENB	NEWARK
HTBOPAAB	HATBORO	TLVLDETV	TALLEYVILLE
KGPRPAKP	KING OF PRUSSIA	WLMGDEWL	WILMINGTON
NRTWPANR	NORRISTOWN	WLMGDEWL	WILMINGTON
NWRKDENB	NEWARK	PHLAPALO	LOCUST 1
NWRKDENB	NEWARK	PHLAPAMK	MARKET 1
NWRKDENB	NEWARK	PHLAPAPE	PENNYPACKER 1
NWRKDENB	NEWARK	WAYNPAWY	WAYNE
NWRKDENB	NEWARK	WCHSPAWC	WEST CHESTER
PAOLPAPA	PAOLI	WLMGDEWL	WILMINGTON
PHLAPALO	LOCUST 1	TLVLDETV	TALLEYVILLE
PHLAPAMK	MARKET 1	TLVLDETV	TALLEYVILLE
PHLAPAPE	PENNYPACKER 1	TLVLDETV	TALLEYVILLE
TLVLDETV	TALLEYVILLE	WAYNPAWY	WAYNE
TLVLDETV	TALLEYVILLE	WCHSPAWC	WEST CHESTER
TRPRPATR	TROOPER	WLMGDEWL	WILMINGTON
WAYNPAWY	WAYNE	WLMGDEWL	WILMINGTON
WCHSPAWC	WEST CHESTER	WLMGDEWL	WILMINGTON

ALS #1

1-80030099

1/27/04

Hbg JK

ECKERT SEAMANS CHERIN & MELLOTT, LLC

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2004 JAN 28 PM 3:06

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213 Market Street
Eighth Floor
Harrisburg, PA 17101

Address correspondence to:
Post Office Box 1248
Harrisburg, PA 17108-1248

Telephone: 717 237 6000
Facsimile: 717 237 6019
www.esm.com

January 23, 2004

Via Facsimile 215.563.2658

Suzan DeBusk Paiva, Esquire
Verizon Pennsylvania Inc.
1717 Arch Street 32 NW
Philadelphia, Pennsylvania 19103

DOCUMENT

Re: Investigation into the Obligation of Incumbent Local Exchange Carriers to
Unbundle Network Elements, Docket No. I-0030099

Boston

Haddonfield, NJ

Harrisburg

Morgantown, WV

Philadelphia

Pittsburgh

Washington, D.C.

Dear Ms. Paiva:

In response to Verizon's subpoena, this forwards the additional information provided on behalf of the five (5) TelCove operating companies within the Commonwealth of Pennsylvania. The five (5) companies are Adelphia Business Solutions Operations, Inc. (the entity which provides services pursuant to the Commonwealth Telecommunication contracts); Adelphia Business Solutions Investment, LLC (the entity which provides service to general business customers in Pittsburgh/Erie market and Central Pennsylvania); Adelphia Business Solutions Operations, Inc. (the rural certificate holder); PECO TelCove (the entity which provides service to general business customers in the Philadelphia/Allentown market) and Susquehanna Adelphia Business Solutions (the entity which provides service to general business customers in the York market) (collectively, "TelCove"). This information is provided as a supplement to information provided previously in response to the Pennsylvania Public Utility Commission's ("PUC or Commission") preliminary data requests in the above proceeding (which prior information is detailed below). TelCove submits that the information provided herein is as complete and comprehensive as possible. TelCove regrets that the information could not be produced sooner.

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JAN 30 2004

TelCove, however, would like Verizon and the other parties involved in this proceeding to understand the challenges which TelCove faced in gathering this information. First, TelCove understands and appreciates the importance of this information to the parties and to the Commission in this proceeding. However, at this time, TelCove is in the process of emerging from bankruptcy. To accomplish this emergence, it is endeavoring to timely provide required information and filings to the Bankruptcy Court and to the parties in the bankruptcy pursuant to established time constraints over which TelCove has no control. Meeting these deadlines is critical to TelCove's ability to emerge from the bankruptcy a stronger and more robust provider of telecommunication services within the Commonwealth of Pennsylvania. Moreover, in an effort to be both responsive and cost effective, TelCove is meeting these herculean demands with limited resources both internally and externally. As such, the information which was originally requested in the Commission's Discovery Requests directed to non-parties had to be generated by

ECKERT SEAMANS
ATTORNEYS AT LAW

(L0275640 1)

Kathleen Misturak-Gingrich
717.237.6067
kmg@escm.com

Suzan DeBusk Paiva, Esquire
January 23, 2004
Page 2

means of these same limited resources, while at the same time meeting the deadlines imposed by the Federal Bankruptcy Court.

Additionally, the information requested in the Commission's data requests was not information that was readily available to the TelCove companies. To be able to respond, TelCove was required to allocate significant resources including extensive man hours and personnel to gather and develop the information. TelCove regrets that the information was not able to be provided as timely as everyone had hoped, but requests a measure of accommodation from the Commission and the parties because of the other exigent circumstances with which the TelCove companies are dealing.

Also, as a point of clarification, Jeffrey Heins is not the Custodian of Records for the companies. However, Mr. Heins voluntarily accepted service of the subpoenas and in response thereto has done a yeoman's task of gathering the information from the various business units of the company. As such, in response to the Commission's data requests and the subpoena issued to Mr. Heins by Verizon, TelCove has provided the following information.

1. On January 13, 2004, Mr. Heins provided an Affidavit which confirms that none of the TelCove companies provide voice-grade service to residential customers. A copy of the Affidavit is attached hereto as Exhibit 1;
2. Via e-mail, Mr. Heins provided Verizon with additional information which the TelCove companies had filed with the Commission on November 14, 2003, in response to the Commission's original data requests, but which information, for reasons unknown, was not distributed to Verizon and the other parties. Copies of that information is attached hereto as Exhibit 2;
3. An e-mail dated January 15, 2004, from mc to Verizon with respect to clarification of some of the information which had originally been provided to the Commission. A copy of that e-mail is provided as Exhibit 3; and
4. The enclosed additional information which is being forwarded today (Exhibit 4 attached).

For purposes of analyzing this information, TelCove's reference to LSOs is equivalent to the definition of Wire Center set forth in the PUC's data requests. Additionally, Exhibit 4 (which is a revision of old Exhibit D) contains answers to the Commission's Transport questions 1-5 as TelCove read/understood those questions. In an attempt to err on the side of providing an overabundance of information, TelCove has provided the specific transport equipment at each location. However, if a generic request was intended, the generic description of the equipment is Sonet.

Please be advised that TelCove considers this information to be confidential and proprietary and requests that it be treated as such in accordance with the proprietary order in this matter.

ECKERT SEAMANS
ATTORNEYS AT LAW

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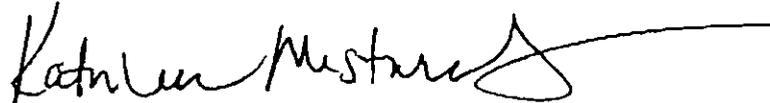
PAGE.02

*Suzan DeBusk Paiva, Esquire
January 23, 2004
Page 3*

On behalf of the TelCove companies, we appreciate Verizon's accommodation with respect to providing the information and trust that Verizon, the other parties to the proceeding and the Commission appreciate the exigent circumstances under which TelCove is providing this information to the Commission and the parties.

Should you have any questions respecting the information, please do not hesitate to contact me.

Very truly yours,



Kathleen Misturak-Gingrich

KMG:smb:jmc

Enclosures

*cc: The Honorable James McNulty (w/enclosures)
The Honorable Michael C. Schnierle (w/enclosures)
Jeffrey Heins, Esquire (w/enclosures)*

ECKERT SEAMANS
ATTORNEYS AT LAW

(L0275640.1)

Exhibit 1

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**BEFORE THE PENNSYLVANIA
PUBLIC UTILITY COMMISSION**

Investigation into the Obligation of Incumbent :
Local Exchange Carriers to Unbundle Network : Docket No. I-00030099
Elements :

AFFIDAVIT OF JEFFREY J. HEINS

I, Jeffrey J. Heins, an adult individual, do hereby affirm that the information set forth below is true and correct to the best of my knowledge, information and belief:

1. I am currently the Manager of Legal and Regulatory Affairs for TelCove (f/k/a Adelpia Business Solutions) and for the five Pennsylvania operating companies listed below in footnote number 1 (collectively, "TelCove").¹

2. My business address is 712 North Main Street, Coudersport, Pennsylvania 16915.

3. At the request of counsel for Verizon Pennsylvania, Inc. and Verizon North, Inc. (collectively, "Verizon"), I agreed to accept service of process, via federal express, of a subpoena issued on January 7, 2004, by Administrative Law Judge Michael C. Schnierle of the Pennsylvania Public Utility Commission ("PUC") in connection with the above-captioned proceeding.

4. Pursuant to discussions with counsel for Verizon, it was agreed that I could provide this Affidavit in lieu of attendance on January 14, 2004, at 10:00 a.m. as directed by the referenced subpoena.

¹ Adelpia Business Solutions of Pennsylvania, Inc., Adelpia Business Solutions Investment, LLC, Adelpia Business Solutions Operations, Inc., PECO TelCove; and Susquehanna Adelpia Business Solutions.

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On October 3, 2003, the PUC issued a Procedural Order in the instant matter, which directed designated competitive local exchange companies ("CLECs") to respond to certain requests for information.

6. Among the CLECs designated to provide information were Adelphia Business Solutions of Pennsylvania, Inc. and PECO Hyperion Telecommunications.

7. TelCove provided information in response to the requests in the Procedural Order and continues to gather information to provide additional responses.

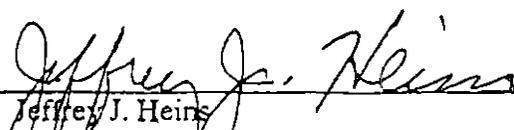
8. Due to various corporate restructurings approved by the PUC, the information provided in this affidavit is provided for the five operating companies currently certificated in Pennsylvania as identified in footnote number 1.

9. None of the noted TelCove companies provide voice-grade service to residential customers.

10. To the contrary, all of TelCove's lines are business lines, which are defined as lines provided to customers engaged in commercial or institutional enterprise.

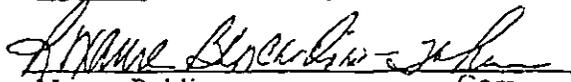
11. Upon providing this Affidavit, I understand that I am excused from attendance at the January 14, 2004, deposition date set forth in the subpoena *duces tecum*.

Further deponent saith no more.



Jeffrey J. Heins
Manager of Legal and Regulatory Affairs
TelCove (fka Adelphia Business Solutions)

Sworn to and subscribed before this
12 day of January, 2004



Notary Public

My Commission Expires:

Commonwealth of Pennsylvania
Notarial Seal
Roxanne Bencardino-Whener, Notary Public
Coudersport Boro, Potter County
My Commission Expires Oct. 31, 2005

Exhibit 2

November 14, 2003

VIA LPS

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Mr. James McNulty, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17120

RE: Docket No. I-00030099; Investigation into the Obligations of
Incumbent Local Exchange Carriers to Unbundle Network Elements

Dear Mr. McNulty:

In accordance with the October 2, 2003 Procedural Order in the above referenced docket, Adelphia Business Solutions of Pennsylvania, Inc. d/b/a TelCove and its affiliates, including PECO TelCove (formerly known as PECO Hyperion Telecommunications)(collectively "TelCove"), hereby files its responses to the Preliminary Discovery Requests for CLECs contained in Appendix A. TelCove has not been able to compile the information necessary to respond to all the discovery requests in the time allotted to do so, but will supplement its responses with additional information as soon as we are able.

The attached information is provided pursuant to the Protective Order issued in this docket, and all information is accordingly marked.

Please date stamp and return the enclosed extra copy of this filing in the enclosed postage-paid envelope.

Should you have any questions in this matter, please do not hesitate to contact me.

Regards,

Jeffrey J. Heins
Manager of Legal Affairs

cc: Terry Romine, Esq.
John Glicksman, Esq.

PRELIMINARY DISCOVERY REQUESTS

Switching

1. Please see Attachment A.
2. Please see Attachment B.
3. Please see Attachment C.
4. Please see Attachment A.

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Transport

1. Please see Attachment D.
2. Please see Attachment D.

ATTACHMENT A

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		Address	Generic Software Loaded	Dr. Sites	IDS
Scranton	PA	1180 Sathers Drive, Pittston, PA. 18643	5E-15	3	1140
Allentown	PA		RSM/EXM		657
Harrisburg	PA	1037 N. Seventh St., Harrisburg PA 17102	5E-15	11	3680
Philadelphia	PA	3020 Market St. 3rd Floor, Philadelphia PA 19108	5E-15	9	4276
Pittsburgh	PA	200 Technology Drive, Pittsburgh, PA 15219	5E-15	5	2240
St. College	PA	101 Innovations Blvd., State College, PA 16803	5E-15	2	960
York	PA		RSM/EXM		740

ATTACHMENT B

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RATE CENTER	SWITCH	SW STREET	SW CITY	SW STATE	SW ZIP
AIRVILLE	ARVLPAXARS0	1.5 MI S OF AIRVILLE ON STHWY 74	AIRVILLE	PA	17302
ALLEN TOWN	ALTWPAALDS0	723 W LINDEN ST	ALLEN TOWN	PA	18101
ALLEN TOWN	ALTWPAMTDS0	2338 S LAW ST	ALLEN TOWN	PA	18103
ALLEN TOWN	KHVLPAKUDS0	OLD RT 22	KUHNSVILLE	PA	18031
ALLEN TOWN	PHLAPAMK1WD	900 RACE ST	PHILADELPHIA	PA	19107
ALTOONA	ALNAPAALDS1	1119 16TH ST	ALTOONA	PA	16601
AMBRIDGE	AMBRPAAMRS0	9TH - MERCHANT ST	AMBRIDGE	PA	15003
ANNVILLE	ANVLPAAARS1	N REAR 31 N ULRICH ST	ANNVILLE	PA	17003
ASHLAND	ASLDPAALRS1	631 CENTER ST	ASHLAND	PA	17921
AVIS	JRSHPAJSDS0	170 MT PLEASANT AV	JERSEY SHORE	PA	17740
AVONDALE	AVDLPAAVRS0	131 MORRIS ST	AVONDALE (CHESTER)	PA	19311
BATH	BATHPABTRS0	HORNER & BLAIR ST	BATH	PA	18014
BEAVER FLS	BVFLPABFDS0	620 6TH ST	BEAVER FALLS	PA	15010
BEDMINSTER	BMNSPABMRS0	KELLERS CHURCH RD	BEDMINSTER	PA	18910
BELLEFONTE	BLLFPAEDS0	217 N ALLEGHENY ST	BELLEFONTE	PA	16823
BELLEFONTE	PLSGPAPGRS1	156 E COLLEGE AV	PLEASANT GAP	PA	16823
BELLEVRNON	BLVNPABVDS0	722 BROAD AV	BELLE VERNON	PA	15012
BELLWOOD	BLWDPABERS1	CAMBRIA ST	BELLWOOD	PA	16617
BERWICK	BEWKPABRDS0	135 E 2ND ST	BERWICK	PA	16603
BETHLEHEM	BHLHPABEDS0	525 N NEW ST	BETHLEHEM	PA	18018
BLAIRSVL	BLVIPABLR0	158 E BROWN ST	BLAIRSVILLE	PA	15717
BLOOMSBURG	BMBGPABLDS0	5 W THIRD ST	BLOOMSBURG	PA	17815
BOALSBURG	BOALPABORS1	CHURCH + ROCKEYS ALL	BOALSBURG	PA	16827
BRADFORD	BRFRFABRDS0	30 E CORYDON	BRADFORD	PA	16701
BROGUE	BROGPABRS0	STHWY 74 & BROGUE RD	BROGUE	PA	17309
BROWNSVL	BWVLPABRRS1	300 2ND ST	BROWNSVILLE (FAYETTE)	PA	15417
BUSHKILL	BSHKFABUDS0	CHURCH LN & PUB SCHOOL	BUSHKILL	PA	18324
CALIFORNIA	CLFRFACARS0	650 WOOD ST	CALIFORNIA-WASH	PA	15419
CANONSBURG	CNBGPACADS0	150 N CENTRAL AV	CANONSBURG	PA	15317
CARBONDALE	CRDLPACADS0	58 CHURCH ST	CARBONDALE	PA	13407
CARVERSVL	CRVVPACARS0	COR SUGAR & SAWMILL RD	CARVERSVILLE	PA	18913
CATASAUQUA	CTSOPACTDS0	321-331 2ND ST	CATASAUQUA	PA	18032
CENTER PT	CNPNPACERS0	1715 VALLEY FORGE RD	EAGLEVILLE	PA	19403
CENTREHALL	CTHLPACHRS1	LOGAN AL	CENTRE HALL	PA	16828
CHESTERSPG	CSSPPACRS0	1634 YELLOW SPRINGS RD	CHESTER SPRINGS	PA	19425
CLARION	CLARPAAFCM8	RD3 BOX9	CLARION	PA	16214
CLARION	CLARPAALDS0	495 LIBERTY&5TH ST	CLARION	PA	16214
CLEARFIELD	CLFDPACLDS0	20 S 2ND ST	CLEARFIELD	PA	16830
CLEARFIELD	WDLDPAWORS1	WOODLAND RD	WOODLAND	PA	16881
COATESVL	CTVLFACVDS0	500 CHESTNUT ST	COATESVILLE	PA	19320
COLLEGEVL	CGVLPACLDS0	332 MAIN ST	COLLEGEVILLE	PA	19473
CORRY	CRYPACRDS0	16 E PARK PL	CORRY	PA	15407
COUDERSPT	CDPTPACORS1	309 N MAIN ST	COUDERSPORT	PA	16915
CRESCO	CRSPAERS1	CRESCO-CANADENSIS RD	CRESCO	PA	18326
CRESSON	CRSNPACRRS1	2ND ST	CRESSON	PA	16630
DANVILLE	DAVLPADADS0	200 E MARKET ST	DANVILLE	PA	18721
DAUPHIN	DAPHPADARS1	ALLEGHENY ST & SWATARA ST	DAUPHIN	PA	17018
DELTA	DELTPAXDRS0	S MAIN ST	DELTA	PA	17314
DILLSBURG	DLBGPAXDDS0	21 S CHESTNUT ST	DILLSBURG	PA	17019
DOVER	DOVRPAXDSD0	12 N RESERVOIR DR	DOVER	PA	17315
DOWNINGTN	DWTWPADTDS0	201 WHITELAND AVE	DOWNINGTOWN	PA	19335
DOYLESTOWN	DYTWPADBDS0	255 UNION ST	DOYLESTOWN	PA	18901
DUBLIN	PSVLPAPVRS1	SE SIDE OF STUMP RD	PLUMSTEADVILLE	PA	18949
DUBOIS	DUBSPADUDS0	115 E SCRIBNER AV	DUBOIS	PA	15801
EAGLE	EAGLPAEGDS0	101 POTTSTOWN PIKE	EAGLE (CHESTER)	PA	19480
EASTBERLIN	EBRLPAXERS0	THIRD ST	EAST BERLIN (ADAMS)	PA	17316
EASTON	ESTNPAEADS0	59 N 4TH ST	EASTON	PA	18042
EBENSBURG	EBNSPAEBRS1	129 W OGLE ST	EBENSBURG	PA	15931
ELIZABETH	ELZBPAELRS0	118 S 2ND ST	ELIZABETH	PA	15037
ELLWOOD CY	ELCYPACERS0	209 FIFTH AV	ELLWOOD-CITY	PA	16117
ERIE	ERIEPAXEDS0	3617 BUFFALO RD	ERIE	PA	16510
ERIE	ERIEPAXMDS0	20 E 10TH ST & ERIE MAIN	ERIE	PA	16515
ERIE	ERIEPAXSDS0	801 W 52ND ST	ERIE	PA	18509
ERIE	ERIEPAXTDS0	5143 WATTSBURG RD	ERIE	PA	16504

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RATE CENTER	SWITCH	SW STREET	SW CITY	SW STATE	SW ZIP
ERIE	ERIEPAXWDS0	3805 W 12TH ST	ERIE	PA	16505
EXTON	EXTNPAEXDS0	100 E SWEDES FORD RD	EXTON	PA	19341
FAYETTE CY	FCYPAFCRS0	MIDDLE ST	FAYETTE CITY	PA	15438
FLEETWOOD	FLWDPAFIRS0	MYRTLE ALLEY REAR 19 E MAIN	FLEETWOOD	PA	19522
FRACKVILLE	FAVLPAFRRS1	SPRING + NICE ST	FRACKVILLE	PA	17931
FRANKLIN	FKLNPAXFDS0	127B ELK ST	FRANKLIN (VENANGO)	PA	16323
FRENCHVL	FCVLPAFRRS1	RTE 879	FRENCHVILLE	PA	16836
GALETON	GATNPAGARS1	196 W MAIN ST	GALETON	PA	16922
GIRARD	GRRDPAXGDS0	12 S PARK ROW	GIRARD	PA	16417
GLEN ROCK	GLRKPAXGDS0	2 MI SEO GLEN ROCK ON STHWY 616	GLEN ROCK	PA	17327
GLENMOORE	GLNMPAGLRS0	FAIRVIEW ST SW OF MAIN ST	GLENMOORE	PA	19343
GREENSBURG	GNBGPAGHRS0	111 W PITTSBURGH ST	GREENSBURG	PA	15601
GROVE CITY	GVCYPAGRRS0	303 S CTR	GROVE CITY	PA	16127
HALIFAX	HLFXPAHRS1	CHERRY ALLEY W OF 2ND ST	HALIFAX	PA	17032
HAMBURG	HMBGPAHBR0	152 N 4TH AVE	HAMBURG	PA	19526
HARISBGZN1	CPHLPACHDS0	125 S 30TH ST	CAMP HILL	PA	17011
HARISBGZN1	ENOLPAENDS0	16 E MANOR AVE	ENOLA	PA	17025
HARISBGZN1	FSCKPAFCRS1	FISHING CREEK VALLEY	FISHING CREEK	PA	17112
HARISBGZN1	HREGPAHADS0	210 PINE ST	HARRISBURG	PA	17101
HARISBGZN1	NCLDPANCD0	902 FRONT ST	NEW CUMBERLAND	PA	17070
HARISBGZN1	PXTGPAAGDS0	111 N 40TH ST	HARRISBURG	PA	17111
HARISBGZN1	PXTNPAPADS0	4805 JONESTOWN RD	HARRISBURG	PA	17109
HARISBGZN2	SLTNPASTDS0	100 S 2ND ST	STEELTON	PA	17113
HAWLEY	HWLYPAHWDS0	214 MAPLE AV	HAWLEY	PA	18428
HAZLETON	HZTNPAPHZDS0	128 W GREEN ST	HAZLETON	PA	18201
HELLERTOWN	HLTWPACHER0	OAK ST & ELM ALLEY	HELLERTOWN	PA	18055
HOLLIDYSBG	HLBGPAADCM8	BRUSH MTN SUMMIT	HOLLIDAYSBURG	PA	16648
HOLLIDYSBG	HLBGPAHODS0	512-514 WALNUT ST	HOLLIDAYSBURG	PA	16648
HONESDALE	HSDLPAHODS0	609 PARK ST	HONESDALE	PA	18431
HONEYBROOK	HYBKPAHBR0	NE SIDE OF MAIN ST	HONEYBROOK	PA	19344
HOUTZDALE	HTDLPAPZRS1	619 BRISBIN ST	HOUTZDALE	PA	16651
HUMMELSTN	HUMLPAHMRS1	W LONG ALLEY	HUMMELSTOWN	PA	17035
HUNTINGDON	HNTGPAHLDS0	807 WASHINGTON ST	HUNTINGDON	PA	16652
INDIANA	INDIPAINDS0	625 CHURCH ST	INDIANA	PA	15701
JEANNETTE	JNNTPAJERS1	3RD ST & BULLITT AVE	JEANNETTE	PA	15644
JEFFERSON	SPGVPAXSDS0	26 YORK AVE	SPRING GROVE	PA	17362
JERMYN	JRMYPAJEDS0	405 MADISON AV	JERMYN	PA	18433
JERSEYSHOR	JRSHPAJSDS0	170 MT PLEASANT AV	JERSEY SHORE	PA	17740
JIM THORPE	JMTHPAJTRS1	15 E 2ND ST	JIM THORPE	PA	18229
JOHNSTOWN	JHTWPAXBDS0	2110 FRANKLIN ST	JOHNSTOWN (CAMBRIA)	PA	15905
JOHNSTOWN	JHTWPAXGDS0	204 BELMONT ST @ CLEARWATER ST	JOHNSTOWN (CAMBRIA)	PA	15904
JOHNSTOWN	JHTWPAXJDS0	421 LOCUST ST	JOHNSTOWN (CAMBRIA)	PA	15901
JOHNSTOWN	JHTWPAXNRS0	1828 WILLIAM PENN AVE	JOHNSTOWN (CAMBRIA)	PA	15909
JOHNSTOWN	JHTWPAXWDS0	GOUCHER ST & CHRISTOPHER ST	JOHNSTOWN (CAMBRIA)	PA	15905
JONESTOWN	JNTWPAXJDS0	WALNUT ST & W MARTIN AVE	JONESTOWN (LEBANON)	PA	17038
KEMBLESVL	KMVLPAKVR0	NE SIDE RTE 896	KEMBLESVILLE	PA	18347
KENNETT SQ	KNSQPAKSDS0	209 W LINDEN ST	KENNETT SQUARE	PA	19348
KINGSTON	KGTPAESDS0	WYOMNG + DIVISON ST	KINGSTON	PA	18704
KUTZTOWN	KZTNPAXZRS0	41 HERRING AVE	KUTZTOWN (BERKS)	PA	19530
LANCASTER	EPBGPAEPDS0	480 BUCH AV	EAST PETERSBURG	PA	17520
LANCASTER	LNCSPABYCM8	ONE PENN SQ	LANCASTER	PA	17602
LANCASTER	LNCSPALADS0	126 N DUKE ST	LANCASTER	PA	17602
LANCASTER	WLSTPAWRS1	WYNNWOOD DR	WILLOW STREET	PA	17584
LANDENBERG	LDNBPALBRS0	LANDENBERG RD	LANDENBERG	PA	19350
LANDISVL	LDVLPAESRS1	1630 NISSLEY RD	LANDISVILLE	PA	17538
LANSDALE	LNLDPALDDS0	100 S BROAD ST	LANSDALE	PA	19446
LATROBE	LTRBPALADS0	1400 LIGONIER ST	LATROBE	PA	15650
LEBANON	LBNNPAESDS0	30-34 S 8TH ST	LEBANON	PA	17042
LEEPER	LEPRPALERS1	STATE ST	LEEPER	PA	16233
LEHIGHTON	LHTNPALERS1	185 S FOURTH ST	LEHIGHTON	PA	18235
LENAPE	WCHSPAWCDS0	401 S HIGH ST	WEST CHESTER	PA	19380
LEWISTOWN	ALFAPAALRS1	ALFARATA DECATUR TWP	ALFARATA	PA	17044
LEWISTOWN	LWTWPALED0	200 N GRAND ST	LEWISTOWN (MIFFLIN)	PA	17044
LIGONIER	LGNRPALIRS0	400 E MAIN ST	LIGONIER	PA	15658

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RATE CENTER	SWITCH	SW STREET	SW CITY	SW STATE	SW ZIP
LINLEXNGTN	LNLXPALNDS0	201 NEW GALENA RD	LINE LEXINGTON	PA	18932
LOCK HAVEN	LCHNPAACCM1	GLEN RD	LOCK HAVEN	PA	17745
LOCK HAVEN	LCHNPAESRS2	525-601 BELLEFONTE AVE	LOCK HAVEN	PA	17745
LOGANVILLE	YORKPAXSDS0	2557 S GEORGE ST	YORK	PA	17403
MAHANOEY CY	MHCYPAMCRS1	122 W CENTER ST	MAHANOEY CITY	PA	17948
MANCHESTER	MNCHPAXMDS0	112 COOPER ST	MANCHESTER	PA	17345
MARIENVL	MRVLPAMARS1	WALNUT ST	MARIENVILLE	PA	16239
MCMURRAY	MCMRPAMCDS0	630 E MCMURRAY RD	MCMURRAY	PA	15317
MECHANCSBG	MBRGPALCM8	5040 RITTER RD	MECHANICSBURG	PA	17055
MECHANCSBG	MBRGPAMEDS0	14 N HIGH ST	MECHANICSBURG	PA	17055
MENDENHALL	MNDNPAMHRS0	279 KENNETT PIKE	MENDENHALL	PA	19357
MERCER	MRCRPAMERS0	130-132 E MARKET ST	MERCER	PA	16137
MIDDLETOWN	MDTNPAMIDS0	135 W MAIN ST	MIDDLETOWN (DAUPHIN)	PA	17067
MIDLAND	MDLDPAMIRS0	128 W MURPHY HILL RD	MIDLAND-BEAVAR	PA	15059
MILLERSVL	MVLPAMIDS0	227 HIGH SCHOOL AVE	MILLERSVILLE	PA	17551
MILLHEIM	MLHMPAMIRS1	PENN ST OF MAIN	MILLHEIM L	PA	16854
MOOSIC	MOSCPAMCDS0	215 SPRING ST	MOOSIC	PA	18507
MORRISVL	MRSLPAMVDS0	230 STOCKHAM AVE	MORRISVILLE (BUCKS)	PA	19067
MORTONVL	CTVLPACVDS0	500 CHESTNUT ST	COATESVILLE	PA	19320
MOUNTANTOP	MNTPPAMORS1	82 MAIN ST	MOUNTAIN TOP	PA	18707
MOUNTUNION	MTUNPAMURS1	17 N FRANKLIN ST	MOUNT UNION	PA	17066
MT CARMEL	MTCRPAMCRS1	30 W 2ND ST	MOUNT CARMEL	PA	17851
MT JEWETT	MTJWPAMJRS1	OBORG ST	MOUNT JEWETT	PA	16740
MT POCONO	MTPCPAMPDS1	FAIRVIEW AVE	MOUNT POCONO	PA	18344
MT POCONO	TBYHPATORS1	MILL ST NEAR MAIN ST	TOBYHANNA	PA	19466
MTPLEASANT	MTPTPAMPRS0	18 COLLEGE AV	MOUNT PLEASANT -WEST	PA	15666
MTPLEASANT	NWSTPANRSR0	PAINTERSVILLE RD	NEW STANTON	PA	15672
NANTICOKE	GLLYPAGLRS1	51 W MAIN ST	GLEN LYON	PA	18617
NANTICOKE	NNTCPANADS0	108 PROSPECT ST	NANTICOKE	PA	18634
NAZARETH	NZRTPANADS0	127 N WHITFIELD ST	NAZARETH	PA	18064
NEW CASTLE	NWCSPANCDS0	40 S MERCER ST	NEW CASTLE	PA	16103
NEWFOUNDLD	NFLDPANEDS0	RD 6302 NEAR RT 90	NEWFOUNDLAND	PA	18445
NEWKNSNGTN	NWKNPANKDS0	1080 5TH AV	NEW KENSINGTON	PA	15068
NEWTOWN	NWTWPANWDS0	369 WASHINGTON CROSSING RD	NEWTOWN (BUCKS)	PA	18940
NORTHAMPTN	NATNPANRDS0	E 18TH ST & MAIN ST	NORTHAMPTON	PA	18087
NORTHWALES	NWLSPANWDS0	216 S 3RD ST	NORTH WALES	PA	19454
OIL CITY	OLCYPAXODS0	260 SENECA ST	OIL CITY	PA	16301
OLYPHANT	OLYPPAOLDS0	420 DELAWARE ST	OLYPHANT	PA	18447
OXFORD	OXFRPAOXRS0	2ND ST & OCTORARO AVE	OXFORD	PA	19363
PALMYRA	PLMYPAPADS0	124 N LOCUST ST	PALMYRA	PA	17078
PATTON	PATNPAPARS1	LANG AV	PATTON	PA	16668
PERKASIE	PRKSPAPEDS0	431 N 5TH ST	PERKASIE	PA	18944
PHILIPSBG	PHBGPAPHRS1	110 S 4TH ST	PHILIPSBURG	PA	16866
PHLDLPHZN1	PHLAPABADS0	3429 N 17TH ST	PHILADELPHIA	PA	19140
PHLDLPHZN1	PHLAPADEDS0	2000 S BROAD ST	PHILADELPHIA	PA	19108
PHLDLPHZN1	PHLAPALODS0	1631 ARCH ST	PHILADELPHIA	PA	19103
PHLDLPHZN1	PHLAPALODS1	1631 ARCH ST	PHILADELPHIA	PA	19103
PHLDLPHZN1	PHLAPALODS2	1631 ARCH ST	PHILADELPHIA	PA	19103
PHLDLPHZN1	PHLAPAMK1WD	900 RACE ST	PHILADELPHIA	PA	19107
PHLDLPHZN1	PHLAPAMK2AD	900 RACE ST	PHILADELPHIA	PA	19107
PHLDLPHZN1	PHLAPAMKDS0	900 RACE ST	PHILADELPHIA	PA	19107
PHLDLPHZN1	PHLAPAMKDS3	900 RACE ST	PHILADELPHIA	PA	19107
PHLDLPHZN1	PHLAPAPEDS0	423 S 17TH ST	PHILADELPHIA	PA	19146
PHLDLPHZN1	PHLAPAPODS0	1601 W JEFFERSON ST	PHILADELPHIA	PA	19121
PHLDLPHZN1	PHLAPAREDS0	2514 EMERALD ST	PHILADELPHIA	PA	19125
PHLDLPHZN2	PHLAPAEVDS0	3810 CHESTNUT ST	PHILADELPHIA	PA	19108
PHLDLPHZN2	PHLAPAEWDS0	3400 ISLAND AVE	PHILADELPHIA	PA	19108
PHLDLPHZN2	PHLAPASADS0	5400 WOODLAND AVE	PHILADELPHIA	PA	19143
PHLDLPHZN2	PHLAPASHDS0	5650 CHESTNUT ST	PHILADELPHIA	PA	19139
PHLDLPHZN2	PHLAPATRDS0	5152 LANCASTER AVE	PHILADELPHIA	PA	19131
PHLDLPHZN3	PHLAPACHDS0	9318 GERMANTOWN AVE	PHILADELPHIA	PA	19118
PHLDLPHZN3	PHLAPADBDS0	4908 N BROAD ST	PHILADELPHIA	PA	19141
PHLDLPHZN3	PHLAPAGEDS0	26 W CHELTEN AVE	PHILADELPHIA	PA	19108
PHLDLPHZN3	PHLAPAVDS0	4334 TERRACE ST	PHILADELPHIA	PA	19128

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RATE CENTER	SWITCH	SW STREET	SW CITY	SW STATE	SW ZIP
PHLDLPHZN3	PHLAPAWVDS0	6468 N BROAD ST	PHILADELPHIA	PA	19126
PHLDLPHZN4	PHLAPAJE0S0	4808 LEIPER ST	PHILADELPHIA	PA	19124
PHLDLPHZN4	PHLAPAKRDS0	11016 KNIGHTS RD	PHILADELPHIA	PA	19108
PHLDLPHZN4	PHLAPAMYDS0	7180 CHARLES ST	PHILADELPHIA	PA	19135
PHLDLPHZN4	PHLAPAORDS0	2210 LOTT AVE	PHILADELPHIA	PA	19115
PHLDLPHZN4	PHLAPAPIDS0	7254 RISING SUN AVE	PHILADELPHIA	PA	19111
PHOENIXVL	PXVLPAPVDS0	118 GAY ST	PHOENIXVILLE	PA	19460
PHPHSBZN10	CHTTPACTDS0	82 BALTIMORE PIKE	CHESTER HEIGHTS	PA	19017
PHPHSBZN11	CHESPACAD50	512-518 WELSH ST	CHESTER	PA	19013
PHPHSBZN11	CHESPACBDS0	920 HARWICK ST	CHESTER	PA	19013
PHPHSBZN11	RDPKPARPDS0	400 S SELLERS AVE	RIDLEY PARK	PA	19078
PHPHSBZN12	MEDIPAMEDS0	200 W STATE ST	MEDIA	PA	19063
PHPHSBZN13	SPFPDASFDS0	480 E THOMPSON AVE	SPRINGFIELD (DELAWARE)	PA	19064
PHPHSBZN14	GLLDPAAGNDS0	28 S CHESTER PIKE	GLENOLDEN	PA	19036
PHPHSBZN14	RDPKPARPDS0	400 S SELLERS AVE	RIDLEY PARK	PA	19078
PHPHSBZN17	KRLNPAKLD50	9225 W CHESTER PIKE	KIRKLYN	PA	19082
PHPHSBZN17	LNSDPALDDS0	48-58 N LANSDOWNE AVE	LANSDOWNE	PA	19050
PHPHSBZN21	KRLNPAKLD50	9225 W CHESTER PIKE	KIRKLYN	PA	19082
PHPHSBZN22	LARCPALMDS0	31 S MEDIA LINE RD	LARCHMONT	PA	19073
PHPHSBZN23	BCYNPABCD50	321 LEVERING MILL RD	BALA-CYNWYD	PA	19004
PHPHSBZN23	PHLBPAAALCM8	1872 CALLOWHILL ST	PHILADELPHIA	PA	19103
PHPHSBZN24	ARMRPAARDS0	116 E LANCASTER AVE	ARDMORE	PA	19003
PHPHSBZN25	BRYPAMBDS0	1102 E LANCASTER AVE	BRYN MAWR	PA	19010
PHPHSBZN26	WAYNPAPWYDS0	300 W LANCASTER AVE	WAYNE	PA	19087
PHPHSBZN28	PAOLPAPADS0	125 W CIRCULAR AVE	PAOLI	PA	19301
PHPHSBZN29	KGPRPAKPS0	540 ALLENDALE RD	KING OF PRUSSIA	PA	19406
PHPHSBZN29	TRPRPATRDS0	50 BRIMFIELD RD	TROOPER	PA	19401
PHPHSBZN30	KGPRPAKPS0	540 ALLENDALE RD	KING OF PRUSSIA	PA	19406
PHPHSBZN30	NRTWPANRDS0	400 DEKALB ST	NORRISTOWN	PA	19401
PHPHSBZN30	TRPRPATRDS0	50 BRIMFIELD RD	TROOPER	PA	19401
PHPHSBZN31	CNSHPACNDS0	181 NORTH LN	CONSHOHOCKEN	PA	19428
PHPHSBZN32	PHLAPACHDS0	8318 GERMANTOWN AVE	PHILADELPHIA	PA	19118
PHPHSBZN33	AMBLPAAAMDS0	20 N SPRING GARDEN ST	AMBLER	PA	19002
PHPHSBZN34	JENKPAJKDS0	100 GREENWOOD AVE	JENKINTOWN	PA	19046
PHPHSBZN34	PHLAPAPIDS0	7254 RISING SUN AVE	PHILADELPHIA	PA	19111
PHPHSBZN34	PHLAPAWVDS0	6468 N BROAD ST	PHILADELPHIA	PA	19126
PHPHSBZN37	BTHYPABHDS0	2400 MURRAY AVE	BETHAYRES	PA	19006
PHPHSBZN38	WLGRPAWGD50	229 OLD YORK RD	WILLOW GROVE	PA	19090
PHPHSBZN39	HTBOPAHBDS0	29 E MORELAND AVE	HATBORO	PA	19040
PHPHSBZN40	CHVLPACHDS0	1518 BUSTLETON PIKE	CHURCHVILLE	PA	18966
PHPHSBZN41	EDTNPAAEDDS0	2920 FORREST AVE	EDDINGTON	PA	19020
PHPHSBZN42	BRSTPABRDS0	220 POND ST	BRISTOL	PA	19007
PHPHSBZN43	LANGPALADS0	149 N BELLEVUE AVE	LANGHORNE	PA	19048
PHPHSBZN44	TULYPATUDS0	7843 NEW FALLS RD	TULLYTOWN	PA	19007
PHPHSBZN45	WGTNPAPWRDS0	1412 STUCKERT RD	WARRINGTON	PA	18976
PITTSTON	PTTNPAPIDS0	10 CHARLES ST	PITTSTON	PA	18640
PLUMSTEDVL	PSVLPAPVRS1	SE SIDE OF STUMP RD	PLUMSTEADVILLE	PA	18949
PLYMOUTH	PLMOPAPLRS1	37-39 WILLOW ST	PLYMOUTH	PA	18651
POTTSTOWN	PTTWPAPTDS0	235 KING ST	POTTSTOWN	PA	19464
POTTSVILLE	PTTVPAHDS0	300-318 W NORWEGIAN	POTTSVILLE	PA	17901
PTGSBNZN10	ELZTPAETDS0	2432 GRENOCK-BUEN VI	ELIZABETH TWP-ALLEG	PA	15135
PTGSBNZN10	MCPTPAMKDS0	520 6TH AV	MCKEESPORT	PA	15132
PTGSBNZN10	WMFLPAWMD50	2607 SKYLINE DR	WEST MIFFLIN	PA	15122
PTGSBNZN12	BTPKPABPDS0	5112 W LIBRARY RD	BETHEL PARK	PA	15102
PTGSBNZN13	BGVLPABRDS0	408 WASHINGTON AV	BRIDGEVILLE	PA	15017
PTGSBNZN14	CARNPACADS0	201 E MAIN ST	CARNEGIE	PA	15106
PTGSBNZN14	RBTTPARTDS0	RT 60 CABELLS RD	ROBINSON TWP -ALLEGH	PA	15136
PTGSBNZN15	CRPLPACODS0	410 BROADWAY	CORAOPOLIS	PA	15108
PTGSBNZN15	GPIAPAMARS0	LANDSIDE BLDG	PITTSBURGH	PA	15231
PTGSBNZN15	GPIAPAMTRS0	PGH INT. L AIRPORT	MIDFIELD TERM	PA	15231
PTGSBNZN15	RBTTPARTDS0	RT 60 CABELLS RD	ROBINSON TWP -ALLEGH	PA	15136
PTGSBNZN16	SWKYPASERS1	621 BEAVER ST	SEWICKLEY	PA	15143
PTGSBNZN17	PYVLPAPEDS0	1104 PERRY HWY	PERRYSVILLE -ALLEGHE	PA	15237
PTGSBNZN20	OKMTPAOADS0	360 DELAWARE AV	OAKMONT -ALLEGHENY-	PA	15139

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RATE CENTER	SWITCH	SW STREET	SW CITY	SW STATE	SW ZIP
PTGSBNZN21	PEHLPAPHDS0	5970 SALTSBURG RD	PENN HILLS	PA	15235
PTGSBNZN22	MOVLPAMODS0	4206 NORTHERN PIKE	MONROEVILLE	PA	15146
PTGSBNZN22	TRCKPATCDS0	801 PENN AV	TURTLE CREEK	PA	15145
PTGSBNZN23	IRWNPARDSD0	616 OAK ST	IRWIN	PA	15642
PTTSBGZON1	PITBPAALDS0	719 WARRINGTON	PITTSBURGH	PA	15210
PTTSBGZON1	PITBPADT333	416 7TH AV	PITTSBURGH	PA	15219
PTTSBGZON1	PITBPADTDS0	416 7TH AV	PITTSBURGH	PA	15219
PTTSBGZON1	PITBPADTDS1	416 7TH AV	PITTSBURGH	PA	15219
PTTSBGZON1	PITBPADTDS2	416 7TH AV	PITTSBURGH	PA	15219
PTTSBGZON1	PITBPADTDS6	416 7TH AV	PITTSBURGH	PA	15219
PTTSBGZON1	PITBPANSDS0	15 E MONTGOMERY AV	PITTSBURGH	PA	15212
PTTSBGZON1	PITBPAOKDS0	530 N NEVILLE ST	PITTSBURGH	PA	15213
PTTSBGZON1	PITBPAOKDS1	530 N NEVILLE ST	PITTSBURGH	PA	15213
PTTSBGZON1	PITBPAOWCM7	1485 CRANE AVE	PITTSBURGH	PA	15216
PTTSBGZON1	PITBPASQDS0	5741 POCUSSET	PITTSBURGH	PA	15217
PTTSBGZON2	BLLVPABEDSC	22 S BALPH AV	BELLEVUE	PA	15202
PTTSBGZON2	WSVWPAWERS0	44 CENTER AV	WEST VIEW	PA	15229
PTTSBGZON3	GLNSPAGLDS0	1003 CHARLES ST	GLENSHAW	PA	15116
PTTSBGZON3	MLVAPAMIRS0	KLOPFER ST-EVERGREEN	MILLVALE	PA	15209
PTTSBGZON3	SHSAPASHDS0	1346 MAIN ST	SHARPSBURG-ALLEGH.	PA	15215
PTTSBGZON4	BRDOPABRDS0	515 4TH AV	BRADDOCK-ALLEGHENY	PA	15104
PTTSBGZON4	WKBGPAWKDS0	1026 HAY ST 15221	WILKINSBURG	PA	15221
PTTSBGZON5	HMSTPAHDS0	303 E 9TH AV	HOMESTEAD	PA	15120
PTTSBGZON6	DRMTPAODSD0	3151 PIONEER AV	DORMONT	PA	15225
PTTSBGZON6	PITBPACADS0	2256 BROWNSVILLE RD	PITTSBURGH	PA	15210
PTTSBGZON6	PLHSPAPBDS0	128 TELSTAR DR	PLEASANT HILLS -ALLE	PA	15236
PTTSBGZON7	CARNPACADS0	201 E MAIN ST	CARNEGIE	PA	15106
PTTSBGZON7	CRAFPACRDS0	11 SIDNEY-UNION ST	CRAFTON	PA	15205
PTTSBGZON7	MCRKPAMRDS0	745 CHARTIERS AV	MCKEES ROCKS	PA	15136
PTTSBGZON8	PITBPAELDS0	223 N HIGHLAND AVE	PITTSBURGH	PA	15206
PUGHTOWN	PGTWPAPTRS0	807 PUGHTOWN RD	SPRING CITY	PA	19475
PUNXSUTWNY	PUNXPAPURS1	103-105 W UNION AV	PUNXSUTAWNEY	PA	15767
QUAKERTOWN	QKTWPAOTDS0	428 JUNIPER ST	QUAKERTOWN	PA	18951
READING	LRDLPALBDS0	828 BELLEVUE AVE	LAURELDALE	PA	19605
READING	RDNGPAREDS0	401-409 WASHINGTON ST	READING	PA	19601
READING	SHLNPAHDS0	216 W WALNUT ST	SHILLINGTON	PA	19607
READING	SLWBPAALDS0	3004 OLEY TURNPIKE RD	SAINT LAWRENCE (BERKS)	PA	19606
READING	SNSPPASSDS0	571 PENN AVE	SINKING SPRING	PA	19608
RED LION	RDLNPAXRDS0	839 W BROADWAY	RED LION (YORK)	PA	17356
RENOVO	RENVPARERS1	133 SIXTH ST	RENOVO	PA	17764
REW	REWPARERS1	DAVIS RD	REW	PA	16744
REYNOLDSVL	RYVLPARERS1	JACKSON ST	REYNOLDSVILLE	PA	15851
RIEGELSVL	RGVLPARIRS0	CHURCH RD & DELAWARE RD	RIEGELSVILLE	PA	18077
ROCHESTER	MDLDPAMIRS0	128 W MURPHY HILL RD	MIDLAND-BEAVER	PA	15059
ROCHESTER	ROCHPARCDS0	128 W MADISON AV	ROCHESTER	PA	15074
ROULETTE	RLTTPARORS1	MAIN & OLEASANT ST	ROULETTE	PA	16746
ROYERSFORD	PRFDPAPFRS0	1621 OLD SCHUYLKILL RD	PARKER FORD	PA	19457
ROYERSFORD	RYFRPARFRS0	34 2ND AVE	ROYERSFORD	PA	19468
SAXTON	SXTNPASARS1	ALLEY W OF 8TH ST	SAXTON	PA	16678
SCHUYLKHVN	SCHNPASCRS1	411 E UNION ST	SCHUYLKILL HAVEN	PA	17972
SCHWENKSVL	SCHWPASVRS0	393 MAIN ST REAR	SCHWENKSVILLE	PA	19473
SCRANTON	SCTNPASCDS1	121 ADAMS AV	SCRANTON	PA	18510
SHAMOKIN	SHMKPASHDS0	107 W ARCH ST	SHAMOKIN	PA	17872
SHARON	SHRNPASHDS0	29 S DOCK ST	SHARON	PA	16146
SHENANDOAH	SHNOPASHRS1	221 S JARDIN ST	SHENANDOAH	PA	17976
SLATINGTON	SLTTPAESRS0	221 2ND ST	SLATINGTON	PA	18080
SMETHPORT	SMPTPASMRS1	202 N STATE ST	SMETHPORT	PA	16749
SNOW SHOE	SWSHPASSRS1	4TH ST NEAR OLIVE	SNOW SHOE	PA	16674
SOMERSET	SMRTPAXSDS0	145 W CHURCH ST	SOMERSET	PA	15501
SODERTON	SDTNPASDDS0	18-22 W DIAMOND ST	SODERTON	PA	18964
SPRING GRV	SPGVPAASDS0	26 YORK AVE	SPRING GROVE	PA	17362
SPRING ML	SPMLPASMRS1	RTE 45	SPRING MILLS	PA	16875
SPRINGTOWN	SPTWPASPRS0	RTE 412 & TWP RD 404	SPRINGTOWN (BUCKS)	PA	18081
STATECOLLG	STCGPAESDS0	250 S ALLEN ST	STATE COLLEGE	PA	16801

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ROUTE/CENTER	SWITCH	SW STREET	SW CITY	SW STATE	SW ZIP
STEWARTSTN	SWTWPAXRS0	68 N MAIN ST	STEWARTSTOWN	PA	17363
STRASBURG	STBGPASRS1	GAP & FAIRVIEW RD	STRASBURG	PA	17579
STROUDSBG	MRCKPAMCRS1	W SIDE RT 402	MARSHALLS CREEK	PA	18335
STROUDSBG	SRBGPASTDS0	20 S 7TH ST	STROUDSBURG	PA	18360
STROUDSBG	TNVLPATADS0	RTE611 + T537	TANNERSVILLE	PA	19372
SUNBURY	SNBYPASUDS0	240 WOODLAWN AV	SUNBURY	PA	17801
TAMAQUA	TAMQPATARS1	1 W BROAD ST	TAMAQUA	PA	18252
TARENTUM	TRNTPATADS0	468-470 E 7TH AV	TARENTUM	PA	15084
TAYLOR	TAYLPATARS1	239 S MAIN ST	TAYLOR	PA	18518
TIONESTA	TNSTPATIRS1	HIGHLAND ST	TIONESTA	PA	16353
TYRONE	TYRNPATYRS1	900 S LINCOLN AV	TYRONE	PA	16686
ULYSSES	ULYSPALRS1	MAIN ST W SIDE	ULYSSES	PA	16945
UNIONTOWN	UNTNPAUNDS0	23-29 W CHURCH ST	UNIONTOWN-FAYETTE	PA	15401
UNIONVILLE	KNSQPAKSDS0	209 W LINDEN ST	KENNETT SQUARE	PA	19348
UPBLCKEDDY	RGVLPARIRS0	CHURCH RD & DELAWARE RD	RIEGELSVILLE	PA	18077
VANDERGRFT	VNDGPAXMDS0	135 WASHINGTON AVE	VANDERGRIFT	PA	15690
VANDERGRFT	VNDGPAXRS0	STHWY 356 & MUNSON CORNER	VANDERGRIFT	PA	15613
W CHESTER	WCHSPAWCDS0	401 S HIGH ST	WEST CHESTER	PA	19380
WARREN	WRRNPAWADS0	5 EAST ST	WARREN	PA	16365
WASHINGTON	WASHPAWADS0	41 E BEAU ST	WASHINGTON	PA	15301
WEST GROVE	WGRVPAWGRS0	153 ROSEHILL AVE	WEST GROVE	PA	19390
WESTTOWN	WCHSPAWCDS0	401 S HIGH ST	WEST CHESTER	PA	19380
WHITEHAVEN	ABVLPASRS1	-ESS KIDDER TWP	ALBRIGHTSVILLE	PA	18210
WHITEHAVEN	WHHNPAXHRS1	R 308-10 BERWICK ST	WHITE HAVEN	PA	18861
WILKSBARRE	BRCKPAESDS0	BEAUPLAND + COVE RD	BEAR CREEK	PA	18602
WILKSBARRE	WLBRPARPCM8	136 S MAIN ST	WILKES-BARRE	PA	18701
WILKSBARRE	WLBRPAWBDOS0	222 S MAIN ST	WILKES-BARRE	PA	18701
WILLIAMSPT	HPVLPACHERS1	LYCOMNG CR +N BEAUTY	HEPBURNVILLE	PA	17728
WILLIAMSPT	MUVLPASRS1	CRAWFORD-UPDEGRAFA	MONTOURSVILLE	PA	17754
WILLIAMSPT	WLPTPAWIDS0	404 W 4TH ST	WILLIAMSPORT	PA	17701
WINBURNE	WNBPAWIRS1	RTE T711	WINBURNE	PA	16879
WMIDDLESEX	WMDLPAWMRS0	404 W MAIN ST	WEST MIDDLESEX	PA	16159
WRIGHTSVL	WGVLPAXWDS0	208 N 4TH ST	WRIGHTSVILLE (YORK)	PA	17368
WYOMING	WYNGPAWYRS1	37 W 8TH ST	WYOMING	PA	18644
YARDLEY	YRDLPAYLDS0	8 BREECE DR	YARDLEY	PA	19067
YORK	YORKPAXEDS0	3025 E MARKET ST	YORK	PA	17402
YORK	YORKPAXERL0	3027 E MARKET ST	YORK	PA	17402
YORK	YORKPAXMDS0	31 S BEAVER ST	YORK	PA	17401
YORK	YORKPAXMDS1	31 S BEAVER ST	YORK	PA	17401
YORK	YORKPAXNDS0	1470 ROOSEVELT AVE	YORK	PA	17404
YORK	YORKPAXNRL0	1470 ROOSEVELT AVE	YORK	PA	17404
YORK	YORKPAXSDS0	2557 S GEORGE ST	YORK	PA	17403
YORK	YORKPAXWDS0	3820 W MARKET ST	YORK	PA	17404
ZELIENOPLE	ZLNPPAZERS0	234 S CLAY ST	ZELIENOPLE	PA	16063

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PA On-Switch Lines by LSO
ALL PA

LSO	Total
ADBNPA01CM0	11
ALNAPAALDS1	2,463
ALTWPAEDS0	430
ALTWPAALDS0	1,983
ALTWPAHSDS0	45
ALTWPAAMTDS0	412
AMBLPAAMDS0	593
AMBRPAAMRS0	11
ARMRPAARDS0	2,086
AVDLPAAVRS0	20
BATHPABTRS0	49
BCYNPABCDS0	460
BDFRPAXB2MD	22
BDFRPAXBDS0	82
BGVLPABRDS0	97
BHLHPABEDS0	1,468
BLLFPABEDS0	312
BLLVPABEDS0	39
BLVIPABLRS0	193
BLVNPABVDS0	58
BLWDPABERS1	81
BMBGPABLDS0	1,030
BMNSPABMRS0	22
BOALPABORS1	13
BRDDPABRDS0	83
BRFRPABRDS0	33
BRSTPABRDS0	491
BRYMPABMDS0	81
BTHYPABHDS0	44
BTLRPAXBDS0	121
BTLRPAXBSMD	1
BTPKPABPDS0	101
BVFLPABFDS0	346

PA On-Switch Lines by LSO
PTR & TelCove Separated

Owner	LSO	Total
PTR	ADBNPA01CM0	11
PTR	ALTWPAEDS0	430
PTR	ALTWPAALDS0	1,015
PTR	ALTWPAHSDS0	33
PTR	ALTWPAAMTDS0	255
PTR	AMBLPAAMDS0	589
PTR	ARMRPAARDS0	2,086
PTR	BATHPABTRS0	49
PTR	BCYNPABCDS0	460
PTR	BHLHPABEDS0	1,241
PTR	BMNSPABMRS0	22
PTR	BRSTPABRDS0	292
PTR	BRYMPABMDS0	81
PTR	BTHYPABHDS0	44
PTR	CGVLPACLDS0	11
PTR	CHESPACADS0	447
PTR	CHESPACBDS0	304
PTR	CHTTPACTDS0	115
PTR	CHVLPACHDS0	452
PTR	CNPNPACERS0	1
PTR	CNSHPACNDS0	461
PTR	CPHLPACHDS0	22
PTR	CRLSPAXCDS0	6
PTR	CTSQPACTDS0	134
PTR	CTLVPACVDS0	98
PTR	DLBGPAXDDS0	100
PTR	DOVRPAXDDS0	41
PTR	DWTWPADTDS0	101
PTR	DYTWPAOBDSD0	132
PTR	EAGLPAEGDS0	6
PTR	EDTNPAEDDS0	547
PTR	EMMSPAXEDS1	143
PTR	ESTNPAEADS0	432

BWVLPABRRS1	8	PTR	EXTNPAEXDS0	305
CARNPACADS0	504	PTR	FTWSPAFWDS0	6,312
CDPTPACORS1	62	PTR	GLLDPAGNDS0	320
CGVLPACLDS0	98	PTR	GLNMPAGLRS0	48
CHBGPAXCDS0	133	PTR	GLRKPAXGDS0	321
CHESPACADS0	886	PTR	GTBGPAXGDS0	25
CHESPACBDS0	304	PTR	HLTWPACHERS0	65
CHTTPACTDS0	189	PTR	HNVRPAXHDS0	410
CHVLPACHDS0	518	PTR	HRBGPAGUDS0	5
CLARPACLDS0	174	PTR	HRBGPAAHADS0	10
CLFDPACLDS0	384	PTR	HTBOPAHBDS0	243
CLFRPACARS0	2	PTR	JENKPAJKDS0	1,204
CNBGPACADS0	291	PTR	KGPRPADODS0	1
CNPNPACERS0	57	PTR	KGPRPAKPS0	161
CNQNPAXCRS0	19	PTR	KHVLPKUDS0	661
CNSHIPACNDS0	971	PTR	KNSQPAKSDS0	81
CPHLPACHDS0	1,832	PTR	KRLNPAKLS0	193
CRAFPACRDS0	220	PTR	KZTNPAKZRS0	19
CRDLPACADS0	129	PTR	LANGPALADS0	306
CRLSPAXC5MD	4	PTR	LARCPALMDS0	716
CRLSPAXCDS0	508	PTR	LNDLPALODS0	664
CRLSPAXCX0X	5	PTR	LNLXPALNDS0	4
CRPLPACODS0	68	PTR	LNSDPALDDS0	761
CRRYPAXCDS0	15	PTR	LRDLPALBDS0	11
CRSNPACRRS1	66	PTR	MEDIPAMEDS0	620
CTHLPACHRS1	17	PTR	MNCHPAXMDS0	7
CTSQPACTDS0	142	PTR	MRSLPAMVDS0	19
CTVLPACVDS0	360	PTR	NATNPANRDS0	104
DAVLPADADS0	108	PTR	NRTWPANRDS0	469
DLBGPAXDDS0	100	PTR	NWHPPANHRS0	22
DNRAPADORS0	99	PTR	NWLSPANWDS0	186
DOVRPAXDDS0	41	PTR	NWRKDEWWDS0	1
DRMTPADODS0	18	PTR	NWSMPAXNRS0	21
DURSPADUDS0	45	PTR	NWTWPANWDS0	17
DWTWPADTDS0	101	PTR	NZRTPANADS0	135
DYTWPADBDS0	152	PTR	PAOLPAPADS0	477
EAGLPAEGDS0	6	PTR	PGTWPAPTRS0	40
EBNSPAEBRS1	357	PTR	PHLAPA03DS0	48

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HSDLPAHODS0	292
HTBOPAHBDS0	380
HTDLP AHZRS1	41
HWLYPAHWDS0	321
HZTNPAHZDS0	1,245
INDIPAINDS0	1,047
IRWNPAIRDS0	1
JENKPAJKDS0	1,204
JHTWPABLCM1	44
JHTWPAXGDS0	12
JHTWPAXJDS0	347
JHTWPAXWDS0	102
JMTHPAJTRS1	30
JNNTPAJERS1	1
JNTWPAXJDS0	178
JRSHPAJSDS0	12
KGPRPADODS0	1
KGPRPAKPDS0	802
KGTPAESDS0	48
KHVLP AKUDS0	701
KNSQPAKSDS0	81
KRLNPAKLDS0	193
KZTNPAKZRS0	176
LANGPALADS0	306
LARCPALMDS0	739
LBNNPAESDS0	125
LCHNPAESRS2	86
LDVLP AESRS1	19
LG NR PALIRS0	4
LHTNPALERS1	565
LNCSPALADS0	1,669
LN DL PALDDS0	664
LN LX PALNDS0	4
LNSDPALDDS0	776
LRDLPALBDS0	12
LWPXPAACDS0	16
LWPXPAACDSE	6
LWTWPALEDS0	108

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PTR	RONGPAREDS0	702
PTR	RDPKPARPDS0	161
PTR	RYFRPARFRS0	54
PTR	SDTNPASDDS0	27
PTR	SLWBPASLDS0	6
PTR	SNSPPASSDS0	3
PTR	SPFDPASFDS0	727
PTR	STCGPADNDS0	2
PTR	SWTWPAXSRSD0	8
PTR	TRPRPATRDS0	177
PTR	TULYPATUDS0	460
PTR	WAYNPAWYDS0	248
PTR	WCHSPAWCDS0	455
PTR	WGRVPAWGRS0	102
PTR	WGTPAWRDS0	86
PTR	WGVLPAWDS0	98
PTR	WLGRPAWGDS0	460
PTR	WNRTPAAHCM4	14
PTR	YORKPAHUDS0	3,806
PTR	YORKPAXEDS0	74
PTR	YORKPAXERL0	4
PTR	YORKPAXMDS0	960
PTR	YORKPAXMDS1	24
PTR	YORKPAXNDS0	300
PTR	YORKPAXSDS0	51
PTR	YORKPAXWDS0	93
PTR	YRDLPAYLDS0	16
PTR Total		51,190
TelCove	ALNAPAALDS1	2,463
TelCove	ALTWPAALDS0	920
TelCove	ALTWPAHSDS0	12
TelCove	ALTWPAMTDS0	157
TelCove	AMBLPAAMDS0	4
TelCove	AMBRPAAMRS0	11
TelCove	AVDLPAAVRS0	20
TelCove	BDFRPAXB2MD	22

LYSVPAXLRP0	58	TelCove	BDFRPAXBDS0	82
MBRGPAMEDS0	513	TelCove	BGVLPABRDS0	97
MCBGPAXMRS1	24	TelCove	BHLHPABEDS0	227
MCMRPAMCDS0	62	TelCove	BLLFPABEDS0	312
MCPTPAMKDS0	266	TelCove	BLLVPABEDS0	39
MCRKPAMRDS0	19	TelCove	BLVIPABLR0	193
MDTNPAMIDS0	175	TelCove	BLVNPABVDS0	58
MEDIPAMEDS0	682	TelCove	BLWDPABERS1	81
MFTWPAXMDS0	24	TelCove	BMBGPABLDS0	1,030
MHCYPAMCRS1	53	TelCove	BOALPABORS1	13
MHSPPAXMRS1	16	TelCove	BRDDPABRDS0	83
MIVLPAMIDS0	144	TelCove	BRFRPABRDS0	33
MNCHPAXMDS0	7	TelCove	BRSTPABRDS0	199
MNTPPAMORS1	33	TelCove	BTLRPAXBDS0	121
MONSPAMORS0	8	TelCove	BTLRPAXBSMD	1
MOSCPAMCDS0	188	TelCove	BTPKPABPDS0	101
MOVLPAMODS0	140	TelCove	BVFLPABFDS0	346
MRCRPAMERS0	134	TelCove	BWVLPABRRS1	8
MRLPAMVDS0	19	TelCove	CARNPACADS0	504
MTJWPAMJRS1	7	TelCove	CDPTPACORS1	62
MTPCPAMPDS1	63	TelCove	CGVLPACLDS0	87
MTPTPAMPRS0	20	TelCove	CHBGPAXCDS0	133
MTUNPAMURS1	8	TelCove	CHESPACADS0	439
MUVLPAESRS1	127	TelCove	CHTTPACTDS0	74
MYVIPAXMRS1	49	TelCove	CHVLPACHDS0	66
NATNPANRDS0	104	TelCove	CLARPACLDS0	174
NBFDPAENRP0	11	TelCove	CLFDPACLDS0	384
NCLDPANCDS0	127	TelCove	CLFRPACARS0	2
NNTCPANADS0	134	TelCove	CNBGPACADS0	291
NRTEPAXNDS0	33	TelCove	CNPNPACERS0	56
NRTWPANRDS0	1,060	TelCove	CNQNPAXCRS0	19
NWCSPANCDS0	498	TelCove	CNSHPACNDS0	510
NWHPPANHRS0	22	TelCove	CPHLPACHDS0	1,810
NWKNPANKDS0	123	TelCove	CRAFPACRDS0	220
NWLSPANWDS0	186	TelCove	CRDLPACADS0	129
NWPTPAXNRP0	19	TelCove	CRLSPAXC5MD	4
NWRKDFEWDS0	1	TelCove	CRLSPAXCDS0	502
NWSMPAXNRS0	21	TelCove	CRLSPAXCX0X	5

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NWSTPANSRS0	113	TelCove	CRPLPACODS0	68
NWTWPANWDS0	17	TelCove	CRRYPACDS0	15
NZRTPANADS0	157	TelCove	CRSNPACRRS1	66
OKMTPAOADS0	266	TelCove	CTHLPACHRS1	17
OLCYPAXODS0	89	TelCove	CTSQPACTDS0	8
OLYPPAOLDS0	20	TelCove	CTVLPACVDS0	262
PAOL.PAPADS0	508	TelCove	DAVLPADADS0	108
PGTWPAPTRS0	40	TelCove	DNRAPADORS0	99
PHBGPAPHRS1	88	TelCove	DRMTPADODS0	18
PHLAPA03DS0	48	TelCove	DUBSPADUDS0	45
PHLAPA45DS0	10,155	TelCove	DYTWPADBDS0	20
PHLAPAAZDS2	502	TelCove	EBNSPAEBRS1	357
PHLAPABADS0	79	TelCove	EDTNPAEDDS0	9
PHLAPACHDS0	87	TelCove	ELCYPAECRS0	50
PHLAPAD8DS0	69	TelCove	ENOLPAENDS0	59
PHLAPADEDS0	222	TelCove	EPBGPAEPDS0	10
PHLAPADKDS0	35	TelCove	ERIEPANKH02	474
PHLAPAEVDS0	262	TelCove	ERIEPAXEDS0	464
PHLAPAEWDS0	503	TelCove	ERIEPAXMDS0	1,188
PHLAPAFGDSG	29	TelCove	ERIEPAXSDS0	200
PHLAPAGEDS0	296	TelCove	ERIEPAXTDS0	27
PHLAPAIVDS0	121	TelCove	ERIEPAXWDS0	579
PHLAPAJEDS0	35	TelCove	ESTNPAEADS0	175
PHLAPAKRDS0	254	TelCove	EXTNPAEXDS0	75
PHLAPALODS0	1,107	TelCove	FAVLPAFRRS1	103
PHLAPALODS1	748	TelCove	FCVLPAFRRS1	26
PHLAPALODS2	198	TelCove	FGTPPA01DS0	28
PHLAPAMKDS0	5,596	TelCove	FKLNPAXFDS0	200
PHLAPAMKDS3	526	TelCove	FLWDP AFLRS0	12
PHLAPAMYDS0	261	TelCove	FRERPAXFRS0	14
PHLAPAORDS0	979	TelCove	FTWSPAFWDS0	101
PHLAPAPIDS0	135	TelCove	FYVLPAXFRS1	17
PHLAPAPODS0	115	TelCove	GLLDPAGNDS0	195
PHLAPAREDS0	67	TelCove	GNBGPAGRDS0	684
PHLAPASADS0	185	TelCove	GRRDPAXGDS0	12
PHLAPASHDS0	75	TelCove	GTBGPAXGDS0	49
PHLAPASLBMD	1	TelCove	HLBGP AHODS0	895
PHLAPATRDS0	159	TelCove	HLFXPAHXRS1	10

PHLAPAWVDS0	167	TelCove	HMBGPAHBR00	58
PITBPAALDS0	144	TelCove	HMSTPAHODS0	59
PITBPACADS0	9	TelCove	HNTGPAHUDS0	377
PITBPADGDS3	7	TelCove	HRBGPAGUDS0	13,353
PITBPADGDS6	1	TelCove	HRBGPAHADS0	35,161
PITBPADTDS0	2,304	TelCove	HRBGPAHAXFY	2
PITBPAOTDS1	138	TelCove	HRSHPAXHDS1	4,725
PITBPAOTDS2	164	TelCove	HSDLPAHODS0	292
PITBPAOTDS6	207	TelCove	HTBOPAHBDS0	137
PITBPAELDS0	33	TelCove	HTDLPAHZRS1	41
PITBPAMADS1	16	TelCove	HWLYPAHWDS0	321
PITBPAMADS2	1	TelCove	HZTNPAHZDS0	1,245
PITBPANSDS0	516	TelCove	INDIPAINDS0	1,047
PITBPAOKDS1	1,248	TelCove	IRWNPAIRDS0	1
PITDPANGDS0	3,953	TelCove	JHTWPABLCM1	44
PITFPA01DS0	2	TelCove	JHTWPAXGDS0	12
PIVLPAPVRS0	20	TelCove	JHTWPAXJDS0	347
PLMOPAPLRS1	24	TelCove	JHTWPAXWDS0	102
PLNSPAARDS0	6	TelCove	JMTHPAJTRS1	30
PLSGPAPGRS1	33	TelCove	JNNTPAJERS1	1
PRFDPAPFRS0	18	TelCove	JNTWPAXJDS0	178
PRKSPAPEDS0	82	TelCove	JRSHPAJSDS0	12
PSVLPAPVRS1	21	TelCove	KGPRPAKPDS0	641
PTTNPAARDS0	2,581	TelCove	KGTNPAESDS0	48
PTTNPAPIDS0	85	TelCove	KHVLPKUDS0	40
PTTVPAPODS0	308	TelCove	KZTNPAKZRS0	157
PTTWPAPTDS0	42	TelCove	LARCPALMDS0	23
PUNXPAPURS1	142	TelCove	LBNNPAESDS0	125
PXTGPALRCM1	18	TelCove	LCHNPAESRS2	86
PXTGPAPGDS0	393	TelCove	LDVLPAESRS1	19
PXTNPAPADS0	1,378	TelCove	LGNRPALIRS0	4
PXVLPAPVDS0	431	TelCove	LHTNPALERS1	565
PYVLPAPEDS0	18	TelCove	LNCSPALADS0	1,670
QKTWPAQTDS0	408	TelCove	LNSDPALDDS0	15
RBTPPARTDS0	125	TelCove	LRDLPALBDS0	1
RDLNPAXRDS0	73	TelCove	LWPXPAACDS0	16
RDNGPAREDS0	1,182	TelCove	LWPXPAACDSE	6
RDPKPARPDS0	161	TelCove	LWTWPALEDS0	108

REW PARERS1	17	TelCove	LYSVPAXLRP0	58
RGVLPARIRS0	8	TelCove	MBRGPAMEDS0	526
ROCHPARCDS0	444	TelCove	MCBGPAXMRS1	24
RYFRPARFRS0	120	TelCove	MCMRPAMCDS0	62
SCBGPAXSRS1	26	TelCove	MCPTPAMKDS0	266
SCHNPASCERS1	50	TelCove	MCRKPAMRDS0	19
SCTNPASCDS1	1,605	TelCove	MDTNPAMIDS0	175
SCTNPAXARS0	2	TelCove	MEDIPAMEDS0	62
SDTNPASDDS0	27	TelCove	MFTWPAXMDS0	24
SHIPPAHCM1	2	TelCove	MHCYPAMCRS1	53
SHIPPAXSDS0	8	TelCove	MHSPAXMRS1	16
SHMKPASHDS0	87	TelCove	MIVLPAMIDS0	144
SHRNPASHDS0	260	TelCove	MNTPPAMORS1	33
SHSAPASHDS0	79	TelCove	MONSPAMORS0	8
SLGVPAXSDS0	142	TelCove	MOSCPAMCDS0	188
SLTNPASTDS0	1,387	TelCove	MOVLPAMODS0	140
SLWBPASLDS0	6	TelCove	MRCRPAMERS0	134
SMRTPAACCM1	11	TelCove	MTJWPAMJRS1	7
SMRTPAXSDS0	58	TelCove	MTPCPAMPDS1	63
SNBYPASUDS0	282	TelCove	MTPTPAMPRS0	20
SNSPPASSDS0	29	TelCove	MTUNPAMURS1	8
SPFDPASFDS0	727	TelCove	MUVLPAESRS1	127
SRBGPASTDS0	1,543	TelCove	MYVIPAXMRS1	49
STCGPADNDS0	5,923	TelCove	NBFDPAENRP0	11
STCGPAESDS0	857	TelCove	NCLDPANCDS0	127
STSTPASSRS1	8	TelCove	NNTCPANADS0	134
SWTWPAXSRS0	8	TelCove	NRTEPAXNDS0	33
TAMQPATARS1	8	TelCove	NRTWPANRDS0	591
TAYLPATARS1	672	TelCove	NWCSPANCDS0	498
TNSTPATIRS1	31	TelCove	NWKNPANKDS0	123
TNVLPATADS0	40	TelCove	NWPTPAXNRP0	19
TRCKPATCDS0	40	TelCove	NWSTPANSRS0	113
TRPRPATRDS0	183	TelCove	NZRTPANADS0	22
TULYPATUDS0	473	TelCove	OKMTPAOADS0	266
TYRNPATYRS1	267	TelCove	OLCYPAXODS0	89
UNTNPAUNDS0	812	TelCove	OLYPPAOLDS0	20
WASHPAWADS0	418	TelCove	PAOLPAPADS0	31
WAYNPAWYDS0	248	TelCove	PHBGPAPHR1	88

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City	CLL	ILEC	Model Type	Dsl Quantity	Dsl Quantity	bso's	OC fiber	Address
ALLENTOWN	ALTWPAL	VERIZON	FLM2400, 2xFLM150	140	52			723 LINDEN ST ALLENTOWN, PA 18101
ALLENTOWN	BHLHPABE	VERIZON	FLM150, FLM600	168	24			525 N. NEW ST. Bethlehem Pa 18018
ALLENTOWN	CTSQPACT	VERIZON	FLM150, FLM500	168	24			321-331 2ND ST. CATASAUQUA, PA 18037
ALLENTOWN	EMVSPAXE	VERIZON GTE	FLM2000	84	8			409 South Railroad St, Emaus, PA 18049
ALLENTOWN	KHVLPAKU	VERIZON	FLM150, FLM500	168	24			5739 MEMORIAL RD. KUHNSVILLE, PA 18031
ALLENTOWN	RDNQPARF	VERIZON	FLM150	84				419 Washington St, Reading, PA 19846
COUDERSPORT	COPTPACO	VERIZON	FLM150, FLM600	84	16			309 NORTH MAIN STREET COUDERSPORT, PA 16915
LERIE	FRIEPAXE	VERIZON45TB	FLM300	84	12			3817 BUFFALO RD. ERIE, PA 16510
ERIE	FRIEPAXW07	VERIZON GTE	FLM150, FLM2400	84	48			70 E. 10TH ST. ERIE, PA 16515
ERIE	ERIEPAXS	VERIZON GTE	FLM500	84	12			801 W. 52ND ST. ERIE, PA 16509
ERIE	ERIEPAXW	VERIZON GTE	FLM500	84	12			3905 W. 12TH ST. ERIE, PA 16505
HARRISBURG	CHRGSPXCV24	SPRINT	FLM600 in Scope, 1 FLM150 and 1 FLM2400 in virtual, 1 SLC2000	84	60	768		250 E LINCOLN WAY CHAMBERSBURG, PA 17201
HARRISBURG	CPHLPACH	VERIZON	FLM500		12			125 S 30TH ST. CAMP HILL, PA
HARRISBURG	CRLSPAXC	SPRINT	FLM500		12			120 W HIGH ST. CARRISLE, PA 17013
HARRISBURG	HRRBCPAHVC	VERIZON	3 FLM150s, 1 FLM600, 1 FLM2400, 1 SLC2000 in virtual. Scope area has 2 FLM2400s	252	144	768	12	210 PINE STREET HARRISBURG, PA 17101
HARRISBURG	HRSHPAXH	VERIZON GTE	FLM500		12			509 CHERRY DR. HERSHEY, PA 17035
HARRISBURG	HRRGPAME	VERIZON	1 FLM600 in Scope, 1 FLM150 and 1 FLM2400 in virtual, 1 SLC2000	84	60	768		14 N HIGH ST. MECHANICSBURG, PA 17055
LANCASTER	LNCSPALA	VERIZON	FLM2400 with FLM600 tub shell and 1 HD tub shell		24		4	176 N DUKE ST. LANCASTER, PA 17670
PHILADELPHIA	AMBI PAAM	VERIZON	(1)FLM-150, (2)FLM 2400, SLC2000	84	96	182		70 N SPRING GARDEN S. AKBLETT, PA 19002
PHILADELPHIA	BCYNPABC	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		321 LEVERING MILL ROAD BALA CYNWYD PA 19004
PHILADELPHIA	CIHTPACT	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		BALTIMORE PIKE ON SW SIDE CHESTER HEIGHTS, PA
PHILADELPHIA	CIHVPACH	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		1518 BUSTLETON PIKE CHURCHVILLE PA 18995
PHILADELPHIA	CNSHPACN	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		181 E NORTH LN CONSHOHOCKEN, PA 19478
PHILADELPHIA	EDTNPACD	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		2920 FOREST AVE. EDWINGTON, PA 19020
PHILADELPHIA	EXTNPAEX	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		100 E SWADESFORD AVE. EXTON PA 19341
PHILADELPHIA	HTBOPAHB	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		29 E MORELAND AVE. HATBORO, PA 19040
PHILADELPHIA	JENKPAJK	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		1101 GREENWOOD AVE. JENKINTOWN, PA 19046
PHILADELPHIA	KGPRPAKP	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		540 ALLENDALE RD. KING OF PRUSSIA, PA 19106
PHILADELPHIA	LANGPALA	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	84	12	192		149 N BELLEVUE AVE. LANGHORNE, PA 19048
PHILADELPHIA	LNDLPALD	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		100 S BROAD ST. LANSDALE, PA 19446
PHILADELPHIA	NRTWPANR	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	112	28	768		400 DEKALB ST. NORRISTOWN, PA 19401
PHILADELPHIA	PAOLPAPA	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		175 W CIRCULAR AVE. PAOLI, PA 19301
PHILADELPHIA	PHLAPAVE	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		2000 S BROAD STREET PHILADELPHIA, PA 19108
PHILADELPHIA	PHLAPALV	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		3810 CHESTNUT, PHILADELPHIA, PA 19104
PHILADELPHIA	PHLAPAGE	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	112	28	768		26 W. CHELTON AVE. PHILADELPHIA PA 19108
PHILADELPHIA	PHLAPAJE	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	112	28	768		4808 LILIPER ST PHILADELPHIA, PA 19105
PHILADELPHIA	PHLAPALO	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	112	28	768		1631 ARCH STREET PHILADELPHIA PA 19103
PHILADELPHIA	PHLAPAKHCF	VERIZON	2 - FLM2400 S, FLM150, SLC2000	112	84	1,920		900 RACE STREET PHILADELPHIA, PA 19107
PHILADELPHIA	PHLAPAOB	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		2210 LOIT AVENUE, PHILADELPHIA, PA 19105
PHILADELPHIA	PHLAPAPE	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	28	36	1,920		423 17TH ST PHILADELPHIA, PA 19105
PHILADELPHIA	PHLAPAPI	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	112	28	768		7254 RISING SUN AVE. PHILADELPHIA, PA 19108
PHILADELPHIA	PHLAPATR	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	112	28	768		5157 LANCASTER AVE PHILADELPHIA PA 19108
PHILADELPHIA	PHLAPAWW	VERIZON	(1)FLM-150, (1)FLM 2400, SLC2000	112	28	768		6468 NORTH BROAD STREET PHILADELPHIA, PA 19108

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City	DELT	FILED	Model Type	DS1 Quantity	DS3 Quantity	DS0's	OC Rber	Address
PHILADELPHIA	PTTWPAPT	VERIZON	(1)FLM-150, (1)FLM-2400, SLC2000	112	28	768		235 KING STREET POTTSTOWN, PA 19464
PHILADELPHIA	ROPKPARP	VERIZON	(1)FLM-150, (1)FLM-2400, SLC2000	112	28	768		400 W SELLARS RIDLEY PARK, PA 19078
PHILADELPHIA	TRPRPATR	VERIZON	(1)FLM-150, (1)FLM-2400, SLC2000	112	28	768		50 BRIMFIELD ROAD NORRISTOWN, PA 19403
PHILADELPHIA	TULYPATU	VERIZON	(1)FLM-150, (1)FLM-2400, SLC2000	112	28	768		1643 79 NEW FALLS RD JULYTOWNSHIP, PA 19007
PHILADELPHIA	WAYNPWAY	VERIZON	FLM150, FLM2400	112	28			300 W LANCASTER AVE WAYNE PA 19085
PHILADELPHIA	WCHSPAWC	VERIZON	(1)FLM-150, (1)FLM-2400, SLC2000	28	35	1,920		401 S HIGH STREET WEST CHESTER, PA 19380
PHILADELPHIA	WLGPRPAWG	VERIZON	FLM150, FLM2400	112	28			229 OLD YORK ROAD WILLOW GROVE, PA 19030
PITTSBURGH	BGVLPABR	VERIZON	FLM150, FLM600	84	8			ABS CO 408 Wash Ave Bridgeville Pa 15017
PITTSBURGH	BTLRPAXB	SPRINT	ADX600	84	48			218 S WASHINGTON ST BUTLER, PA 16001
PITTSBURGH	BTFRPABP	VERIZON	FLM150, FLM600	84	8			5112 W Library Rd, Bethel Park, PA 15102
PITTSBURGH	CARNPACA	VERIZON	FLM150, FLM600	84	8			201 E. Main St., Carnegie, PA 15106
PITTSBURGH	CRPLPACO	VERIZON	FLM150, FLM600	84	8			410 BROADWAY ST. CORAOPOLIS, PA 15108
PITTSBURGH	GNBRPAGR	VERIZON	ADX600	84	14			111 W PITTSBURGH ST GREENSBURG, PA 15605
PITTSBURGH	KCPTPAMK	VERIZON	FLM150, FLM600	84	8			520 Gth Ave, McKeesport, PA 15132
PITTSBURGH	MOVLPAMQ	VERIZON	FLM150, FLM600	84	8			4206 NORTHERN PIKE, MONROEVILLE, PA 15146
PITTSBURGH	OLCYPAXO	VERIZON	ADX600	84	14			260 SENECA ST OIL CITY, PA 16301
PITTSBURGH	PITBPADTHPQ	VERIZON	FLM150, (3)FLM2400	84	60			416 7TH AVE PITTSBURGH, PA 15238
PITTSBURGH	PITBPANS	VERIZON	FLM150, FLM600	84	8			15 MONTGOMERY PL PITTSBURGH, PA 15212
PITTSBURGH	PITBPAOKHPH	VERIZON	FLM150, FLM2400	84	60			530 N NEVILLE ST PITTSBURGH, PA 15236
PITTSBURGH	PLHSPAPH	VERIZON	FLM150, FLM600	84	8			128 TEL STAR DRIVE, PLEASANT HILLS, PA 15236
PITTSBURGH	ROCHPARC	VERIZON	ADX600	84	14			128-142 W MADISON AVE ROCHESTER, PA 15074
PITTSBURGH	SHRNPA5H	VERIZON	ADX600	84	14			29 S DOCK ST SHARON, PA 16146
PITTSBURGH	WASHPAWA	VERIZON	ADX600	84	14			41 E REAU ST WASHINGTON PA 15340
SCRANTON	HZTNPAPH	VERIZON	ADX600	84	14			128 W. GREEN ST, HAZELTON PA 18201
SCRANTON	SCINPASCHPM	VERIZON	FLM150, FLM2400(scope), FLM150,FLM2400,SLC2000 (vritual)	84	48	768	12	121 ADAMS ST SCRANTON, PA
SCRANTON	SRBGPAST	VERIZON	FLM600		12			20 S 7TH ST STROUDSBURG, PA 18280
SCRANTON	WBRPAWA	VERIZON	ADX600	84	14			272 S MAIN ST WILKES BARRE, PA 18789
SCRANTON	WLPPTAWI	VERIZON	ADX600	84	14			404 W FOURTH ST WILLIAMSPORT, PA 17701
STATE COLLEGE	ALNPAALHVA	VERIZON	FLM600, FLM150, FLM2400, SLC2000	84	84	768		1119 16TH STREET ALTOONA, PA 16601
STATE COLLEGE	DOUSSPADUHPC	VERIZON	ADX600	84	14			115 SCRIBNER AVE, DUNOIS, PA 15801
STATE COLLEGE	JHTWPA5G	VERIZON-GTF	FLM150, FLM2400	84	48			204 BEIMONT ST @ CLEARWATER ST JOHNSTOWN, PA
STATE COLLEGE	STLCPAES	VERIZON	FLM600, FLM150, FLM2400, SLC2000	84	84	768		260 SOUTH ALLEN STREET STATE COLLEGE, PA 16801
YORK	HNVRPAXH	SPRINT	FLM600		12			120 BALTIMORE ST HANOVER, PA 17332
YORK	YORKFAXMW03	VERIZON-GIL	1 FLM2400 with 3 FLM 150's Inter off, 1 Flmh 600 and 1 SLC 2000	252	40	768		31 BEAVER STREET, YORK, PA 17401

Exhibit 3

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Jeff Heins
Misturak-Gingrich/ESCM
Sent by: Starr Bell
01/15/2004 04:43 PM

To: suzan.d.paiva@verizon.com
cc: jeff.heins@telcove.com, Kathleen
Misturak-Gingrich/ESCM@ESCM
bcc:
Subject: Re: follow up on TelCove's Appendix A responses

Hi Susan: Thanks for your follow up e-mail. In response to your inquiry, this advises that TelCove is working on the answers to the follow up questions which we had discussed. As soon as that information is available, it will be forwarded to you. Telcove understands the time sensitivity of the requests and is attempting to gather the responsive information as quickly as possible.

Additionally, in response to the specific questions in your e-mail, TelCove has confirmed that Attachment "D" is the TelCove attachment which identifies the collocations, termination equipment and the transport facilities of the various Telcove companies. Jeff Heins understands that Attachment "D" represents TelCove's answers to questions 1 and 2 of the Commission's Transport requests. Jeff further understands that Telcove is still gathering information to respond to transport questions 3-6.

I will be in touch as soon as the additional information is available. Many thanks for your professional courtesy in this matter. Talk to you soon.

Kathleen Misturak-Gingrich, Esquire
Eckert Seamans Cherin & Mellott, LLC
213 Market Street
Harrisburg, PA 17101
717.237.6067
717.237.6019 fax
kmg@escm.com

----- Forwarded by Kathleen Misturak-Gingrich/ESCM on 01/15/2004 03:32 PM -----



suzan.d.paiva@verizon.com
01/14/2004 03:14 PM

To: Kathleen Misturak-Gingrich/ESCM@ESCM,
jeff.heins@telcove.com
cc:
Subject: follow up on TelCove's Appendix A responses

Kathleen and Jeff,

I am just checking in to see if you have made any progress on the follow-up questions we had about the switching responses.

Also, I had promised to get back to you if we had any questions on the transport responses. Am I correct that the attached spreadsheet depicts Telcove's collocations, the termination equipment utilized in each one and the transport facilities? Is this Attachment D? Does this attachment respond to all the questions asked in Transport Questions 1 through 4? If these assumptions are correct could you clarify that in writing (or correct me if I am wrong)

Exhibit 4

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City	CLI	LEC	Model Type	OS1 Quantity	OS3 Quantity	DSO #	OC fiber	Address	Leased or owned (transport facility?)
ALLENTOWN	AJTWPAAL	VERIZON	FLM2400, 2xFLM150	140	52			723 GARDEN ST ALLENTOWN, PA 18101	owned
ALLENTOWN	BHLHPA0E	VERIZON	FLM150, FLM2400	168	24			525 N. NEW ST, Bethlehem Pa 18018	owned
ALLENTOWN	CTSQPACT	VERIZON	FLM150, FLM2400	168	24			321-371 2ND ST, CASASANGUI, PA 18037	owned
ALLENTOWN	EMHCPAXE	VERIZON-GTE	FLM2400	64	8			407 South Railroad St, Emmaus, PA 18049	owned
ALLENTOWN	KHVLPAKI	VERIZON	FLM150, FLM2400	168	24			5738 MEMORIAL RD KUHNSVILLE, PA 18031	owned
ALLENTOWN	PNDFPARE	VERIZON	FLM150	64				410 Washington St, Reading, PA 19645	owned
COUDERSFORD	COPTPACO	VERIZON	FLM150, FLM2400	84	16			399 NORTH MAIN STREET COUDERSFORD, PA 16914	owned
ERIE	CRILPAXE	VERIZON-GTE	FLM2400	64	13			5817 BUFFALO RD ERIE, PA 16510	owned
ERIE	CRILPAXE	VERIZON-GTE	FLM150, FLM2400	64	48			70 E. 10TH ST ERIE, PA 16515	owned
ERIE	CRILPAXS	VERIZON-GTE	FLM2400	64	12			801 W 52ND ST ERIE, PA 16506	owned
ERIE	CRILPAXW	VERIZON-GTE	FLM2400	64	12			3805 W 12TH ST ERIE, PA 16505	owned
HARRISBURG	CHBGPAXCVZ4	SPRINT	1 FLM2400 in Scope, 1 FLM150 and 1 FLM2400 in vertical, 1 SLC2000	84	20	745		125 S 30TH ST CAMP HILL, PA	leased - Comcast
HARRISBURG	CHHPACH	VERIZON	FLM2400	12				120 WING ST CARLISLE, PA 17013	leased - Comcast
HARRISBURG	CRISPAXC	SPRINT	FLM2400	12				210 PINE STREET HARRISBURG, PA 17101	leased - Comcast
HARRISBURG	HRBGPANAIVC	VERIZON	3 FLM 150s, 1 FLM2400, 1 SLC2000 in vertical, Scope area has 2 FLM2400s	252	144	768	12	509 CH RYDR HERSHEY, PA 17033	leased - Comcast
HARRISBURG	HRSHPAKX	VERIZON-GTE	FLM2400	12				14 N HIGH ST MECHANICSBURG PA 17055	leased - Comcast
HARRISBURG	HRBGPAXCVZ4	SPRINT	1 FLM2400 in Scope, 1 FLM150 and 1 FLM2400 in vertical, 1 SLC2000	21	88	768		176 H DUKE ST LANCASTER, PA 17602	leased - Comcast
LANCASTER	INCSPALA	VERIZON	FLM2400 with FLM 2400 in shelf and 1 FLM150 in shelf	24	24			20 N SPRING GARDEN S AMBLER, PA 19007	leased - Exlon
PHILADELPHIA	AMBLPAAH	VERIZON	(1) FLM-150, (2) FLM-2400, SLC2000	64	96	182		3211 EVERING HILL ROAD BALA-CYNAYD PA 19004	leased - Exlon
PHILADELPHIA	RCYNPABC	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	64	12	192		BALTIMORE PIKE ON SW SIDE CHESTER HEIGHTS, PA	leased - Exlon
PHILADELPHIA	CHITPACT	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	64	12	192		1918 DUSTLETON PIRE CHURCHVILLE PA 18925	leased - Exlon
PHILADELPHIA	CHVLPACH	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	64	12	192		181 E NORTH LN CONSHOHOCKEN, PA 19078	leased - Exlon
PHILADELPHIA	CNSHPACN	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	64	12	192		2520 FORREST AVE EDDINGTON, PA 19020	leased - Exlon
PHILADELPHIA	EDTHPAEO	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	64	12	192		100 F SVEDSFORD AVE EXLTON PA 19311	leased - Exlon
PHILADELPHIA	EXTNPAEX	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	64	12	192		25 E MORELAND AVE HATBORO, PA 19040	leased - Exlon
PHILADELPHIA	HTBOPAHB	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	28	36	1,920		100 GREENWOOD AVE JENKINTOWN, PA 19016	leased - Exlon
PHILADELPHIA	JELHPAJK	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	24	12	192		540 ALLENDALE RD KING OF PRUSSIA, PA 19406	leased - Exlon
PHILADELPHIA	KGPRPAPK	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	28	36	1,920		145 N BELLEVUE AVE LANGHORNE PA 19048	leased - Exlon
PHILADELPHIA	LANGPALA	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	64	12	192		100 S BROAD ST LANSDALE, PA 19446	leased - Exlon
PHILADELPHIA	LNDRPALD	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	28	36	1,920		400 DEKALB ST NORRISTOWN, PA 19401	leased - Exlon
PHILADELPHIA	NRTPANR	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		125 V CIRCULAR AVE PAOLI, PA 18301	leased - Exlon
PHILADELPHIA	PAOLPAPA	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	28	36	1,920		2000 S BROAD STREET PHILADELPHIA, PA 19108	leased - Exlon
PHILADELPHIA	PHILAPAE	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	28	36	1,920		3810 CHESTNUT, PHILADELPHIA, PA 19101	leased - Exlon
PHILADELPHIA	PHILAPAV	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		26 W CHELTON AVE PHILADELPHIA PA 19105	leased - Exlon
PHILADELPHIA	PHILAPAGE	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		6205 LEIPER ST PHILADELPHIA, PA 19108	leased - Exlon
PHILADELPHIA	PHILAPAJ	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		1631 ARCH STREET PHILADELPHIA, PA 19103	leased - Exlon
PHILADELPHIA	PHILAPALU	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		200 RACE STREET PHILADELPHIA, PA 19107	leased - Exlon
PHILADELPHIA	PHILAPAMKCF	VERIZON	2 FLM2400s, FLM150, SLC2000	112	84	1,920		2210 LOTT AVENUE PHILADELPHIA, PA 19108	leased - Exlon
PHILADELPHIA	PHILAPACR	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	28	36	1,920		423 17TH ST PHILADELPHIA, PA 19108	leased - Exlon
PHILADELPHIA	PHILAPAFI	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		7254 RISBING SUN AVE PHILADELPHIA, PA 19108	leased - Exlon
PHILADELPHIA	PHILAPATK	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		5152 LANCASTER AVE PHILADELPHIA, PA 19108	leased - Exlon
PHILADELPHIA	PHILAPAWV	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		4488 NORTH BROAD STREET PHILADELPHIA, PA 19108	leased - Exlon
PHILADELPHIA	PHILAPAWY	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		335 KING STREET POTTSVILLE, PA 19464	leased - Exlon
PHILADELPHIA	PHILAPART	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		400 W STELLARS RIDLEY PARK, PA 19078	leased - Exlon
PHILADELPHIA	ROFPPARP	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		50 BRIMFIELD ROAD NORRISTOWN, PA 19403	leased - Exlon
PHILADELPHIA	TRNFPATR	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		7843 75 NW FALLS RD TULLYTOWN, PA 19067	leased - Exlon
PHILADELPHIA	TRVTPATU	VERIZON	(1) FLM-150, (1) FLM-2400, SLC2000	112	28	768		305 W LANCASTER AVE WAYNE PA 19088	leased - Exlon
PHILADELPHIA	WAYNPAYW	VERIZON	FLM150, FLM2400	112	28				leased - Exlon

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City	CLI	LEC	Model Type	DS1 Quantity	DS3 Quantity	DS3's	OC fiber	Address	Leased or owned / transport facility?
PHILADELPHIA	VAHNSPAWC	VERIZON	(1) FLM 150, (1) FLM 2400, SLC 2000	28	35	1,070		401 S HIGH STREET WEST CHESTER, PA 19380	leased - Exelon
PHILADELPHIA	VALGHRANG	VERIZON	FLM150, FLM2400	117	28			229 OLD YORK ROAD WILLOW GROVE, PA 19030	leased - Exelon
PITTSBURGH	BGVLPABR	VERIZON	FLM150, FLM2400	64	8			ABS CO 408 Wash. Ave., Bridgeville Pa 15017	owned
PITTSBURGH	BTRPAXB	SPRINT	ADX600	84	48			218 S WASHINGTON ST BUTLER, PA 16001	no fiber build yet
PITTSBURGH	BTRKPADP	VERIZON	FLM150, FLM600	84	8			5112 W. Liberty Rd, Belthel Park, PA 15102	no fiber build yet
PITTSBURGH	CARNPACA	VERIZON	FLM150, FLM600	84	8			201 E. Main St., Carnegie, PA 15106	no fiber build yet
PITTSBURGH	CRPIPACO	VERIZON	FLM150, FLM600	84	8			418 BROADWAY ST, CORAOPOLIS, PA 15108	owned
PITTSBURGH	CHRRPAGR	VERIZON	ADX600	84	14			151 W PITTSBURGH ST GREENSBURG, PA 15605	no fiber build yet
PITTSBURGH	MCPTPAVK	VERIZON	FLM150, FLM600	84	8			570 6th Ave., McKeesport, PA 15132	no fiber build yet
PITTSBURGH	WZVLPAMD	VERIZON	FLM150, FLM600	64	8			4206 NORTHERN PIKE MONROEVILLE, PA 15146	owned
PITTSBURGH	OLCYPAXO	VERIZON	ADX600	84	14			280 SENECA ST OH CITY, PA 15301	no fiber build yet
PITTSBURGH	PTRPAOTHPQ	VERIZON	FLM150, (2) FLM2400	84	60			416 7TH AVE PITTSBURGH, PA 15216	owned
PITTSBURGH	PTRPANS	VERIZON	FLM150, FLM600	84	8			15 MONTGOMERY PL PITTSBURGH, PA 15212	owned
PITTSBURGH	PTRPAAKHPP	VERIZON	FLM150, FLM2400	84	60			510 N NEVILLE ST PITTSBURGH, PA 15235	owned
PITTSBURGH	PLHSPAFH	VERIZON	FLM150, FLM600	84	8			120 BILL STAR DRIVE PLEASANT HILLS, PA 15226	no fiber build yet
PITTSBURGH	HOCHPARC	VERIZON	ADX600	84	14			120 147 WMATSON AVE ROCHESTER, PA 15074	no fiber build yet
PITTSBURGH	CHRNPAH	VERIZON	ADX600	84	14			24 S DOCK ST SHARON, PA 16146	no fiber build yet
PITTSBURGH	WASHPAWA	VERIZON	ADX600	84	14			41 E DEAN ST WASHINGTON, PA 15240	no fiber build yet
SCRANTON	HZTRPAH7	VERIZON	ADX600	84	14			128 W GREEN ST, HAZLETON PA 16801	no fiber build yet
SCRANTON	SCTHPASCHPM	VERIZON	FLM150, FLM2400 (scope), FLM150, FLM2400, SLC2000 (virtual)	84	48	768	12	121 ADAMS ST SCRANTON, PA	owned
SCRANTON	SRBGPAST	VERIZON	FLM600		17			20 S 7TH ST STROUDSBURG, PA 18350	owned
SCRANTON	WLBRAIVB	VERIZON	ADX600	84	14			222 S MAIN ST WILKES BARRE, PA 18701	owned
SCRANTON	WLPTRAW	VERIZON	ADX600	84	14			404 W FOURTH ST WILLIAMSPORT, PA 17701	leased - Suscom
STATE COLLEGE	ALNAPAAHVA	VERIZON	FLM600, FLM150, FLM2400, SLC2000	84	64	768		1119 16TH STREET ALTOONA, PA 16801	leased - Allegheny Communications
STATE COLLEGE	DUBSPADUHP	VERIZON	ADX600	84	14			113 SCRIBNER AVE, DUBOIS, PA 15801	leased - Allegheny Communications
STATE COLLEGE	JHIVPAJG	VERIZON GTE	FLM150, FLM2400	84	48			204 BELMONT ST @ CLEARWATER ST JOHNSTOWN, PA	leased - Allegheny Communications
STATE COLLEGE	STCCPAES	VERIZON	FLM600, FLM150, FLM2400, SLC2000	84	64	768		250 SOUTH ALLEN STREET STATE COLLEGE, PA 16801	leased - Allegheny Communications
YORK	HNVPAKH	SPRINT	FLM600	82				120 BALTIMORE ST HANOVER, PA 17332	leased - Suscom
YORK	YORKPAXMA03	VERIZON-GTE	1 FLM2400 with 3 FLM 150's build out, 1 Flash 600 and 1 SLC 2000	252	40	768		31 BEAVER STREET, YORK, PA 17401	leased - Suscom

OCA Stmt 1

1-00030099

Hof dx
1/27/04

**BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION**

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

DIRECT TESTIMONY OF DR. ROBERT LOUBE

AND MR. ROWLAND CURRY

ON BEHALF OF

PENNSYLVANIA OFFICE OF CONSUMER ADVOCATE

DOCKETED
JAN 30 2004

January 9, 2004

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1 **Q: Please state your names and business addresses.**

2 Dr. Loube: My name is Robert Loube. My business address is 10601 Cavalier Drive, Silver
3 Spring, Maryland 20901.

4 Mr. Curry: My name is Rowland Curry. My business address is 1509 Mearns Meadow Blvd.,
5 Austin, Texas 78758.

6 **Q: By whom are you employed and in what capacity?**

7 Dr. Loube: I am the Director, Economic Research, Rhoads and Sinon, LLC.

8 Mr. Curry: I am self-employed as the Principal of Curry & Associates, an independent
9 telecommunications consulting firm.

10 Dr. Loube and I have been retained by the Pennsylvania Office of Consumer
11 Advocate (“OCA”) to provide assistance and expert analysis in this proceeding
12 concerning the petition of Verizon Pennsylvania, Inc. (“Verizon”) to undertake the
13 targeted, granular unbundling analysis and other related work assigned to the
14 Pennsylvania PUC (“PUC” or “the Commission”) by the Federal Communications
15 Commission’s (“FCC’s”) Triennial Review Order (“TRO”)¹.

¹ *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, and Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98 & 98-147, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, FCC 03-36 (rel. Aug. 21, 2003) (hereinafter “*Triennial Review Order*” or “*TRO*”).

1 **Q: Please provide us with information regarding your relevant experience.**

2 Dr. Loube: My consulting practice centers on providing expert advice to state agencies
3 involved in telecommunications regulation. Prior to joining Rhoads and Sinon,
4 LLC, I have worked for the FCC, the Public Service Commission for the District of
5 Columbia, and the Indiana Utility Regulatory Commission. At those commissions I
6 worked on issues associated with incremental cost, rate design, competition,
7 universal service and separations. My vita is attached to this testimony.

8 Mr. Curry: I have 34 years experience in the telecommunications industry, predominantly
9 focusing on state and federal regulatory policy and technological issues. Prior to
10 beginning my consulting career in 2001, I worked on the staff of the Public Utility
11 Commission of Texas (Texas PUC) for almost 25 years. My vita is attached to this
12 testimony.

13 **Q: Have you ever participated in proceedings before the Pennsylvania Public**
14 **Utility Commission or other regulatory bodies?**

15 Dr. Loube: Yes. I have testified as a staff witness in 18 cases before the Indiana Utility
16 Regulatory Commission and 8 cases before the Public Service Commission for the
17 District of Columbia. I am currently involved as a telecommunications consultant
18 in proceedings in California and Nevada. I have also submitted affidavits attached
19 to comments filed with the FCC.

20 Mr. Curry: Yes. I have provided advice and testimony for the OCA in several proceedings,
21 including the collaborative workshops in (M-00011582), the proposed rulemaking

1 on telephone service quality (P-00021985), Verizon's Network Modernization Plan
2 (P-00930715F0002), and the investigation into CLEC calling areas (I-00030096).
3 While employed on the staff of the Texas PUC, I testified in, or was otherwise
4 involved in, hundreds of proceedings. In addition, I am currently or have been
5 involved as a telecommunications consultant in proceedings in California, Florida,
6 Nevada, and Texas, as shown on my vita.

7 **Q: What specific issues do you intend to address in this joint testimony?**

8 Mr. Curry: We will address a number of technical and regulatory issues in support of the
9 OCA's position in this proceeding, including the importance of Unbundled Network
10 Elements (UNE) switching and Unbundled Network Element – Platform (UNE-P)
11 to mass market residential customers, the definition of market areas, our analysis of
12 the FCC defined triggers in Pennsylvania, the importance of batch hot cuts in these
13 deliberations, and our overall findings as to impairment of competition in
14 Pennsylvania.

15 In preparing this testimony, we have reviewed Verizon's initial Petition dated
16 October 31, 2003 and Verizon's supplemental testimony dated December 19, 2003,
17 as well as other filings, pleadings, and data responses in this proceeding.

18

1 **I. THE TRO'S IMPACT ON MASS MARKET RESIDENTIAL CUSTOMERS**

2 **Q. What is the OCA's primary interest in this proceeding?**

3 Mr. Curry: The decisions made by the Pennsylvania PUC in response to the FCC's *TRO* may
4 have a very significant impact on the availability of competitive options for
5 residential telecommunications customers.

6 Competition for residential customers relies heavily on the ability of competitive
7 carriers to purchase UNE-P services from the incumbent carrier. The FCC's *TRO*
8 proceeding essentially focused on determining whether competitive carriers are able
9 to provide service without using UNE-P and the incumbent carrier's switch. To the
10 extent that adequate competitive options are available, there should be no harm to
11 the ability of customers to select competitive options. However, the OCA is very
12 concerned that if the UNE-P elements are eliminated, Pennsylvania customers will
13 no longer be able to benefit from competitive choice. In particular, the UNE-P for
14 many customers is their only competitive option for local telephone service.

15 **Q: How important is the role played by UNE-P in Pennsylvania's competitive**
16 **market for residential and small business customers?**

17 Mr. Curry: Data submitted in this proceeding show that there are over 315,600 residential lines,
18 and over 128,700 business lines being served in Pennsylvania using UNE-P. Over
19 half of the local customers served by CLECs in Verizon's Pennsylvania territory are
20 served using UNE-P service.

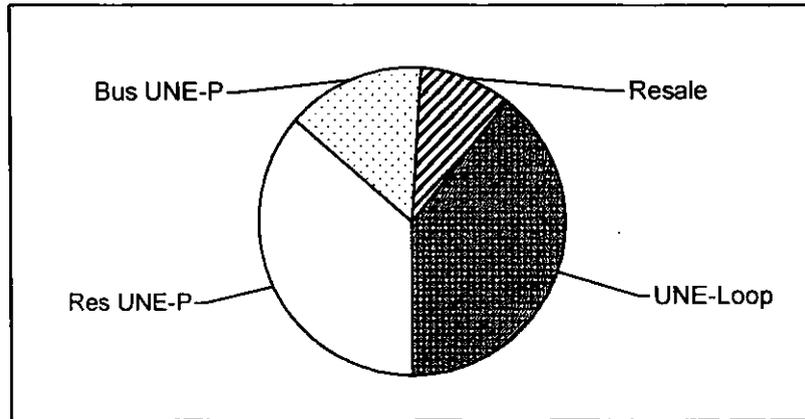


Chart 1: Competitive Services in Pennsylvania
(Source: Verizon Response to MCI I-41)

1
2
3
4

5 **Q: Have you been able to calculate an index of competition for the Pennsylvania**
6 **markets?**

7 Dr. Loube: Yes, I calculated the Herfindahl-Hirschman Index (HHI) for each market in
8 Pennsylvania. The HHI ranges from 0 to 10,000. As the value approaches 10,000,
9 the existence of a monopoly is indicated. Low values indicate competitive markets.
10 In perfect competition, where each firm's market share is equal to 1 percent or less,
11 the HHI would be at or below 100. The Department of Justice uses a post-merger
12 value of 1,800 to indicate when a market has become highly concentrated and when
13 further mergers in that market will raise significant competitive concerns.² The
14 number of effective firms in a market can be determined by dividing the HHI into
15 10,000. For example, if there are five firms, each with a 20 percent share of the
16 market, the HHI will be 2,000. Dividing 2,000 into 10,000 produces five equivalent
17 firms.

1 **Q: How did you calculate the HHI for Pennsylvania markets?**

2 Dr. Loube: I used the Verizon retail residential lines and the Verizon count of Competitive
3 Local Exchange Carrier (“CLEC”) mass market lines by market. The Verizon
4 count of retail residential lines underestimates the Verizon share of the facilities-
5 based mass market because it excludes the Verizon mass market business customers.
6 The Verizon count of CLEC mass market lines over-estimates the CLEC counts
7 because, in many instances, the CLECs report fewer lines than Verizon reports for
8 the same CLECs. **[Begin Proprietary Information]**

9

10

11

12

³ **[End Proprietary**

13 **Information]** Therefore, by using Verizon line counts, my calculations will report
14 more competition than actually exists. This example also demonstrates how the
15 Commission cannot rely upon Verizon’s line number estimates.

16 **Q: What were the results of your calculations?**

17 Dr. Loube: My results demonstrate that Verizon continues to dominate every Pennsylvania
18 market. The HHI ranges from 5,719 to 9,238, and the number of equivalent firms
19 ranges from 1.08 to 1.75, depending on the market. The lowest HHI is 3 times

² U.S. Department of Justice and the Federal Trade Commission, Horizontal Merger Guidelines, Issued: April 2, 1992, revised April 8, 1997, page 16.

³ Supplemental Direct Testimony of Harold E. West, III and Carlo Michael Peduto, II on behalf of Verizon Pennsylvania Inc. and Verizon North Inc., Exhibit 1, Part A.

1 higher than the Department of Justices' indicator of a highly concentrated market.
2 Because the number of effective firms is less than 2 in every market, the sum of the
3 impact of all other firms never generates a second firm that is equal to Verizon.
4 Individual market results are shown in Exhibit RL-1, Table A.

5 **Q: In what ways do the *TRO* issues threaten the availability of UNE-P?**

6 Mr. Curry: In the Triennial Review proceeding, the FCC examined whether CLECs are
7 *impaired* or *not impaired* without access to incumbent carriers' network facilities
8 and switching on an unbundled basis. With respect to circuit switching, a finding of
9 "no impairment" would indicate that competitors should be able to provide service
10 without using UNE-P and the incumbent carrier's switch. Based on that decision,
11 the incumbent carrier would no longer be required to offer the circuit switching
12 element on an unbundled basis at Total Elemental Long Run Incremental Cost
13 (TELRIC) prices to competitors. With a finding that competitors are, in fact,
14 impaired without access to the incumbent carrier's network, the incumbent carrier
15 would be required to continue offering the UNE-P option at TELRIC prices.

16 **Q: How was this issue resolved by the FCC?**

17 Mr. Curry: From the standpoint of circuit switching, which is the key to UNE-P service, the
18 FCC first found "on a national basis, that competing carriers are impaired without
19 access to unbundled local circuit switching for mass market customers ... based on
20 evidence in our record regarding the economic and operational barriers caused by

1 the cut over process.”⁴ Further, the FCC recognized that a more geographically
2 specific record may identify particular markets where there is no impairment and
3 asked states to apply FCC-defined triggers measuring existing switch deployment
4 serving this market and, if necessary, “consider operational and economic barriers
5 to switch deployment to serve this market.”⁵

6 **Q: Who are “mass market” customers?**

7 Mr. Curry: Generally speaking, residential and small business customers are referred to as
8 “mass market” customers, while medium and large business customers are called
9 “enterprise” customers. The FCC defines mass market customers as those who
10 purchase a limited number of “POTS” (Plain Old Telephone Service) voice-grade
11 lines, and can only be economically served using DS0 (single-line, voice-grade)
12 loops. The FCC left to the states the more precise identification of the cross-over
13 point where it may be more economical to use DS1 (digital carrier) systems to serve
14 a number of customers rather than individual single lines. Absent significant
15 evidence to the contrary, however, the FCC established a default cutoff of four
16 lines.⁶ Customers with three or fewer DS0 lines are to be considered mass market
17 customers, unless the PUC determines otherwise.

⁴ *TRO*, ¶ 459.

⁵ *Id.*, ¶ 494.

⁶ *Id.*, ¶ 497. In the *UNE Remand Order* (15 FCC Rcd at 3822-31), the FCC determined that incumbent LECs that make the EEL combination available are not obligated to provide unbundled local circuit switching to requesting carriers for serving customers with four or more DS0 loops in density zone one of the top fifty MSAs.

1 **Q: What do you see as the overall key to this proceeding?**

2 Mr. Curry: This proceeding, alongside similar proceedings in other states, will determine
3 whether the competitive plan adopted by Congress in the 1996 Telecommunications
4 Act⁷ has progressed to the point where the incumbent carriers no longer are required
5 to provide unbundled switching.

6 Competition has not yet gained a strong enough foothold to eliminate the key local
7 circuit switching element in any market in Pennsylvania. If the Commission finds
8 “no impairment” and retracts that element, then competition will be diminished and
9 customers will no longer receive the benefits of competitive choice: lower prices
10 and improved services.

11

12 **II. THE DEFINITION OF MARKET AREA**

13 **Q: What is the purpose of defining the market area?**

14 Dr. Loube: As indicated by Mr. Curry, the FCC has found “on a national level, that requesting
15 carriers are impaired without access to unbundled local circuit switching when
16 serving mass market customers. This finding is subject to a more granular review
17 by the states...in specific geographic markets.”⁸ Therefore, the FCC directs state

⁷ Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56, codified at 47 U.S.C. §§ 251
et seq.

⁸ *TRO*, ¶ 419.

1 commissions to perform a “granular market-by-market analysis of impairment.”⁹ In
2 order to perform such analysis, a definition of “market” is required.

3 **Q: How does the FCC TRO define “market?”**

4 Dr. Loube: The *TRO* does not define “market.” Instead, the FCC directs state commissions to
5 define “market.” “State commissions must define the markets in which they will
6 evaluate impairment by determining the relevant geographic area to include in each
7 market.”¹⁰ The FCC “delegate[s] authority to state commissions to ensure that the
8 unbundling rules are implemented on the most accurate level possible while still
9 preserving administrative practicality.”¹¹

10 **Q: Does the FCC provide guidance for the state commissions in determining the**
11 **definition of “market?”**

12 Dr. Loube: Yes. The FCC offers state commissions guidance in determining the definition of
13 market to be used in the granular impairment analysis.

14 **Q: Please elaborate on the FCC’s guidance to state commissions.**

15 Dr. Loube: Broadly, the *TRO* states, “state commissions have discretion to determine the
16 contours of each market, but they may not define the market as encompassing the
17 entire state.”¹²

⁹ *Id.*, ¶ 424.

¹⁰ *Id.*, ¶ 495.

¹¹ *Id.*, ¶ 130.

¹² *Id.*, ¶ 495.

1 More specifically, as described in the *TRO*, and codified in new §51.319(d)(2)(i),¹³
2 the FCC directs state commissions to define the markets in which it will evaluate
3 impairment by taking into consideration the location of mass market customers
4 actually being served by competitors, the variation of factors affecting competitors'
5 ability to serve each group of customers, and the competitors' ability to target and
6 serve specific markets profitably and efficiently using current technologies.¹⁴

7 **Q: Does the FCC provide additional guidance?**

8 Dr. Loube: Yes. The FCC further advises that “[w]hile a more granular analysis is generally
9 preferable, states should not define the market so narrowly that a competitor serving
10 that market alone would not be able to take advantage of available scale and scope
11 economies from serving a wider market.”¹⁵ Moreover, “state commissions should
12 consider how competitors’ ability to use self-provisioned switches or switches
13 provided by a third-party wholesaler to serve various groups of customers varies
14 geographically and should attempt to distinguish among markets where different
15 findings of impairment are likely.”¹⁶

16 The FCC acknowledges that state commissions may have already established
17 methods to identify markets, such as UNE loop rate zones, intrastate universal

¹³ See Part 51 of Title 47 of the Code of Federal Regulations.

¹⁴ *TRO*, ¶ 495.

¹⁵ *Id.*, ¶ 495.

¹⁶ *Id.*, ¶ 495.

1 service mechanisms, and retail ratemaking, and concludes that “already defined
2 markets would be appropriate to use...” in the granular impairment analysis.¹⁷

3 Lastly, the FCC *TRO* asserts, “the market definitions used for the analysis of the
4 triggers must also be used for the second step of the analysis, if the triggers are not
5 satisfied.”¹⁸

6 **Q: How should the PUC use the FCC’s guidelines to determine reasonable
7 geographic markets?**

8 Dr. Loube: The PUC should establish markets that facilitate the determination of whether new
9 entrants are impaired without the ability to secure the use of the combined UNEs,
10 commonly known as UNE-P. Impairment occurs “when lack of access to an
11 incumbent LEC [local exchange carrier] network element poses as a barrier to entry,
12 including operational and economic barrier, that are likely to make entry into a
13 market uneconomic.”¹⁹ Thus, the geographic boundaries of the market should
14 reflect those factors that affect the profitability of competitive entry. Such factors
15 as retail and wholesale rates, economies of scale and sunk cost drive the
16 profitability of entry and should be important attributes impacting the PUC’s
17 market determination. The PUC must focus on these conditions that allow new
18 entrants the opportunity to establish long term profitability. At the same time, the
19 markets should be as granular as possible, allowing the new entrants to minimize

¹⁷ *Id.*, ¶ 496.

¹⁸ *TRO* at footnote 1540.

¹⁹ *TRO*, ¶ 84.

1 their need to obtain large scale investments that might be beyond their ability to
2 finance in the capital markets. Overall, the market should be defined as such so that
3 it does not remove the only available competitive alternative for a customer, as the
4 ultimate objective of this proceeding should be to promote competition, not hinder
5 competition.

6 **Q: What factors affect the profitability of the new entrants?**

7 Dr. Loube: The two most important factors affecting the entrants' profitability are the revenue
8 it might be able to obtain and the cost of serving its customers. Its revenue
9 opportunities are dependent on the incumbent's rates because a new entrant will not
10 be able to charge as much as the incumbent and in many instances must charge less
11 than the incumbent in order to attract the customers away from the incumbent. The
12 entrant's costs are the sum of any self-provisioned facilities and overhead costs
13 along with any network elements its purchases from the incumbent. The element
14 that most entrants will likely continue to purchase is the loop. Thus, in defining an
15 appropriate market, the factors that affect the entrant's profitability and that the
16 PUC should be concerned with are the retail local rate and the UNE Loop rate.

17 **Q: Please explain how economies of scale affect cost and profitability.**

18 Dr. Loube: Economies of scale refers to the decrease in average cost associated with increases
19 in output. For example, using the switching equations embedded in the FCC's
20 synthesis model, when the number of lines served increases from 1000 to 5000,
21 average monthly investment related cost decreases from \$6.46 to \$2.07. However,

1 when the number of lines served increases from 20,000 to 25,000, the average
2 monthly investment-related cost decreases from \$1.25 to \$1.20, showing that
3 economies of scale are important at low levels of output, but after a certain
4 minimum efficient scale, become relatively unimportant. Of course, scale
5 economies in one function can be offset by diseconomies in another. The large
6 switch could put pressure on transport and marketing, causing increases in the costs
7 of these functions. Therefore, the market should be large enough to allow firms to
8 exploit scale economies but not too large that the size of the market starts
9 endangering profitability.

10 **Q: Please explain sunk costs and how they affect profitability.**

11 Dr. Loube: Sunk costs are costs that cannot be recovered when a carrier exits a market. Sunk
12 costs may include advertising to create brand loyalty, and spending to create a
13 marketing network. Costs such as switches are generally thought to be fixed rather
14 than sunk because the carrier may be able to sell the switch to an alternative carrier
15 upon exiting the market. However, installation costs and out-of-date software
16 associated with a switch can be sunk. Further, if the remaining carriers have
17 sufficient switch capacity to meet the market demand, the exiting carrier may not be
18 able to recover a significant portion of its switch investment. Moreover, if switch
19 manufacturers refuse to support the resold switches, then the market for those
20 switches will not be robust.

21 Given the existence of these sunk costs, an entrant will have to make large
22 investments to enter the market and the capital markets could evaluate these

1 investments as risky compared to the incumbents' investments. The high risk
2 associated with the sunk investments will increase the entrant's cost of capital and
3 reduce its profitability.

4 **Q: What geographic region should the PUC use to define "market?"**

5 Dr. Loube: The PUC should define the markets as the density cells within the MSAs. Such a
6 definition is consistent with the FCC's guidelines and will facilitate any impairment
7 analysis that the PUC might undertake during further phases of this proceeding.²⁰
8 The local retail rates and UNE-Loop rate are fairly constant across the density cells.
9 Therefore, the opportunity to earn a profit or to judge whether an entrant is
10 impaired without access to the local circuit switching and common transport UNEs
11 can be evaluated. The CLECs can make reasonable decisions about whether they
12 should enter the market because they determine what alternatives the customers
13 may choose from in a consistent manner. Due to the relatively small size and
14 compactness of density cells 1, 2 and 3, it appears that a CLEC should be able to
15 build a reasonably efficient backhaul network to bring the traffic back from the
16 incumbent's wire centers to the CLEC switch. The boundaries of the market are
17 administratively easy to determine and are available to all current or potential
18 entrants. Moreover, if the incumbent decides to change any retail rates, those
19 changes will usually occur at the density cell level. Therefore, any changes in the
20 expected profits of the entrant can also be evaluated at the density cell level.

²⁰ The FCC encourages the use of UNE zones as markets when UNE loop rates vary significantly across the state. See *TRO*, footnote 1538.

1 **Q: Are there any exemptions to your general recommendation to use density cells**
2 **to define geographic markets?**

3 Dr. Loubé: Yes. In the Scranton-Wilkes-Barre MSA, the wire centers that serve the city of
4 Hazleton, which are in Density Cell 3, should be excluded from the list of wire
5 centers that are included in the Scranton-Wilkes-Barre density cell 3 market. The
6 exemption is due to the fact that Hazleton is not contiguous or located close to the
7 other cities in the MSA. Therefore, the ability to build a compact and efficient
8 backhaul network for the MSA would be compromised if Hazleton were included in
9 the market definition. The failure to build an efficient backhaul network could lead
10 to a finding of impairment when the more granular market that includes only
11 Scranton and Wilkes-Barre would not. Thus, because of the general direction to
12 establish markets that are granular and because of the difficulties that might be
13 incurred in building an efficient backhaul network, I recommend that the wire
14 centers that serve the city of Hazleton be excluded from the Scranton-Wilkes-Barre
15 market.

16 **Q: Should the PUC use the entire Metropolitan Statistical Areas (MSAs) for the**
17 **definition of geographic markets?**

18 Dr. Loubé: No. The MSAs are not granular enough to be used as markets for the purposes of
19 determining whether an entrant is impaired without access to a particular UNE.
20 Within each MSA there are at least two density cells and in the case of Philadelphia
21 and Pittsburgh MSAs, there are four density cells. It is possible that an entrant
22 could be impaired in one of the cells but not the others. If the decision to determine

1 whether to eliminate the access to the local circuit switching UNE was made on the
2 MSA level, then there could be areas where impairment exists but the switching
3 UNE is not available. On the other hand, if the PUC determined that entrants were
4 entitled to access to the local circuit switch UNE, then there could be areas where
5 no impairment exists, but carriers still had the right to use the UNE.

6 In addition, the MSAs contain many small towns and rural areas that are in density
7 cell 4. For example, the town of Smithfield in Fayette County is at the edge of the
8 Pittsburgh MSA. Using a MSA market definition would include it within the
9 Pittsburgh MSA and could deny a CLEC the use of the UNE-P to serve Smithfield
10 customers. Obviously, given the difference between the UNE Loop rate in
11 Smithfield and downtown Pittsburgh, the ability for a CLEC to serve a customer is
12 significantly different in these areas and these two communities should not be
13 placed in the same market.

14 Moreover, the MSA boundaries are controlled by the United States Office of
15 Management and Budget (“OMB”) rather than by the PUC. They are not designed
16 to evaluate impairment issues, and can be changed without regard to telephone
17 market realities. The OMB statistical area design criteria are based on population
18 and commuter standards.²¹ These standards do not necessarily follow telephone
19 traffic patterns and do not follow the factors that determine impairment such as
20 local retail rates and UNE rates.

²¹ Federal Register, Vol. 65, No. 249, 82228-82238, Wednesday, December 27, 2000.

1 Finally, if MSAs were adopted as market areas, the PUC would have to re-evaluate
2 its impairment findings every time OMB changed the MSA boundaries, as OMB
3 recently did when it removed Lebanon from the Harrisburg-Carlisle MSA, and
4 added Armstrong County to the Pittsburgh MSA.

5 **Q: Does the FCC direct the state commissions to rely on its access pricing rules**
6 **and the MSA guidelines in those rules to establish markets in this proceeding?**

7 Dr. Loube: No. Verizon witnesses West and Peduto were incorrect when they tried to transfer
8 the FCC's reasoning related to access pricing to UNE impairment analysis.²² The
9 FCC rejected using the access rules because the pricing flexibility rules "go to
10 protecting consumers from anticompetitive pricing, which is not the same as our
11 unbundling rules, which go to asking whether entry into a market is economic and
12 to serving a host of statutory goals beyond protecting consumers from
13 anticompetitive pricing."²³

14 **Q: How does your definition of the market differ from Verizon's definition?**

15 Dr. Loube: In practice, excluding my Hazleton exception, Verizon and I support the same
16 market definition, the density cells within the MSAs. Verizon's preference,
17 however, is to use MSAs as market areas. Verizon's witnesses West and Peduto
18 state that "[a]mong the existing definitions, Metropolitan Statistical Areas ("MSAs")

²² Direct Testimony of Debra M Berry and Carlo Michael Peduto II on behalf of Verizon Pennsylvania Inc. adopted by Harold E. West III, page 11 line 14 to page 12 line 1.

²³ *TRO*, ¶ 104.

1 and Density Cells are the most appropriate.”²⁴ Thus, it appears that Verizon is
2 supporting two different market definitions, MSAs and density cells within MSAs.
3 Of these two alternatives, West and Peduto explain why MSAs are the preferred
4 market area because “MSAs meet each of the three criteria for defining the market
5 established by the FCC.”²⁵ I disagree with West and Peduto. As I stated above, the
6 MSAs should not be used as market areas because they do not provide a sufficient
7 granular playing field for the determination of impairment.

8 Verizon witnesses West and Peduto offer as an alternative to MSAs that “the
9 Commission may choose to define the market more narrowly, by differentiating
10 among the pricing Density Cells within those MSAs.”²⁶ My position is that the
11 PUC not only may but should choose to use the Density Cells within the MSAs
12 because the density cells more closely match the need to define markets according
13 to the requirements of the impairment standard. Moreover, in each instance where
14 Verizon asks the PUC to determine that the trigger mechanism has been met,
15 Verizon uses the density cells within the MSAs as the market.²⁷

16 **Q: Should the PUC use individual wire centers to define the geographic market?**

17 Dr. Loube: No. While an individual wire center is the most granular area that could be used to
18 define the market, it should not be used to define the market because the factors that

²⁴ Direct Testimony of Debra M. Berry and Carlo Michael Peduto II on behalf of Verizon Pennsylvania Inc., adopted by Harold E. West III, page 11, 7-8.

²⁵ *Id.*, page 12, lines 3-4.

²⁶ *Id.*, page 13, lines 6-7.

²⁷ *Id.*, page 33, lines 12-14, and Supplemental Direct Testimony of Harold E. West, III and Carlo Michael Peduto, II, on behalf of Verizon Pennsylvania Inc. and Verizon North Inc., page 6, lines 2-8.

1 affect an impairment analysis generally affect a geographic area that is larger than
2 the wire center. First, the ILEC's retail rate is not unique to a particular wire center
3 level. Second, because UNE loop rates are set at the density cell level, the major
4 cost of service does not change from wire center to wire center within the density
5 cell. Third, efficient backhaul networks would not be created for an individual wire
6 center. Rather they would be established for a group of wire centers that are
7 geographically related. Finally, marketing expenses are usually incurred over an
8 area much larger than the wire center.

9 **Q: Is there another method for the determining geographic markets that could**
10 **guide the PUC in its search for reasonable markets?**

11 Dr. Loube: Yes. Antitrust investigations have long analyzed the problem of determining a
12 geographic market. The principles used in these investigations are incorporated in
13 the Horizontal Merger Guidelines (HMG). These guidelines start at the most
14 granular level and increase the size of the market until it is possible to establish
15 market power with a sustained price increase. The ability to sustain the price
16 increase is dependent on cost advantages that are to some extent generated by
17 economies of scale and sunk costs that we have used to determine that density cells
18 are best. Our analysis also starts with the most granular and then stops when a
19 threshold is reached. That is, I have analyzed whether the market should be defined
20 at the most granular level, the wire center and compared that market to larger
21 markets, such as the density cell and the MSA. Following the FCC's guidance, I
22 provide a different analysis than is used in antitrust work due to the fact that the

1 threshold we are seeking is the profitability of the entrant rather than the ability to
2 sustain a non-competitive price.²⁸ Thus, I am informed and instructed by the merger
3 guidelines but not determined by those guidelines. As such our analysis is
4 consistent with generally accepted practices of determining geographic markets.

5
6 **III. SWITCHING IMPAIRMENT AND TRIGGER ANALYSIS**

7 **Q: What is local circuit switching?**

8 Mr. Curry: Local circuit switching represents the provision of basic local switching equipment
9 in a customer's community. This function is a key part of the provision of basic
10 local telephone service, and is currently classified as an UNE in the FCC's
11 interconnection architecture. In the *TRO*, the FCC defines "local circuit switching
12 to encompass line-side and trunk-side facilities, plus the features, functions and
13 capabilities of the switch," including "the basic switching function of connecting
14 lines to lines, lines to trunks, trunks to lines, and trunks to trunks."²⁹ In addition,
15 "the features, functions, and capabilities of the local circuit switching UNE also
16 include the same basic capabilities that are available to the incumbent LEC's
17 customers, such as telephone number, directory listing, dial tone, signaling, and
18 access to 911, and in [certain] cases...operator services and directory assistance."³⁰

²⁸ *Id.*, ¶ 111.

²⁹ *Id.*, ¶ 433.

³⁰ *Id.*, ¶ 433.

1 (The incumbent LEC must offer unbundled access to operator services and
2 directory assistance services if it does not provide customized routing.³¹)

3 **Q: What does the *TRO* say about the availability of unbundled incumbent LEC**
4 **local switching for the mass market?**

5 Mr. Curry: Before addressing the issues of geographic markets and trigger analysis, the FCC
6 found “on a national basis, that competing carriers are impaired without access to
7 unbundled local circuit switching for mass market customers ... based on evidence
8 in our record regarding the economic and operational barriers caused by the cut
9 over process.”³² The FCC further directed states to “approve, within nine months of
10 the effective date of this Order, a batch cut migration process to be implemented by
11 incumbent LECs that will address the costs and timeliness of the hot cut process.”³³
12 We will discuss OCA’s position with respect to batch hot cuts in Section IV of this
13 testimony.

14 **Q: Assuming that the hot cut process issue is resolved, what is the next step in**
15 **evaluating impairment related to local circuit switching elements?**

16 Dr. Loube: The FCC finds “on a national level that requesting carriers are impaired without
17 access to unbundled local circuit switching when serving mass market customers.
18 This finding is subject to a more granular review by the states pursuant to
19 specifically enumerated triggers and other operational and economic criteria

³¹ *TRO* at footnote 1327.

³² *TRO*, ¶ 459.

³³ *Id.*, ¶ 488.

1 regarding facilities-based entry in specific geographic markets.”³⁴ The *TRO*
2 institutes “a more granular market-by-market analysis of impairment on a going
3 forward basis.”³⁵

4 **Q: Please elaborate on the granular review to be performed by state commissions.**

5 Dr. Loube: In the *TRO* decision, as codified in new §51.319(d)(5)(i), the FCC directs “the
6 states to identify where competing carriers are impaired without unbundled
7 switching, pursuant to the triggers and analysis of competitors’ potential to
8 deploy.”³⁶ The *TRO* explains that state commissions should “follow a two-step
9 process in determining whether to find “no impairment” in a particular market. In
10 the first step, states will apply self-provisioning and wholesale triggers to a
11 particular market to determine if the marketplace evidence of deployment of circuit
12 switches serving the mass market requires a finding of no impairment.”³⁷ If the
13 triggers are satisfied, that is, if the states determine that the level of competition in a
14 particular market is adequate to find that there is “no impairment”, then there is no
15 need to go to the second step.

16 **Q: How many triggers does the first step of analysis include?**

17 Dr. Loube: There are two triggers in the first step of the analysis. The FCC recognizes that “a
18 more granular analysis may reveal that a particular market is not subject to

³⁴ *Id.*, ¶ 419.

³⁵ *Id.*, ¶ 424.

³⁶ *Id.*, ¶ 473.

³⁷ *Id.*, ¶ 494.

1 impairment in the absence of unbundled local circuit switching. We [the FCC]
2 therefore set forth two triggers that state commissions must apply in determining
3 whether requesting carriers are impaired in a given market.”³⁸ The two triggers are
4 the self-provisioning trigger and the wholesale trigger. The FCC clearly directs the
5 state commissions to “examine these triggers first in their analysis.”³⁹

6 **Q: Please describe the self-provisioning trigger.**

7 Dr. Loube: The first trigger, the self-provisioning trigger, considers “evidence of competitive
8 LEC circuit switch deployment.”⁴⁰ In the *TRO*, the FCC finds that “evidence of
9 self-deployment is the best indicator of whether competitive LECs have been able
10 to overcome barriers to entry with respect to facilities deployment.”⁴¹ “First, where
11 a state determines that there are three or more carriers, unaffiliated with either the
12 incumbent LEC or each other, that are serving mass market customers in a
13 particular market using self-provisioned switches, the state must find “no
14 impairment” in that market.”⁴²

15 The FCC believes “the existence of three self-provisioners of switching
16 demonstrates adequately the technical and economic feasibility of an entrant
17 serving the mass market with its own switches, and indicates that existing barriers

³⁸ *Id.*, ¶ 461.

³⁹ *Id.*, ¶ 461.

⁴⁰ *Id.*, ¶ 435.

⁴¹ *Id.*, ¶ 435.

⁴² *Id.*, ¶ 462.

1 to entry are not insurmountable.”⁴³ “The competitive switch providers should be
2 actively providing voice service to mass market customers in the market.”⁴⁴

3 **Q: Please describe the wholesale trigger.**

4 Dr. Loube: The second trigger, the wholesale trigger, examines the availability of wholesale
5 switching alternatives.⁴⁵ “Second, a state must find no impairment when it
6 determines that there are two or more competitive wholesale suppliers of unbundled
7 local circuit switching, unaffiliated with the incumbent or each other.”⁴⁶

8 The FCC finds that “this test will ensure that local circuit switching can readily be
9 obtained from a firm using facilities that are not provided by the incumbent.”⁴⁷
10 “Identified carriers providing wholesale service should be actively providing voice
11 service used to serve the mass market and be operationally ready and willing to
12 provide wholesale service to all competitive providers in the designated market.”⁴⁸

13 **Q: Do you have further comment regarding the triggers?**

14 Dr. Loube: Yes. According to the *TRO*, both triggers require the competitive carriers to be
15 “using or offering their own separate switches” and “should be actively providing
16 voice grade service to mass market customers in the market.”⁴⁹ Furthermore, the

⁴³ *Id.*, ¶ 501.

⁴⁴ *Id.*, ¶ 499.

⁴⁵ “While the record shows that such wholesale alternatives are not generally available at this time...such alternatives may well develop in the future.” *TRO*, ¶ 504.

⁴⁶ *TRO*, ¶ 463.

⁴⁷ *Id.*, ¶ 504.

⁴⁸ *Id.*, ¶ 499.

⁴⁹ *Id.*, ¶¶ 499 and 509.

1 FCC prohibits state commissions from evaluating other factors, “such as the
2 financial stability or well-being of the competitive switching providers.”⁵⁰ “The key
3 consideration to be examined by state commissions is whether the providers are
4 currently offering and able to provide service, and are likely to continue to do so.”⁵¹

5 **Q: Does the FCC’s errata change to paragraph 499 of the TRO alter the way state**
6 **commissions implement the trigger mechanisms?**

7 Dr. Loube: Yes. The errata deleted the phrase “should be capable of economically serving the
8 entire market.”⁵² This relieves the CLEC from the responsibility to completely
9 duplicate the service capabilities of the existing incumbent carrier across the entire
10 market.

11 **Q: Is a state commission required to count every CLEC offering services in the**
12 **market when the state commission implements the trigger mechanisms?**

13 Dr. Loube: No. The CLEC must **actively** seek to serve the market. For example, if the market
14 covers an area of 20 exchanges, a CLEC serving only 18 of those exchanges could
15 be counted as one of the trigger CLECs. However, if the CLEC is only serving 2 of
16 the exchanges, the state commission may find that the CLEC is not actively serving

⁵⁰ *Id.*, ¶ 500.

⁵¹ *Id.*, ¶ 500; “For instance, states should review whether the competitive switching provider has filed a notice to terminate service in that market.” *TRO* at footnote 1556.

⁵² *In the Matter of Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Implementation of the Local Competition Provisions of the Telecommunications Act of 1996, Deployment of Wireline Services Offering Advanced Telecommunications Capability*, CC Docket Nos. 01-338, 96-98, 98-147, *Errata*, released Sept. 17, 2003, FCC 03-227, Number 21.

1 the market. The state commission does not have to count such a CLEC, because the

2 FCC noted:

3 For example, if the marketplace evidence shows that new entrants
4 have deployed a certain type of facility, we will consider the facts as
5 evidence that the barriers to entry in that market for that element are
6 surmountable. In deciding what weight to give this evidence, we
7 will consider how extensively carriers have been able to deploy such
8 alternatives to serve what extent of the market, and how mature and
9 stable that market is.⁵³

10
11 If the state commission finds that a carrier is not serving the market to a sufficient
12 extent, that commission can exclude the carrier from the count used to meet a
13 particular trigger.

14 Moreover, in instances where two carriers serve significant parts of a market and a
15 third carrier serves only a small segment of the market, the PUC should not
16 determine that the trigger mechanism has been met for the entire market. Instead,
17 the PUC should redefine the market to include only the small segment of the market
18 served by the third carrier, and finding that impairment still exists in the large
19 segment of the market.⁵⁴

20 **Q: What guidance does the FCC provide regarding whether a CLEC is serving a**
21 **sufficient portion of the market?**

22 Dr. Loube: The FCC's guidance regarding whether a sufficient portion of the market is being
23 served is divided into two parts. First, the FCC requires the CLEC to have the

⁵³ *Id.* ¶ 94.

⁵⁴ *TRO*, footnote 1552.

1 “ability to serve each group of customers” within the relevant geographic market.⁵⁵

2 The two groups of mass market customers are the residential and very small
3 business customers served using DS0 lines.⁵⁶ If the carriers are not serving one
4 group, then that carrier should be eliminated from the trigger count. Moreover, it is
5 more important that the carrier be serving the residential market because that is the
6 largest part of the market.

7 While it has been hard to document the size of the business mass market in this
8 proceeding, a proxy for that portion of the market is the number of single-line
9 business access lines. In Pennsylvania, Verizon served 121,677 single-line business
10 lines and 4,248,750 residential lines as of December 31, 2002.⁵⁷ Thus, the single-
11 line business group represents less than 3 percent of the mass market. The fact that
12 a CLEC may be serving the smaller, but more lucrative business portion of the
13 market does not provide evidence that carriers are not impaired in general, and if
14 the carrier is only serving this small portion of the market, without also serving
15 residential customers, the carrier should not be included in the trigger count. The
16 elimination of access to unbundled switching, solely on the basis of CLECs that
17 provide service to business customers, would discriminate against the larger group
18 of mass market customers – residential customers. Thus, carriers serving only
19 business and not residential customers should not be included in the self-
20 provisioning trigger count in the mass market analysis.

⁵⁵ *Id.*, ¶ 495.

⁵⁶ *Id.*, ¶ 127.

1 **Q: Please describe the FCC’s second guideline for evaluating whether a CLEC is**
2 **servicing the market?**

3 Dr. Loube: The FCC noted that 3 percent of the residential market represented only a small
4 percentage of the residential voice grade market, and that this percentage of
5 customers served did not demonstrate a lack of impairment.⁵⁸ Stated differently, the
6 FCC recognized that the presumption of impairment still holds even if some CLEC
7 uses its own switching to serve a very small percentage of residential customers.
8 This minimum is also important to each CLEC because of the pervasive existence
9 of economies of scale and scope in the provision of telecommunications services.⁵⁹
10 Competitors serving small markets segments will not be viable and will not be able
11 “to serve specific markets profitably.”⁶⁰ CLECs serving the small niche markets
12 may be doing so for a variety of reasons, but such service is not evidence of lack of
13 impairment in the market. For example, a CLEC serving an enterprise customer
14 might as part of that service provide lines to employees that are telecommuting, or a
15 line to the corporate president at his or her residence. Such niche market service is
16 insufficient to constitute service to the residential market and does not correspond
17 to “actively providing voice service to mass market customers in the market.”⁶¹

⁵⁷ ARMIS 43-01, Table II, rows 2090, 2100, 2110, summed across Verizon PA and Verizon North.

⁵⁸ *TRO*, ¶¶ 438-440.

⁵⁹ *Id.*, ¶ 86.

⁶⁰ *Id.*, ¶ 495.

⁶¹ *Id.*, ¶ 499.

1 To separate those CLECs that are actively serving and can serve the mass market
2 profitably from those CLECs that are not able to serve the market profitably and are
3 only functioning as niche players, I recommend that the PUC adopt a 3 percent rule.
4 Such a rule would require that a CLEC provide service to approximately 3 percent
5 of the mass market in a market area before that CLEC can be used in the count of
6 self-provisioning CLECs under the trigger test. In implementing the rule, I have
7 made it easier to be counted as a self-providing carrier. This is because, due to
8 problems of identifying mass market business lines, I did not count Verizon mass
9 market business customers. I also did not include Verizon's wholesale customers
10 and the CLECs' customers to ensure that my minimum line requirement was less
11 than 3 percent. Exhibit RL-1, Table B shows the results of my calculations. For
12 each market area defined by Verizon, I provide the number of Verizon retail
13 residential lines and show 3 percent of those lines. In Exhibit RC-1, we compare
14 the minimum necessary line counts to the number of lines served by each CLEC in
15 the individual markets.

16 **Q: How did Verizon count CLECs?**

17 Dr. Loube: Verizon counted each and every CLEC that serves at least one customer in any
18 market under Verizon's estimation. It included five carriers that served only one
19 customer per market as effectively providing service in those areas. Two of those
20 carriers were serving an area where Verizon's retail line count exceeded 486,000.
21 Verizon included an additional 9 carriers that served more than one line but less
22 than 100 lines. Two of those carriers operated in an area where Verizon has over

1 800,000 lines. Verizon’s counting method means that if three carriers each with
2 one customer operate in a market, then all CLECs operating in that market would
3 be denied access to the local circuit switch UNE as part of a UNE-P combination.
4 Thus, 3 carriers serving 1 mass market line each would eliminate UNE-P to more
5 than 800,000 lines.

6 **Q: How did Verizon justify counting these tiny operations?**

7 Dr. Loube: Verizon witnesses Peduto and West assert that the PUC must not make any
8 subjective decisions; that the PUC must rely only on objective data. They believe
9 that “this objectivity allows trigger determination to be made quickly and accurately,
10 and avoids the need for protracted proceedings.”⁶²

11 **Q: Should the PUC use Verizon’s counting method?**

12 Dr. Loube: No. Verizon’s witnesses Peduto and West ignore the FCC’s statement that “the key
13 consideration to be examined by state commissions is whether the providers are
14 currently offering and able to provide service, and are likely to continue to do so.”⁶³
15 Accordingly, the state commissions must determine what it means to serve, to be
16 able to serve and whether the carrier is likely to continue to serve. State
17 commissions must answer these questions using their judgment regarding the
18 markets in their states. Despite Verizon’s contention to the contrary, inevitably,
19 this Commission must use some subjectivity in making the necessary

⁶² Direct testimony of Debra M. Berry and Carlo Michael Peduto, II, on behalf of Verizon Pennsylvania Inc., adopted by Harold E. West III, page 9, lines 3-11.

⁶³ *TRO*, ¶ 500.

1 determinations in this proceeding. As noted above, the FCC provided some
2 guidance with regard to how to determine whether a carrier is actually serving the
3 market, and I have provided a systematic and practical way to put that guidance into
4 operation.

5 **Q: How should the PUC consider cable telephony providers as trigger candidates?**

6 Dr. Loube: The *TRO* expressly considers the availability of intermodal alternatives when
7 determining ILEC unbundling obligations.⁶⁴ The *TRO* cites that “some cable
8 companies have begun offering local voice service. In mid-2002, cable telephony
9 represented over 2.5 million access lines in 27 states, a 39 percent growth over the
10 previous year. Industry sources state that over 10 million households have access to
11 cable telephony. Cable companies’ voice service competes with the primary
12 landline voice service...”⁶⁵

13 However, the FCC warns that “although the existence of intermodal switching is a
14 factor to consider...the limited use of intermodal circuit switching alternatives for
15 the mass market is insufficient for us to make a finding of no impairment in this
16 market, especially since these intermodal alternatives are not generally available to
17 new competitors.”⁶⁶

18 Moreover, cable networks were “built for other purposes, often under government
19 franchise, and therefore have first-mover advantages and scope economies not

⁶⁴ *Id.*, ¶ 5.

⁶⁵ *Id.*, ¶ 52.

⁶⁶ *Id.*, ¶ 443.

1 available to other new entrants.”⁶⁷ The cable provider may not only self-provide its
2 own switch, but also its loops. This strategy is only available to the franchised
3 cable company. It is not available to other entrants and therefore, the existence of
4 the cable company’s telephone service provides no “evidence of an entrant’s ability
5 to access the incumbent LEC’s wireline voice-grade local loop and thereby self-
6 deploy local circuit switches.”⁶⁸ Given the limited potential for CLECs to enter the
7 cable telephony field, cable companies should not be counted as mass marketing
8 triggering carriers.

9 **Q: Should ILECs operating as CLECs or through ILEC subsidiaries be**
10 **considered as mass market triggering companies?**

11 Dr. Loube: No. These ILECs have many of the same unique characteristics that cable
12 companies have. ILECs have switches that serve the incumbent franchise territory,
13 and therefore, enjoy the benefits of economies of scope not available to new
14 entrants. **(Begin Proprietary)**

15
16 ⁶⁹ **(End Proprietary)** If these ILECs have a rural exemption to the
17 provision of UNEs, they also have a protected monopoly franchise that provides
18 them with a secure base of operations to expand into other services. Such a secure
19 base is not available to competitive carriers. For these reasons it is reasonable to

⁶⁷ *Id.*, ¶ 98.

⁶⁸ *Id.*, ¶¶ 98 and 446.

⁶⁹ Response of CEI Networks, Inc. to Preliminary Data Request, A-6.

1 establish a distinction and exclude these types of ILEC affiliates or subsidiaries
2 from the trigger count. In some instances (e.g., SBC), the CLEC may be from an
3 ILEC that does not operate in proximity to Pennsylvania, and does not have a
4 switch nearby. In that case, the ILEC could be counted for the purpose of the self-
5 provisioning trigger analysis. The Commission should not allow ILEC-affiliated
6 CLECs to be included in the competitive trigger analysis unless evidence is
7 presented that shows its total independence from the ILEC's switching equipment
8 and operations.

9 **Q: Are there exceptions to the two triggers?**

10 Dr. Loube: Yes. The FCC recognizes “that exceptional circumstances may preclude a state
11 determination that there is no impairment in a given market even when one of the
12 triggers has been satisfied.”⁷⁰ “Where the self-provisioning trigger has been
13 satisfied and the state commission identifies an exceptional barrier to entry that
14 prevents further entry, the state commission may petition the [FCC] for a waiver of
15 the application of the trigger...”⁷¹ An example of an exceptional barrier to entry
16 may be inadequate collocation space for additional competitive LECs.⁷²

17 **Q: What if neither of the two triggers is satisfied?**

18 Dr. Loube: The *TRO* states, “[I]f the triggers are not satisfied, the state commission shall
19 proceed to the second step of the analysis, in which it must evaluate certain

⁷⁰ *TRO* at footnote 1534.

⁷¹ *Id.*, ¶¶ 462 and 503.

⁷² *Id.*, ¶ 462.

1 operational and economic criteria to determine whether conditions in the markets
2 are actually conducive to competitive entry, and whether carriers in that market
3 actually are not impaired without access to unbundled local circuit switching.”
4 Therefore, states should examine operational, economic, and potential deployment
5 evidence.

6 I would note that Verizon has not filed any evidence of the operational or economic
7 factors that need to be considered, nor has it filed any potential deployment
8 evidence. Verizon has essentially filed a triggers-only case. However, I have
9 provided this brief explanation, given the FCC’s admonition on this point. We have
10 not performed any analysis on operational, economic, or potential deployment
11 issues, since no testimony or data was filed by Verizon.

12 **Q: Turning now from the general nature of markets and triggers to the specifics**
13 **of Pennsylvania, have you analyzed the Verizon proposal and realities that**
14 **exist in the Commonwealth?**

15 Mr. Curry: Yes, we have. We have examined the filings, data, and interrogatory responses
16 from the carriers in this proceeding, and it is clear that the FCC’s self-provisioning
17 triggers are not met in any of the MSAs identified by Verizon in its filing.

18 **Q: Please describe the nature of Verizon’s filing.**

19 Mr. Curry: As Dr. Loube has indicated, Verizon is seeking a PUC finding of “no impairment”
20 in 12 density zones of 7 MSAs in Pennsylvania, based on their assertions that there
21 exist three or more competitors in each MSA that provide local circuit switching via

1 the competitors' own switches.⁷³ Table 1 shows the MSAs and the number of
2 switches that Verizon claims should be counted toward the self-provisioning trigger.

3
4 **Table 1: Verizon-Proposed CLEC Mass Market Switch Providers**

MSA	# Verizon-Claimed Competitive Switches
Allentown-Bethlehem-Easton	7
Harrisburg-Lebanon-Carlisle	5
Lancaster	4
Philadelphia	13
Pittsburgh	8
Reading	4
Scranton-Wilkes Barre-Hazleton	5

5
6 **Q: What is your position with respect to the Verizon trigger analysis?**

7 Mr. Curry: We disagree with Verizon's analysis. Verizon's filing incorrectly concludes that
8 the existence of alternative, self-provisioned local circuit switching in Pennsylvania
9 is at a level where the FCC's triggers are met. We do not find any markets in
10 Pennsylvania in which those triggers are being met.

11 **Q: Why is it your position that Verizon has not met the trigger requirements in**
12 **any of the market areas identified?**

13 Mr. Curry: As Dr. Loube has previously discussed, there are reasonable instances in which
14 competitive service providers should not be included in a count of self-provisioning
15 carriers for the purpose of evaluating mass market switching:

⁷³ Verizon Petition, Attachment 2.

- 1 • The carrier does not serve both residential and small business mass market
- 2 customers;
- 3 • The carrier does not serve at least three percent of the market area;
- 4 • The carrier offers intermodal (cable) service only; or
- 5 • The carrier is an ILEC affiliate or subsidiary.

6 Of the 15 competitive carriers shown in Verizon's Petition, eight do not market
7 their services to both residential and business mass market customers,⁷⁴ and
8 therefore cannot be included in the trigger analysis. Another two competitive
9 carriers are cable providers,⁷⁵ and as Dr. Loube has indicated, cannot reasonably be
10 included in the trigger analysis. Three carriers included in Verizon's listing are
11 affiliates of incumbent local exchange carriers and share facilities or operations
12 with their incumbent affiliate,⁷⁶ and should not be included in the trigger analysis.
13 In addition to those specific exclusions, all of the fifteen competitors counted by
14 Verizon serve fewer than 3 percent of the lines in at least one of their markets, so
15 they would be excluded in those specific markets. That leaves no independent or
16 non-excluded competitive carriers operating in Pennsylvania that provide mass
17 market services from their own local circuit switches in any market area, and
18 obviously none of the MSAs identified by Verizon have three or more self-provided
19 competitive switches.

⁷⁴ (Begin Proprietary)

(End Proprietary)

⁷⁵ (Begin Proprietary)

(End Proprietary)

1 **Q: Please elaborate on your findings with respect to each of the competitive**
 2 **carriers listed in Verizon’s filings.**

3 Mr. Curry: Table 2, below, depicts the list of CLECs as shown on Verizon’s Supplemental
 4 Exhibit 1, Attachment A (Proprietary), along with information that shows whether
 5 the switches provided by these carriers should be excluded from consideration for
 6 the purpose of switching trigger analysis.

7 **Table 2: Independent Analysis of CLEC Mass Market Switch Providers.**

MSA Name	CLEC Name (Proprietary)	Meet Self-Provisioning Triggers?	Reason for Exclusion
Allentown-Bethlehem-Easton (Density Zone 3)	***	No	R, %
	***	No	R, %
	***	No	%
	***	No	R, %
	***	No	I, %
	***	No	C
Harrisburg - Carlisle (Density Zone 3)	***	No	R, %
	***	No	R, %
	***	No	I
	***	No	I, S, %
	***	No	R, %
Lancaster (Density Zone 3)	***	No	R, %
	***	No	I
	***	No	I, S
	***	No	R, %
Lebanon (Density Zone 3)	***	No	R, %
	***	No	I, %
	***	No	I, S, %
Philadelphia (Density Zone 1)	***	No	R, %
	***	No	R
	***	No	R, %
	***	No	R, %
	***	No	%
	***	No	C, S, %
	***	No	I, %
	***	No	%
	***	No	R, %

MSA Name	CLEC Name (Proprietary)	Meet Self-Provisioning Triggers?	Reason for Exclusion
	***	No	R, %
Philadelphia (Density Zone 2)	***	No	R, %
	***	No	R, %
	***	No	R, %
	***	No	R, %
	***	No	%
	***	No	R, %
	***	No	C, S, %
	***	No	R, %
Philadelphia (Density Zone 3)	***	No	R, %
	***	No	R, %
	***	No	R, %
	***	No	R, %
	***	No	%
	***	No	C, S, %
	***	No	I, %
	***	No	I, S, %
	***	No	C, %
	***	No	%
	***	No	R, %
	***	No	R, %
Pittsburgh (Density Zone 1)	***	No	R
	***	No	R, %
	***	No	R, %
	***	No	C, S, %
	***	No	I
Pittsburgh (Density Zone 2)	***	No	R, %
	***	No	R, %
	***	No	R, %
	***	No	C, S, %
	***	No	I, %
Pittsburgh (Density Zone 3)	***	No	R, %
	***	No	R, %
	***	No	R, %
	***	No	R, %
	***	No	C, S
	***	No	R, %
	***	No	I
	***	No	R, %
Reading (Density Zone 3)	***	No	I
	***	No	I, S
	***	No	C, %
	***	No	R, %
Scranton-Wilkes Barre-Hazleton (Density Zone 3)	***	No	R, %
	***	No	R, %
	***	No	I

MSA Name	CLEC Name (Proprietary)	Meet Self-Provisioning Triggers?	Reason for Exclusion
	***	No	C, %
	***	No	R, %

Reason(s) for exclusion:

- R Does not actively serve both residential and small business customers.
- I CLEC is an ILEC subsidiary or affiliate.
- C CLEC is a cable provider.
- S CLEC does not own or operate its own switch.
- % CLEC has de minimis number (less than 3 percent) of customers in market. (See detailed table, Exhibit RC-1.)

Q: Can you elaborate on some of the specific reasons why some of these carriers might have been identified by Verizon as qualifying for the trigger analysis?

Mr. Curry: First, there appears to be disagreement among the parties in this proceeding with regard to the types of CLECs that should be included for the purpose of meeting the TRO's self-deployment trigger. Dr. Loube and I have explained the categories of CLECs that we believe must be excluded from the analysis.

Dr. Loube has also discussed and given examples of discrepancies between the line counts provided by Verizon and the CLECs. One of the more difficult aspects of performing the trigger analysis is the identification of mass market customers, specifically, residential customers. Verizon has indicated that it gathered its local switch identities from the LERG (Local Exchange Routing Guide), the number of UNE-L loops from internal databases, and the number of residential customers served by CLECs (such as cable telephony providers) using their own switching

1 and loop facilities from the E911 database.⁷⁷ While this approach appears
2 reasonable, it clearly does not identify residential customers as well as CLEC
3 records. One example of potential miscounting is multi-tenant dwellings and
4 nursing or retirement homes; in those situations, a location might contain multiple
5 residential customers that may not be properly counted. The building owner may
6 be an enterprise customer of the CLEC, but may re-sell service to tenants who have
7 their own directory listings and E911 data entries. Those residents should not be
8 counted as mass market customers of the CLEC.

9
10 **IV. THE ISSUE OF BATCH HOT CUTS**

11 **Q: Does the *TRO* address the transfer of customers' lines between carriers?**

12 Mr. Curry: Yes. The *TRO* evaluates the current loop migration, or "hot cut," process, and
13 directs state commissions to approve a low-cost batch cut process that mitigates the
14 limitations of the current hot cut process.

15 **Q: Please describe the current hot cut process?**

16 Mr. Curry: When a customer decides to change service providers, certain processes must take
17 place to physically (or in some cases electronically) disconnect the customer's line
18 from the connection of the existing service provider and move it to the connection

⁷⁷ Direct testimony of Debra M. Berry and Carlo Michael Peduto, II, on behalf of Verizon Pennsylvania Inc., adopted by Harold E. West III, pp 18-21.

1 to the new provider. It is important that the activities are coordinated such that
2 there is minimal interruption of the customer's service during the cut-over.

3 The *TRO* explains that the "physical transfer of a customer's line from the
4 incumbent LEC switch to the competitive LEC switch currently requires a
5 coordinated loop cut over or "hot cut" for each customer line."⁷⁸ "A hot cut is a
6 largely manual process requiring incumbent LEC technicians to manually
7 disconnect the customer's loop, which was hardwired to the incumbent LECs
8 switch, and physically re-wire it to the competitive LEC switch, while
9 simultaneously reassigning (*i.e.* porting) the customer's original telephone number
10 from the incumbent LEC switch to the competitive LEC switch."⁷⁹ "From the time
11 the technician disconnects the subscribers loop until the competitor reestablishes
12 service, the subscriber is without service."⁸⁰ A hot cut is required regardless of
13 whether the customer was previously serviced by the incumbent LEC or by a
14 competitive LEC through unbundled network elements.⁸¹

15 **Q: What is the relevance of "batch hot cuts"?**

16 Mr. Curry: If states find that competitive carriers are not impaired without the provision of
17 local circuit switching elements, then all of the customers who are currently served
18 by UNE-P must be migrated rather quickly to UNE – Loop elements and connected
19 to the competitors' local switches (and likely to transport facilities). If a

⁷⁸ *Id.* ¶ 465.

⁷⁹ *TRO* at footnote 1409.

⁸⁰ *TRO* at footnote 1409.

1 competitive carrier has hundreds or thousands of customers to migrate, then there
2 must be a system of processing a batch, or large group, of the migration orders in a
3 reasonably short time. Data filed in this case reveals that there are over 444,000
4 total residential and business customers served by UNE-P in approximately 400
5 Verizon-PA central offices throughout Pennsylvania,⁸² and all of those customers
6 would need to be migrated to UNE-L platforms in an efficient manner if UNE-P is
7 eliminated. The process is complex, but must be accurate and result in minimal or
8 no disruption of customer service. Most incumbent carriers have never processed
9 as large a batch as is envisioned if UNE-P is phased out, and regulators are
10 justifiably concerned that customers are not displaced by this event. The number of
11 hot cuts that must be accomplished if all markets are declared not impaired is over
12 **(Begin Proprietary) (End Proprietary)** times as many as Verizon indicates
13 that it has processed in any given month in 2003.⁸³

14 **Q: Once the initial migration is completed, is the process still needed?**

15 Mr. Curry: Most experts agree that there will be an initial peak, but that sizeable batches may
16 continue to occur due to the churn of customers from one carrier to another.
17 Currently (using UNE-P), churn is handled without manual hot cuts. The process
18 for switching a customer from one competitor to another, or from a competitor to
19 the incumbent is more complex in a UNE-L environment. With a hypothetical

⁸¹ *Id.*, ¶ 465.

⁸² Verizon Pennsylvania Proposal, Appendix A, Part B.

⁸³ Docket M-00031754, Verizon Exhibit 15-4.

1 annual churn of 25%,⁸⁴ the number of hot cuts in a UNE-L environment in
2 Pennsylvania would exceed 10,000 per month on an ongoing basis. That is
3 approximately **(Begin Proprietary)** **(End Proprietary)** times as many line
4 migrations per month than Verizon-PA has ever accomplished.⁸⁵

5 **Q: What did the TRO find with respect to batch hot cuts?**

6 Mr. Curry: The TRO found “on a national level that requesting carriers are impaired without
7 access to unbundled local circuit switching when serving mass market
8 customers.”⁸⁶

9 The FCC further found “that it is unlikely that incumbent LECs will be able to
10 provision hot cuts in sufficient volumes absent unbundled local circuit switching in
11 all markets.”⁸⁷ The significant “issue identified by the record is an inherent
12 limitation in the number of manual cut overs that can be performed, which poses a
13 barrier to entry that is likely to make entry into a market uneconomic.”⁸⁸

14 **Q: Please elaborate on the limitations of the current hot cut process.**

15 Mr. Curry: The TRO lists several factors that contribute to the limited capacity of the current
16 hot cut process, including “the labor intensiveness of the process, including
17 substantial incumbent LEC and competitive resources devoted to the coordination

⁸⁴ Testimony in other jurisdictions has shown that churn may reach or exceed this percentage. See, e.g., Opening Testimony of AT&T Witness Van de Water, California PUC Docket Nos. R 95-04-043 and I 95-04-044, at Section IIIA, Dec. 12, 2003.

⁸⁵ Docket M-00031754, Verizon Exhibit 15-4.

⁸⁶ *Id.* ¶ 419.

⁸⁷ *Id.* ¶ 468.

1 of the process, the need for highly trained workers to perform the hot cuts, and the
2 practical limitations of how many hot cuts an incumbent LEC can perform without
3 interference or disruption.”⁸⁹

4 The costs associated with hot cuts, which are borne by competitive LECs,
5 “contribute to a significant barrier to entry.”⁹⁰ Furthermore, the *TRO* finds that “hot
6 cuts frequently lead to provisioning delays and service outages, and are often priced
7 at rates that prohibit facilities based competition for the mass market.”⁹¹

8 In summary, the FCC finds that “the overall impact of the current hot cut process
9 raises competitors’ costs, lowers their quality of service, and delays the
10 provisioning of service, thereby preventing them from serving the mass market in
11 the large majority of locations.”⁹²

12 **Q: How does the FCC propose to mitigate this barrier to entry?**

13 Mr. Curry: Clearly, the FCC finds that the current manual hot cut processes are problematic for
14 “transferring existing mass market customers in a cost-effective and operationally
15 seamless manner.”⁹³ In the *TRO*, the FCC finds that “the present impairment can be
16 mitigated by an improved loop provisioning process.”⁹⁴ Moreover, “the record

⁸⁸ *Id.* ¶ 469.

⁸⁹ *Id.* ¶ 465.

⁹⁰ *Id.* ¶ 470.

⁹¹ *Id.* ¶ 465.

⁹² *Id.* ¶ 473.

⁹³ *Id.* ¶ 467.

⁹⁴ *Id.* ¶ 475.

1 evidence strongly suggests that the hot cut process could be improved if cut overs
2 were done on a bulk basis, such that the timing and volume of the cut over is better
3 managed. We [the FCC] expect that such improvements would result in some
4 reduction of the non-recurring costs that, according to competitive carriers, prevent
5 entry. Indeed, at this time, we find such improvements are likely to be essential to
6 overcome the operational impairment that competitors face in serving mass market
7 customers.”⁹⁵ As a result, the FCC finds “that a seamless, low-cost batch cut
8 process for switching mass market customers from one carrier to another is
9 necessary, at a minimum, for carriers to compete effectively in the mass market.”⁹⁶

10 **Q: How does the FCC propose to implement a low-cost batch cut process?**

11 Mr. Curry: In the *TRO*, and codified in new §51.319(d)(2)(ii),⁹⁷ the FCC directs state
12 commissions to approve a new low-cost batch cut process that mitigates the
13 limitations of the current hot cut process in each state commission designated
14 market. “State commissions must approve, within nine months of the effective date
15 of this Order, a batch cut migration process to be implemented by incumbent LECs
16 that will address the costs and timeliness of the hot cut process.”⁹⁸

⁹⁵ *Id.* ¶ 474.

⁹⁶ *Id.* ¶ 487.

⁹⁷ See Part 51 of Title 47 of the Code of Federal Regulations.

⁹⁸ *TRO*, ¶ 488.

1 **Q: Does the FCC provide additional guidance regarding the new low-cost batch**
2 **cut process?**

3 Mr. Curry: Yes. The FCC directs the state commission to determine the appropriate number of
4 loops to be included within a batch.⁹⁹ In addition, the state commission shall
5 evaluate whether the incumbent LEC can migrate loops from the incumbent LEC
6 switch to the competitive LEC switch in a timely manner, and can establish quality
7 of service standards with regard to the average completion interval for migrating the
8 loops.¹⁰⁰ The rate for a cut over shall be determined in accordance with the FCC's
9 pricing rules for unbundled network elements.¹⁰¹

10 The state commission must also approve the specific processes performed during
11 the batch hot cut. In order to better manage the timing and volume of mass market
12 customer migrations, the low-cost batch process divides the hot cut into a series of
13 steps such that pre-wiring and dial tone verification can be performed
14 approximately two days prior to the actual cut over. On the day of the physical cut
15 over, the incumbent LEC and the competitive LEC coordinate their activities to
16 minimize the possibility of service disruption. During a given time window the
17 incumbent LEC and the competitive LEC can perform the physical cut over of a
18 number, or "batch", of customers.¹⁰² These processes will be dependent on the

⁹⁹ *Id.*, ¶ 489.

¹⁰⁰ *Id.*, ¶ 489.

¹⁰¹ *Id.*, ¶ 489.

¹⁰² *Id.*, ¶ 489.

1 incumbent LEC network. For example, cutovers involving integrated Digital Loop
2 Carrier (DLCs) equipment may differ from other cutovers.

3 **Q: What is the current situation with respect to the implementation of a batch hot**
4 **cut process in Pennsylvania?**

5 Mr. Curry: The PUC is considering batch hot cut process issues in Docket No. M-00031754.¹⁰³
6 Verizon offered no testimony or other evidence regarding batch hot cuts in this
7 *TRO* proceeding.

8 In the *Loop Migration* proceeding, Verizon has indicated it currently uses two
9 separate, though closely related, hot cut processes: a “basic” hot cut process and a
10 “Large Job,” or “Project” process. Verizon indicates in addition that it has
11 developed “a new process that we refer to as a “Batch” hot cut process.”¹⁰⁴

12 **Q: What is your general position with respect to the proposed batch hot cut**
13 **process and the resultant effect on the *TRO* impairment proceeding?**

14 Mr. Curry: Any premature acceptance of or dependence on Verizon’s proposed batch hot cut
15 process, as a part of finding “no impairment” for local circuit switching elements,
16 will create great problems. I anticipate that CLEC parties in this proceeding will
17 provide more specific examples of the difficulties with respect to hot cut issues.

¹⁰³ *Development of an Efficient Loop Migration Process*, Pennsylvania PUC, Docket No. M-00031754.

¹⁰⁴ Docket M-00031754, Verizon Response to Data Request No. 3, Oct. 2, 2003.

1 **Q: Do you have preliminary concerns about the proposed process?**

2 Mr. Curry: Yes, I do. To begin with, Verizon's proposed batch hot cut process has not yet
3 been implemented or tested. With respect to testing its new process, Verizon states
4 "[t]he full scale and methodology of the proposed batch hot cut trial has not yet
5 been determined nor has Verizon completed its review of the potential trial
6 participants."¹⁰⁵ Verizon asserts that the process will be tested in 2004 and will be
7 commercially available at the end of this *TRO* proceeding. The Commission should
8 continue to encourage dialogue among the parties as to the implementation of this
9 process, but should not rush to approve it unless it really works for customers.

10 Addressing the issue of performance monitoring, Verizon responds, "[c]urrently no
11 metrics exist for the proposed batch hot cut process."¹⁰⁶ Once again, the PUC is
12 called upon to trust Verizon's ability to make the systems work. A proper process
13 must be tested and monitored for a reasonable period of time. The Commission
14 should not approve the proposal based on speculation and insufficient evidence.

15 Finally, with respect to the anticipated volume of hot cuts in their new batch
16 process, Verizon responds:

17 "...with the appointment window of 6 to 26 business days for batch
18 hot cuts, Verizon will have a better view of the orders that have been
19 submitted. This will give Verizon more flexibility in planning its work

¹⁰⁵ Verizon response to OCA Set II, Interrogatory 3.

¹⁰⁶ Verizon response to OCA Set II, Interrogatory 4.

1 force to ensure that the orders are all completed within the batch hot
2 cut window.”¹⁰⁷

3 We urge the Commission to examine the scheduling issue very carefully. An
4 appointment window of over 5 weeks constitutes a serious barrier, and may well
5 drive a residential customer away from a competitive service provider. The
6 Commission should ensure that the appointment mechanism and all other aspects of
7 the hot cut process are performed with an eye on parity with the ILEC’s services.

8 We also ask the Commission to be mindful of individual customers, including those
9 who may be in wire centers away from the downtown areas. Even the best batch
10 hot cut process once it is perfected may constitute an entry barrier if a lone
11 customer must wait until other customer orders are accumulated over time for batch
12 processing.

13 At this point, we have not seen a firm proposal, implementation plan, performance
14 monitoring metrics, or other details of the new batch hot cut process, only
15 speculation. The Commission cannot decide that there is no impairment with
16 respect to the local circuit switching until the batch hot cut issue is resolved and a
17 lack of impairment is demonstrated.

18

¹⁰⁷ Verizon response to OCA Set II, Interrogatory 6.

1 **V. THE IMPAIRMENT OF MASS MARKET SWITCHING**

2 **Q: Will you please summarize your testimony with respect to the impairment of**
3 **local circuit switching in mass markets in Pennsylvania?**

4 Dr. Loube: Yes. Mr. Curry and I have reached the following conclusions with respect to the
5 issues of this proceeding:

- 6 • Provision of competitive services in Pennsylvania is heavily dependent on CLEC
7 use of combined UNEs, or UNE-P.
- 8 • Economic market analyses (HHI) demonstrate that Verizon continues to dominate
9 every Pennsylvania market under review.
- 10 • For the purpose of the switching trigger analysis, geographic markets should be
11 defined as the density cells within the MSAs, with the exception of the City of
12 Hazleton issue.
- 13 • There are reasonable instances in which competitive service providers should not
14 be included in a count of self-provisioning carriers for the purpose of evaluating
15 mass market switching:
 - 16 ○ The carrier does not serve both residential and small business mass market
17 customers;
 - 18 ○ The carrier does not serve at least three percent of the market area;
 - 19 ○ The carrier offers only intermodal (cable) service only; or
 - 20 ○ The carrier is an ILEC affiliate or subsidiary.
- 21 • We do not find any markets in Pennsylvania in which the local circuit switching
22 triggers are currently being met.
- 23 • Competition has not yet gained a strong enough foothold to eliminate the key
24 local circuit switching element in any market in Pennsylvania.

- 1 • Verizon’s proposed batch hot cut process has not yet been implemented or tested.
2 There are continuing operational barriers based on the inability to effectively
3 migrate customers; therefore, impairment caused by these barriers still exists.

4

5 **Q. Does this conclude your direct testimony in this proceeding?**

6 Dr. Loube: Yes, it does.

7 Mr. Curry: Yes, it does.

Exhibit RL-1

**Table A
 HHI for Pennsylvania Markets**

Verizon Market Area	HHI	Equivalent Firms
Allentown-Bethlehem-Easton	5,719	1.75
Harrisburg-Carlisle	8,408	1.19
Lancaster	7,835	1.28
Lebanon	8,659	1.15
Philadelphia - Zone 1	7,945	1.26
Philadelphia - Zone 2	9,238	1.08
Philadelphia - Zone 3	8,682	1.15
Pittsburg - Zone 1	7,460	1.34
Pittsburg - Zone 2	6,475	1.54
Pittsburg - Zone 3	5,963	1.68
Reading	8,075	1.24
Scranton- Wilkes-Barre	7,150	1.40

**Table B
 Determining minimum line count necessary to be a "trigger carrier"**

Verizon Market Area	Verizon Residential Lines per Market Area	Three percent of Verizon Lines
Allentown-Bethlehem-Easton	135,381	4,061
Harrisburg-Carlisle	135,326	4,060
Lancaster	59,674	1,790
Lebanon	23,307	699
Philadelphia - Zone 1	98,160	2,945
Philadelphia - Zone 2	486,441	14,593
Philadelphia - Zone 3	800,799	24,024
Pittsburg - Zone 1	68,875	2,066
Pittsburg - Zone 2	164,318	4,930
Pittsburg - Zone 3	255,883	7,676
Reading	83,602	2,508
Scranton- Wilkes-Barre	126,025	3,781

Exhibit RC-1
Comparison of Line Counts with 3% Thresholds for Each Carrier in Each Market
 Source: Verizon's Supplemental Exhibit 1, Attachment A
(Contains Proprietary Information)

MSA Name	CLEC Name (Proprietary)	Verizon Line Count (Proprietary)	CLEC Line Count (Proprietary)	Meets 3% Trigger Threshold?
Allentown-Bethlehem-Easton (Density Zone 3) 3% Threshold: 4,061	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	Yes
	***	***	***	No
Harrisburg-Carlisle (Density Zone 3) 3% Threshold: 4,060	***	***	***	No
	***	***	***	No
	***	***	***	Yes
	***	***	***	No
	***	***	***	No
Lancaster (Density Zone 3) 3% Threshold: 1,790	***	***	***	No
	***	***	***	Yes
	***	***	***	Yes
	***	***	***	No
Lebanon (Density Zone 3) 3% Threshold: 699	***	***	***	No
	***	***	***	No
	***	***	***	No
Philadelphia (Density Zone 1) 3% Threshold: 2,945	***	***	***	No
	***	***	***	Yes
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
Philadelphia (Density Zone 2) 3% Threshold: 14,593	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
Philadelphia (Density Zone 3) 3% Threshold: 24,024	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No

MSA Name	CLEC Name (Proprietary)	Verizon Line Count (Proprietary)	CLEC Line Count (Proprietary)	Meets 3% Trigger Threshold?
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
Pittsburgh (Density Zone 1) 3% Threshold: 2,066	***	***	***	Yes
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	Yes
	***	***	***	No
Pittsburgh (Density Zone 2) 3% Threshold: 4,930	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
Pittsburgh (Density Zone 3) 3% Threshold: 7,676	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	No
	***	***	***	Yes
	***	***	***	No
	***	***	***	Yes
	***	***	***	No
Reading (Density Zone 3) 3% Threshold: 2,508	***	***	***	Yes
	***	***	***	Yes
	***	***	***	No
	***	***	***	No
Scranton-Wilkes Barre-Hazleton (Density Zone 3) 3% Threshold: 3,781	***	***	***	No
	***	***	***	No
	***	***	***	Yes
	***	***	***	No
	***	***	***	No

Note: CLEC line count used for threshold comparison when available. Otherwise, Verizon line count used.

Appendix 1
Curriculum Vitae of Dr. Robert Loube

Personal Data:

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EDUCATION:

Ph.D., Economics, Michigan State University, 1983
M.A., Economics, University of Massachusetts-Amherst, 1971
B.S., Economics, University of Maryland-College Park, 1969

PROFESSIONAL EXPERIENCE:

April 2001–Present, **Director/Economic Research**, Rhoads & Sinon, LLC, Washington, DC.
Responsibilities include:

- Prepared an Affidavit for the National Association of State Utility Consumer Advocates in the Matter of the Review of Commission’s Rules Regarding The Pricing of Unbundled Network Elements And the Resale of Service by Incumbent Local Exchange Carriers, WC Docket No. 03-173 (with David Gabel).
- Provided expert advice to the Cities of Austin, Dallas, Fort Worth, and Hereford in Southwestern Bell Telephone Company’s Filing To Establishing Surcharges Resulting From District Court Remand Of PUC Final Order In Docket No. 18509, SOAH Docket No. 473-03-1620, Texas PUC Docket No. 26719.
- Filed expert testimony on behalf of the Staff of the Nevada Public Utilities in The Petition of Nevada Bell for an Order commencing a proceeding to determine the costs and rates for unbundled network elements, Docket No. 00-7012.
- Prepared comments for the National Association of State Utility Consumer Advocates in the Matter of Cost Review Proceeding for Residential and Single-Line Business Subscriber Line Charge Cap, FCC CC Docket No. 96-262 (with David Gabel).

- Technical Adviser to the Alabama Public Service Commission in the Generic Proceeding to Establish Prices for Interconnection Services and Unbundled Network Elements, Docket No. 27821.
- Prepared reply comments for the Office of the People's Counsel of the District of Columbia In the Matter of Developing a Unified Inter-carrier Compensation Regime, FCC CC Docket No. 1-92.

February 2001, **Consultant** to Booz, Allen & Hamilton, Inc., Telephone Organization of Thailand, Bangkok. Conducted a tariff and cost workshop for senior management and staff.

August–September 2000, **Consultant** to Nathan Associates, Inc., Ministry of Communications, Jakarta, Indonesia. Drafted a report on best practices guidelines for Universal Service Obligations, and conducted round-table with the Ministry of Communications staff and with the U.S. telecommunications community.

May 1996–April 2001, Federal Communications Commission (FCC), Washington, DC.

- **Industry Economist**, GS 301-15, Established the criteria for choosing the universal service economic cost model. Evaluated and modified telephone cost models. Determined the input values used in telephone cost models. Served on the FCC staff of the Federal State universal service joint board. Developed and evaluated alternative universal service funding proposals. Developed and compared alternative jurisdiction separations allocators with regard to the impact of the allocators on state and federal jurisdictional responsibilities. Reviewed orders of other divisions to ensure that those orders complement the tasks and mandates of the Accounting Policy Division. Conducted special studies for use by the Chairman, Commissioners, Bureau Chief or Division Chief. Provided technical economic advice to the division legal staff regarding common carrier operations and regulatory policy.

May 1989–May 1996, Public Service Commission of the District of Columbia, Washington, DC.

- **Director, Office of Economics**, Supervised the preparation of staff testimony in telephone, electric and gas utility cases. Represented the Commission on the Staff of Federal State Separations Joint Board. Prepared and presented testimony on the strategic approach to electricity demand side management and least cost planning principles. Represented the Commission on the National Association of Regulatory Utility Commissioners Communications Committee's universal service and access reform working groups. (July 1993–May 1996)
- **Acting Director, Office of Economics**. Prepared comments on FERC Notices of Proposed Rulemaking. Represented the Commission on the telephone quality of service and low-income program working groups. (February 1993–July 1993)
- May 1989–February 1993, **Senior Telecommunications Economist**, Public Service Commission of the District of Columbia, Washington, DC. Prepared and presented testimony regarding telephone rate structure, competition in telephone markets, embedded cost studies,

and long run incremental cost studies. Represented the Commission on digital deployment and generic cost manual working groups. Represented the Commission on the staff of the 410B Joint Federal/State Conference on Open Network Architecture. Prepared comments on FCC Notices of Proposed Rulemaking.

January 1986–May 1989, Indiana Utility Regulatory Commission, Indianapolis, Indiana. Positions included:

- **Econometrician.** Developed electric energy and demand forecasts. Supervised consultants developing economic and demographic models for utility service territories. Represented the Commission on the Executive Committee on Intrastate Access Charges. (March 1988–May 1989)
- **Principal Utility Analyst.** Prepared and presented testimony regarding demand forecasting for telephone and electric services, cost of equity and long run marginal cost. Contributed to staff reports on energy and demand forecasts. Developed financial forecasts for electric utilities. (January 1986–March 1988)

September 1979–December 1984, James Madison University, Harrisonburg, VA. Taught industrial regulation, industrial organization (undergraduate and M.B.A.), intermediate macroeconomic theory, economic analysis (M.B.A.), and principles of macro and microeconomics. Positions included:

- **Assistant Professor.** (September 1983–December 1984)
- **Instructor.** (September 1979–June 1983)

November 1972–September 1975, **Economist** in the Office of Director, Bureau of Economic Analysis, Department of Commerce, Washington D.C.

SELECTED PUBLICATIONS AND PRESENTATIONS:

Publications

“Universal Service: How much is enough?” *Journal of Economic Issues*, forthcoming June 2003.

“Public Interest Regulation, Common Costs and Universal Service,” in Edythe S. Miller and Warren J. Samuels (eds.), *An Institutionalist Approach to Public Utilities Regulation*, Michigan State University Press, 2002.

“Price Cap Regulation: Problems and Solutions,” *Land Economics*, Vol. 71, Number 3, August 1995.

“Measuring the Total Service Long-Run Incremental Cost,” with David Gabel and Mark Kennet, *Ninth NARUC Biennial Regulatory Information Conference*, September 1994.

“The Proper Use of Stand Alone Cost Studies,” *Ninth NARUC Biennial Regulatory Information Conference*, September 1994.

“State Experience in InterLATA Toll Deregulation,” with Labros Pilalis, *Journal of Economic Issues*, Vol. XXVIII, No. 2, June 1994.

“Price Caps and Cross-subsidization,” *Eighth NARUC Biennial Regulatory Information Conference*, Ohio State University, 1992.

“The Institutional Conditions for Technological Change: Fiber to the Home,” *Journal of Economic Issues*, Vol. XXV, No. 4, December 1991.

“Fiber to the Home: A Competitive Analysis,” *Seventh NARUC Biennial Regulatory Information Conference*, Ohio State University, 1990.

“The Return of the Electric Utility Holding Company and the Future of the Electric Supply Industry,” *Journal of Economic Issues*, Vol. XXIII, No. 2, June 1989.

“Impact of the National Appliance Energy Conservation Act on Residential Energy Consumption within a Service Territory,” with Katri Clodfelder, *Sixth NARUC Biennial Regulatory Information Conference*, Ohio State University, 1988.

A Summary of Future Demand Trends and Capacity Plans for Major Electric Utilities in Indiana, with Wayne Lash *et al*, Public Service Commission of Indiana, Indianapolis, Indiana, 1987.

Electric Demand and Supply Planning for the State of Indiana, with Wayne Lash *et al*, Public Service Commission of Indiana, Indianapolis, Indiana, 1985.

“District Heating and Regulatory Reform,” *Proceedings of the Seventy-Fifth Annual Conference of the International District Heating Association*, Washington D.C.: IDHA, 1984.

State and Local Regulation of District Heating and Cooling Systems: Issues and Options, with Philip Kier *et al*, Argonne, Illinois: Argonne National Laboratory, 1981.

“Michigan’s Hydroelectric Potential,” *The Michigan State Economic Record*, Volume 20, Number 7 (July-August 1978), Division of Research, Graduate School of Business, Michigan State University.

Lectures

“The Evolution of Telecommunications Pricing,” NARUC Annual Regulatory Studies Program, August 2002.

“Federal Restructuring of the Telecommunications Industry,” “Federal Universal Service Programs,” and “State Universal Service Programs,” NARUC Annual Regulatory Studies Program, August 2001.

“Cost Modeling in Telecommunications,” NARUC Annual Regulatory Studies Program, August 1997–2000.

“Policy Issues Raised by Performance-Based Incentive Systems,” Public Policies Toward Competition in the Electric Power Industry, Wisconsin Public Utility Institute, October 1994.

“Cost Allocations in Broadband Networks,” NARUC Annual Regulatory Studies Program, August 1994.

“Pricing Concepts and the Control of Price Discrimination in Advanced Telecommunications Networks: Issues and Methods,” NARUC Advanced Regulatory Studies Program, January 1994.

“Cost Allocation in Advanced Telecommunications Networks: Issues and Methods,” NARUC Annual Regulatory Studies Program, August 1993.

“A Review of Incentive Regulation,” CAMPUT 7th Annual Regulatory Conference, Banff Canada, May 1993.

“New Social Contracts: Telecommunications Policy for the 21st Century,” Annual Meeting of the Association of Evolutionary Economics, January 1993.

“Modernization: Who Pays? Who Benefits?” NARUC Annual Regulatory Studies Program, August 1992.

“Who Determines the Costs and Prices for Access to the Infrastructure,” Telecommunications Policy: Agenda for the 21st Century Conference, The Michigan Divestiture Research Fund, March 1992.

“The New Social Contract,” State Policies for Developing the Telecommunications Infrastructure Forum, Wisconsin Public Utility Institute, December 1991.

“RBOC Strategic Reactions to Entry,” Atlantic Economic Society Annual Conference, Washington, D.C., October 1991.

Staff Testimony

January 1986 to May 1996 presented expert testimony in eight formal cases to the Public Service Commission of the District of Columbia, and in 18 causes for the Indiana Utility Regulatory Commission.

PROFESSIONAL ASSOCIATIONS AND INDUSTRY COMMITTEES:

- Federal Staff of the Federal-State Joint Board of CC Docket No. 80-286 (June 1999–April 2001)
- Federal Staff of the Federal-State Joint Board of CC Docket No.96-45 (May 1996–April 2001)
- Staff Subcommittee on Communications, National Association of Regulatory Utility Commissioners (NARUC) (1994–1996)
- State Staff of the Federal-State Joint Board of CC Docket No.80-286 (1991-1996)
- Member, American Economic Association
- Member, Association for Evolutionary Economics

Attachment 2
Curriculum Vitae of Rowland L. Curry

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Education, Registration

Bachelor of Science in Electrical Engineering
Texas Tech University, 1969

Registered Professional Engineer in Texas (#37301)

Professional Experience

Rowland L. Curry Consulting (dba Curry & Associates) August 2001 – Present

Partial Client Listing

Public Service Commission of South Carolina
The Utility Reform Network
Florida Public Service Commission
Regulatory Commission of Alaska
Pennsylvania Office of Consumer Advocate
Rhoads & Sinon Group, Universal Service Administrative Company
Las Vegas Metropolitan Police Department, Clark County, Nevada

Public Utility Commission of Texas; November 1976 – July 2001

Chief Engineer, Office of Policy Development; October 1995 – July 2001
Monitored FCC proceedings; prepared filings on behalf of PUC
Served as senior advisor to PUC Commissioners on telecommunications issues
Acted as Co-Arbitrator in significant DSL interconnection proceeding, Docket No. 20226
Appointed as representative on Federal-State Joint Board on Universal Service
Elected as Chairman of NARUC Staff Subcommittee on Telecommunications

Division Director, Telephone Division; October 1988 – October 1995
Managed staff of 40 in analysis of telecommunications issues and rate cases
Primary role on senior management team of advising Commissioners, Legislative staff

Division Director, Operations Review Division; October 1986 - October 1988
Responsibility for management audits, financial analysis, telephone service quality
Developed earnings monitoring program for regulated utilities

Assistant Director, Telephone Division; February 1983 – October 1986
Supervised staff in evaluation of telephone cases
Testified as expert witness in formal proceedings
Case coordinator on Southwestern Bell rate case in 1985

Engineer, Engineering & Enforcement Division; November 1976 – February 1983
Developed and implemented program for telephone service quality evaluation
Testified as expert witness in cases involving service quality, depreciation, costs, tariffs
Served as Chairman, NARUC Staff Subcommittee on Telephone Service Quality

General Telephone Company (now Verizon); January 1971 – October 1976

Transmission and Protection Engineer; San Angelo, Brownwood, TX
Designed EAS and toll trunk transmission systems
Designed, tested new systems and special circuits in Texas and Oklahoma
Instructor, system-wide training program on Protection Engineering
Served on two performance improvement task forces

Southwestern Bell Telephone Company; January 1970 – January 1971

PBX Engineer, Area Plug-In Equipment Coordinator; Dallas, TX
Designed PBX equipment additions and modifications
Area-wide coordination of plug-in channel equipment distribution network

Committees and Professional Membership

- Staff Subcommittee on Telecommunications; National Association of Regulatory Utility Commissioners (NARUC); Member, 1980 – 2001; Committee Chair 1997 – 2000.
- Staff Subcommittee on Telephone Service Quality; NARUC; Member, 1978 – 2001; Committee Chair 1980 – 1988.
- Federal-State Joint Board on Separations; CC Docket No. 80-286; Staff 1984 – 1995.
- Federal-State Joint Board on Universal Service; CC Docket No. 96-45; Staff 1996 – 2001; State Staff Chair 1998 – 2001.
- National Society of Professional Engineers; Texas Society of Professional Engineers (current)

Selected Presentations & Lectures

- *Fundamentals of Telecommunications Regulation*; Anchorage, Alaska; Jan 2003.
- *State Regulation of Telephone Service Quality*; Pennsylvania PUC Collaborative Hearings; July 2002.
- *DSL Collocation*; National Conference of Regulatory Utility Commission Engineers (NCRUCE); West Yellowstone, Montana; June 2001.
- *The Impact of Competition on Service Quality for CLECs and ILECs: The Texas Perspective*; NCRUCE; West Yellowstone, Montana; June 2001.

- *Performance Measures: It's About Time, It's About Performance*; NCRUCE; West Yellowstone, Montana; June 2001.
- *State Regulatory Perspectives on Service Costs*; Jamaican Office of Utility Regulation Workshop; Ocho Rios; January 2001.
- *State Cooperation in Enforcement*; The New FCC Enforcement Bureau: Nuts, Bolts & Strategies (Wallman Consulting); Washington, DC; September 2000.
- *Advanced Services in Telecommunications*; NCRUCE; Ashland, Nebraska; June 2000.
- *IP Telephony: Regulatory Issues for the New Millennium*; National Cable Television Convention; New Orleans, LA; May 2000.
- *Telecommunications: New Technologies & Convergence*; NARUC Annual Regulatory Studies Program; Michigan State University; East Lansing, MI; August 1999.
- *Competition, Convergence, and Innovation (§706): A State Perspective*; NARUC Annual Regulatory Studies Program; Michigan State University; East Lansing, MI; August 1998.
- *Jurisdictional Issues: Creating a Medium of Reform Between the States and the FCC*; ICM Universal Service Conference; Washington, DC; September 1997.
- *Telecommunications Service Quality: Measurement and Policy Implementation*; NARUC Annual Regulatory Studies Program; Michigan State University; August 1994.

Selected Publications

- Report to the Seventy-Seventh Texas Legislature on Intrastate Switched Access Charges; Texas PUC; 2001; *Principal Author, Editor*.
- Report to the Seventy-Seventh Texas Legislature on the Availability of Advanced Services in Rural and High Cost Areas, 2001, *Contributor, Design Team*.
- Report to the Seventy-Seventh Texas Legislature on the Scope of Competition in Telecommunications Markets, 2001, *Major Contributor, Data Analyst, Editor*.
- Report to the Seventy-Sixth Texas Legislature on the Scope of Competition in Telecommunications Markets, 1999, *Major Contributor, Data Analyst, Editor*.
- Report to the Seventy-Fifth Texas Legislature on the Scope of Competition in Telecommunications Markets, 1997, *Major Contributor, Data Analyst, Editor*.
- Examination of the Deployment of Fiber Technology, Public Utility Commission of Texas, 1994, *Editor, Director*.
- Report to the Seventy-Third Texas Legislature on the Scope of Competition in Telecommunications Markets, 1993, *Editor, Responsible Director*.
- Rowland Curry (Chapter Contributor), "Service Quality", *After the Break-Up: Assessing the New Post-AT&T Divestiture Era*, ed. Barry G. Cole (New York: Columbia University Press, 1991), 235 - 253.
- Report to the Seventy-First Texas Legislature on the Scope of Competition in Telecommunications Markets, 1989, *Principal Author, Editor*.

Formal Testimony

Rowland L. Curry / Curry & Associates - Contracts			
<u>Docket #</u>	<u>Date</u>	<u>Telco</u>	<u>Issues</u>
FL PSC 981834-TP 990321-TP	4/2003	BellSouth, Verizon - Florida, Sprint	Power plant costs and rates for collocation.
PA PUC P-0093071 5F002	2/2003	Verizon - Pennsylvania	Proposed revisions to Verizon's Network Modernization Plan; Broadband; DSL Deployment
TX PUC 24919	7/2002	Verizon - Texas	Rate band rebalancing (Testimony prepared, not filed; stipulation)
NV PUC 01-2045	9/2001	Sprint-Centel	E9-1-1 Cost Studies: Cost and rate analysis and testimony on behalf of Las Vegas Metropolitan Police Department and City of Henderson.

Public Utility Commission of Texas (see note following)			
<u>Docket #</u>	<u>Date</u>	<u>Telco</u>	<u>Issues</u>
6200	1985	Southwestern Bell	Rate Design and Cost Methodology, Affiliate Payments, Various Rate Change Proposals
6254	1985	Southwestern Bell	Toll Service Tariff changes
6252	1985	Southwestern Bell	Personal Signaling Service
6181	1985	Southwestern Bell	Customer Specific Pricing Tariff
5952	1985	Southwestern Bell	Local Resale – Dobie Mall
6095	1985	AT&T	Cost and Rate Analysis – Private Line and FX
5610	1984	General Telephone	Rate Design; Access Charges, Toll, EAS, Overall Issues
5540	1984	AT&T	Long Distance, Operator Rates
5264	1983	General Telephone	Public Policy (Arco)
5220	1984	Southwestern Bell	Rate case; Cost Analysis and Rate Design; Access, Toll, Private Line, Local Service, other rates
5141	1983	Southwestern Bell	Inside Wire Policy
5011	1983	General Telephone	Service Quality
4545	1982	Southwestern Bell	Private Line Costs & Rates, Service Quality
4300	1982	General Telephone	Service Quality
3920	1981	Southwestern Bell	Private Line Costs & Rates
3340	1980	Southwestern Bell	Depreciation, Current Cost, Rates, Svc Quality
3094	1980	General Telephone	Service Quality
3040	1980	Mountain States Tel & Tel	Depreciation, Current Cost, Service Quality
2565	1979	Trinity Valley Tel Co	Service Quality
1529	1978	Continental Tel Co	Service Quality
1503	1978	Mountain States Tel & Tel	Service Quality
120	1977	Gulf States - United	Service Quality
<i>Note – This listing does not include all of the proceedings in which Mr. Curry was involved; nor all in which he filed testimony. He was involved in the direction, strategy, review, and resolution of a large number of other cases during his tenure in management positions at the Texas PUC from 1985 until 2001.</i>			

CERTIFICATE OF SERVICE

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

I hereby certify that I have this day served a true copy of the foregoing document, the Office of Consumer Advocate's Direct Testimony of Dr. Robert Loube and Mr. Rowland Curry in Proprietary and Non-Proprietary form, upon counsel for parties of record in this proceeding in accordance with the requirements of 52 Pa. Code § 1.54 (relating to service by a participant), in the manner and upon the persons listed below:

Dated this 9th day of January, 2004.

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TRO PARAGRAPH 499 AS MODIFIED BY ERRATA
(FOOTNOTES OMITTED)

499. The triggers we set forth rely on the number of carriers that self-provision switches or the number of competitive wholesalers offering independent switching capacity in a given market. In both cases, the competitive switch providers that the state commission relies upon in finding either trigger to be satisfied must be unaffiliated with the incumbent LEC and with each other. In addition, they should be using or offering their own separate switches. This requirement avoids counting as a true alternative a provider that uses the switching facilities of the incumbent LEC or *another* alternative provider that has already been counted. Moreover, the identified competitive switch providers should be actively providing voice service to mass market customers in the market. They must also Identified carriers providing wholesale service should be actively providing voice service used to serve the mass market and be operationally ready and willing to provide wholesale service to all customers competitive providers in the designated market. They should be capable of economically serving the entire market, as that market is defined by the state commission. This prevents counting switch providers that provide services that are desirable only to a particular segment of the market. Identified carriers providing wholesale service should be actively providing voice service used to serve the mass market, and providing it at a cost and quality and geographic scope that allow resellers to serve the entire market. However, the competing carriers' wholesale offerings need not include the full panoply of services offered by the incumbent LEC.

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AS FILED ELECTRONICALLY WITH THE SECURITIES AND EXCHANGE COMMISSION ON MARCH 2003

SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE FISCAL YEAR ENDED DECEMBER 31, 2002

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM TO

COMMISSION FILE NUMBER 1-1105

AT&T CORP.

A NEW YORK CORPORATION

I.R.S. EMPLOYER NO. 13-4924710

ONE AT&T WAY, BEDMINSTER, NEW JERSEY 07921
TELEPHONE NUMBER 908-221-2000
INTERNET ADDRESS: ATT.COM/IR

SECURITIES REGISTERED PURSUANT TO SECTION 12(b) OF THE ACT:
SEE ATTACHED SCHEDULE A.

SECURITIES REGISTERED PURSUANT TO SECTION 12(g) OF THE ACT:
NONE.

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is an accelerated filer (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of voting common stock held by non-affiliates was approximately \$16.9 billion (based on closing price of those shares as of the last business day of the registrant's most recently completed second fiscal quarter). At February 28, 2003, 784,731,748 shares of AT&T common stock were outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive proxy statement relating to the 2003 Annual Meeting of Shareowners (Part III)

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SCHEDULE A

Securities registered pursuant to Section 12(b) of the Act:

TITLE OF EACH CLASS -----	NAME OF EACH EXCHANGE ON WHICH REGISTERED -----
Common Shares (Par Value \$1 Per Share)	New York, Boston, Chicago, Philadelphia and Pacific Stock Exchanges
Five Year 5 5/8% Notes due March 15, 2004	
Five Year 6 3/8% Notes due March 15, 2004	
Ten Year 6 3/4% Notes, due April 1, 2004	
Ten Year 7 1/2% Notes, due April 1, 2004	
Ten Year 7% Notes, due May 15, 2005	
Twelve Year 7 1/2% Notes, due June 1, 2006	
Twelve Year 7 3/4% Notes, due March 1, 2007	New York Stock Exchange
Ten Year 6% Notes due March 15, 2009	
6 1/2% Notes due March 15, 2013	
Thirty Year 8 1/8% Debentures, due January 15, 2022	
Thirty Year 8.35% Debentures, due January 15, 2025	
Thirty-Two Year 8 1/8% Debentures, due July 15, 2024	
Thirty Year 6 1/2% Notes due March 15, 2029	
Forty Year 8 5/8% Debentures, due December 1, 2031	

PART I

ITEM 1. BUSINESS

GENERAL

AT&T Corp. was incorporated in 1885 under the laws of the State of New York and has its principal executive offices at One AT&T Way, Bedminster, New Jersey, 07921 (telephone number, 908-221-2000; internet address, att.com/ir).

AT&T is among the world's communications leaders, providing voice and data communications services to large and small businesses, consumers and government entities. AT&T and its subsidiaries furnish domestic and international long distance, regional, local and Internet communications services. AT&T's primary lines of business are AT&T Business Services and AT&T Consumer Services.

RESTRUCTURING

On October 25, 2000, AT&T announced a restructuring plan to be implemented by various independent actions designed to fully separate or issue separately tracked stocks intended to reflect the financial performance and economic value of each of AT&T's then four major operating units: Broadband Services, Business Services, Consumer Services and Wireless Services.

On July 9, 2001, AT&T completed the split-off of AT&T Wireless as a separate, independently traded company. All AT&T Wireless tracking stock was converted into AT&T Wireless common stock on a one-for-one basis and 1.136 million shares of AT&T Wireless common stock, held by AT&T, were distributed to AT&T common shareowners on a basis of 0.3218 of a share (1.609 as adjusted for AT&T's November 18, 2002 one-for-five reverse stock split) of AT&T Wireless for each AT&T share outstanding.

On August 10, 2001, AT&T completed the split-off of Liberty Media Corporation as an independent, publicly-traded company. AT&T redeemed each outstanding share of Class A and Class B Liberty Media Group tracking stock for one share of Liberty Media Corporation's Series A and Series B common stock, respectively.

On November 18, 2002, AT&T completed the spin-off of AT&T Broadband and simultaneously merged it with Comcast Corporation. Each AT&T shareowner received a distribution of 0.3235 of a share (1.6175 shares reverse split adjusted) of Comcast Class A common stock for each share of AT&T common stock outstanding.

On July 10, 2002, AT&T shareholders approved an amendment to AT&T's charter to create a new class of AT&T common stock, the AT&T Consumer Services Group tracking stock. AT&T has not determined when or whether these shares would be issued, which would be dependent on sufficient market receptivity and support.

On July 10, 2002, AT&T shareowners approved a one-for-five reverse stock split of AT&T common stock. The reverse stock split was effected on November 18, 2002 immediately after the completion of the spin-off of AT&T Broadband.

DESCRIPTION OF AT&T BUSINESS SERVICES

OVERVIEW

AT&T Business Services is one of the nation's largest business services communications providers, offering a variety of global communications services to over 4 million customers, including large domestic and multinational businesses, small and medium-sized businesses and government agencies. AT&T Business Services operates one of the largest telecommunications networks in the United States and, through AT&T's Global Network Services, provides an array of services and customized solutions in 60 countries and 850 cities worldwide.

AT&T Business Services provides a broad range of communications services and customized solutions, including:

- long distance, international and toll-free voice services;
- local services, including voice private line, local data and special access services;
- data and Internet Protocol (IP) services for a variety of network standards, including frame relay and asynchronous transfer mode (ATM);
- managed networking services and outsourcing solutions; and
- wholesale transport services.

INDUSTRY OVERVIEW

The communications services industry continues to evolve, both domestically and internationally, providing significant opportunities and risks to the participants in these markets. Factors that have been driving this change include:

- entry of new competitors and investment of substantial capital in existing and new services, resulting in significant price competition;
- technological advances resulting in a proliferation of new services and products and rapid increases in network capacity;
- the Telecommunications Act; and
- deregulation of communications services markets in selected countries around the world.

One factor affecting the communications services industry is the rapid development of data services. The development of frame relay, ATM and IP networks as modes of transmitting information electronically has dramatically transformed the array and breadth of services offered by telecommunications carriers.

Use of the Internet, including intranets and extranets, has grown rapidly in recent years. This growth has been driven by a number of factors, including the large and growing installed base of personal computers, improvements in network architectures, increasing numbers of network-enabled applications, emergence of compelling content and commerce-enabling technologies, and easier, faster and cheaper Internet access. Consequently, the Internet has become an important new global communications and commerce medium. The Internet represents an opportunity for enterprises to interact in new and different ways with both existing and prospective customers, employees, suppliers and partners. Enterprises are responding to this opportunity by substantially increasing their investment in Internet connectivity and services to enhance internal voice and data networks.

In the United States, the Telecommunications Act has had a significant impact on AT&T Business Services' business by establishing a statutory framework for opening the local service markets to competition and by allowing regional phone companies to provide in-region long distance services. In addition, prices for long distance minutes and other basic communications services have declined as a result of increased competitive pressures, governmental deregulation, introduction of more efficient networks and advanced technologies, and product substitution. Competition in these basic communications services segments has more recently been based more on price and less on other differentiating factors that appeal to the larger business market customers, including range of services offered, bundling of products, customer service, and communications quality, reliability and availability.

Furthermore, the introduction and growth of wireless carriers has also put additional competitive pressure on traditional voice long distance business services, particularly in the "dial 1" long distance, card and operator services segments.

SERVICES AND PRODUCTS

VOICE SERVICES

Long Distance Voice Services. AT&T Business Services' long distance voice communication offerings include the traditional "one plus" dialing of domestic and international long distance for customers that select AT&T Business Services as their primary long distance carrier.

AT&T Business Services offers toll-free (for example, 800) inbound services, where the receiving party pays for the call. These services are used in a wide variety of applications, including sales, reservation centers or customer service centers. AT&T Business Services also offers a variety of value-added features to enhance customers' toll-free services, including call routing by origination point and time-of-day routing. In addition, AT&T Business Services provides virtual private network applications, including dedicated outbound facilities.

AT&T Business Services offers audio and video teleconferencing services, as well as web-based video conferencing. These services offer customers the ability to establish automated teleconference lines, as well as teleconferences moderated by an AT&T representative. Customers can also establish a dedicated audio conference number that can be used at any time without the necessity of a reservation.

AT&T Business Services also offers a variety of calling cards that allow the user to place calls from virtually anywhere in the world. Additional features include prepaid phone cards, conference calling, international origination, information service access (such as weather or stock quotes), speed dialing and voice messaging.

Business local services. AT&T Business Services' local services provides a wide range of local voice and data telecommunications services in major metropolitan markets throughout the United States. Services include basic local exchange service, Centrex, exchange access, private line, high speed data, pay phone and video services. AT&T Business Services typically offers local service as part of a package of services that can include combinations of other AT&T Business Services offerings.

Integrated Voice/Data/IP Offers. AT&T Business Services provides a variety of integrated service offerings targeted at business customers. For small businesses, AT&T's All in One(R) service offering provides both local and long distance services through a single bill, providing discounts based on volume and term commitments. The AT&T Business Network service offers a wide range of voice and data services through a single service package. Among the features of the integrated services offering is the ability to enable customers to electronically order new services, perform maintenance and manage administrative functions.

AT&T also has a number of integrated voice and data services, such as Integrated Network Connections, that provide customers the ability to integrate access for their voice and data services and thereby qualify for lower prices.

DATA AND INTERNET SERVICES

Private Line Services. AT&T Business Services' data services include private line and special access services that use high-capacity digital circuits to carry voice, data and video or multimedia transmission from point-to-point in multiple configurations. These services provide high-volume customers with a direct connection to an AT&T Business Services' switch instead of switched access shared by many users. These services permit customers to create internal computer networks and to access external computer networks and the Internet, thereby reducing originating access costs.

Packet Services. Packet services consist of data networks utilizing packet switching and transmission technologies. Packet services include frame relay, Asynchronous Transfer Mode, or ATM and IP connectivity services. Packet services enable customers to transmit large volumes of data economically and securely. Packet services are utilized for local area network interconnection, remote site, point of sale and branch office communications solutions. While frame relay and ATM Services are widely deployed as private data networks, AT&T Business Services offers customers the ability to connect these networks to the Internet through services such as IP-enabled frame relay. High speed packet services, including IP-enabled frame relay service, are utilized extensively by enterprise customers for an expanding range of applications.

AT&T Business Internet Services. AT&T Business Services provides IP connectivity and managed IP services, messaging, and electronic commerce services to businesses. AT&T offers managed Internet services, which give customers dedicated, high-speed access to the Internet for business applications at a variety of speeds and types of access, as well as business dial-up service, a dial-up version of Internet access designed to meet the needs of small- and medium-sized businesses. AT&T's web services consist of a family of hosting and transactional services and platforms serving the web needs of thousands of businesses; these offers include AT&T Small Business Hosting Services.

MANAGED SERVICES AND OUTSOURCING SOLUTIONS

AT&T Business Services provides clients with an array of managed networking services, professional services and outsourcing solutions intended to satisfy clients' complete networking technology needs, ranging from managing individual network components such as routers and frame relay networks to managing entire complex global networks. AT&T Business Services also works selectively with qualified partners to offer enhanced services to customers.

Enterprise Networking Services. With a presence in 60 countries and 850 different cities, AT&T Business Services' enterprise networking services provide comprehensive support from network design, implementation and installation to ongoing network operations and lifecycle management of solutions for networks of varying scales, including Local Area Networks, Wide Area Networks, and Virtual Private Networks. These managed enterprise networking services include applications such as e-mail, voice over IP, order entry systems, employee directories, human resource transaction and other database applications.

Web Services. AT&T Business Services' managed web hosting services support clients' hosted infrastructure needs from the network layer up to managing the performance of their business applications. With 18 Internet Data Centers located on three continents and with a capacity of more than 1.8 million square feet of web hosting space, AT&T's hosting services provide a flexible, managed environment of network, server and security infrastructure as well as built-in data storage. AT&T's suite of managed hosting services includes application performance management, database management, hardware and operating system management, intelligent content distribution services, high availability data and computing services, storage services, managed security and firewall services. AT&T's web hosting services also include a range of business tools, including client portal services that provide managed hosting customers with personalized, secure access to detailed reporting information about their infrastructure and applications.

High Availability and Security Services. AT&T Business Services' high availability and security services deliver integrated solutions to ensure the continuous operations of clients' critical business processes and availability of critical data and includes business continuity and disaster recovery services.

Outsourcing Solutions. AT&T Business Services provides customers consulting, outsourcing and management services for their highly complex global data networks, including networking-based electronic commerce applications.

TRANSPORT

AT&T Business Services provides wholesale networking capacity and switched services to other carriers. AT&T Business Services offers a combination of high-volume transmission capacity, conventional dedicated line services and dedicated switched services on a regional and national basis to Internet Service Providers (ISPs) and facility-based and switchless resellers. AT&T Business Services' wholesale customers are primarily large tier-one ISPs, competitive local exchange carriers, regional phone companies, interexchange carriers, cable companies and systems integrators. AT&T Business Services focuses on ensuring optimal network utilization through the sale of off-peak capacity. AT&T Business Services also has sold dedicated network capacity through infeasible rights-of-use agreements under which capacity is furnished for contract terms as long as 25 years.

SALES AND MARKETING

AT&T Business Services markets its voice and data communications services through its global sales and marketing organization of approximately 6,800 sales representatives. The sales and marketing group also uses several outside telemarketing firms. In addition, the AT&T Solution Center provides a centralized resource for complex customer requirements.

CUSTOMER CARE AND SUPPORT

AT&T Business Services' customer care handles contracting, collections, ordering, provisioning and maintenance processes worldwide. In the U.S. there are 12,133 customer care associates at 47 customer care centers, of which 41 are company-owned and 6 are operated by outside customer care firms. For larger and multinational customers and government agencies, AT&T Business Services provides customer care services and support through dedicated account teams. Through a dedicated customer care website customers may submit questions or initiate service requests, including ordering new services or submitting maintenance requests.

RATES AND BILLING

AT&T Business Services provides the majority of its services through long-term contracts. General descriptions of AT&T Business Services' services, applicable rates, warranties, limitations on liability, user requirements and other material service provisioning information are outlined in service guides that are provided directly to prospective clients or are available on AT&T's website. Customers enter into contracts, based on the service guides, detailing customer-specific terms and information, including volume discounts, service bundling, extended warranties and other customized terms. Through combined offerings, AT&T Business Services also provides customers with such features as single billing, unified services for multi-location companies and customized calling plans. Most intrastate services are provided in accordance with applicable tariffs filed with the states.

NETWORK

AT&T Business Services' U.S. network comprises 54,000 route miles of long-haul backbone fiber-optic cable, plus another 19,600 route miles of local metropolitan fiber, capable of carrying high speed (10 billion bits or 10 gigabits per second) of traffic. AT&T Business Services upgrades this fiber network, recently completing the installation of over 12,000 new route miles of the latest generation fiber-optic cable capable of carrying 40 gigabits per second when that technology is commercially available. This new fiber capacity provides AT&T substantial capacity for potential future growth of network traffic with low incremental capital expenditure requirements. In addition, AT&T Business Services also has over 700 points-of-presence in the continental U.S. with the majority served by high-speed fiber-based technology offering high-speed data connectivity to the majority of U.S. business centers.

The AT&T Business Services' network also supports AT&T Consumer Services. On an average business day, the network handles more than 300 million voice calls, as well as 3,000 trillion bytes (terabytes) of data. On the voice network, AT&T Business Services employs its patented Real Time Network Routing to automatically complete domestic voice calls through more than 100 possible routes. The reliability of certain portions of the network is maximized by using Synchronous Optical Network rings that can restore service following a network failure within 50 to 60 milliseconds by reversing the flow of traffic on the ring. On other routes, AT&T uses its patented FASTAR technology to route traffic around a fiber-optic cable cut using spare transport capacity elsewhere on the network. Most recently, AT&T has deployed Intelligent Optical Switches across the network to expand AT&T's ability to rapidly and automatically restore network traffic that might be otherwise affected by cable cut or equipment failure.

AT&T Business Services has been deploying Dense Wavelength Division Multiplexing (DWDM) technology that divides an optical fiber into multiple wavelengths, each now carrying up to 10 gigabits per second of information. When DWDM was introduced in 1996, the technology could transmit only eight

different wavelengths on a fiber strand. AT&T Business Services is currently deploying 64- and 80-wavelength DWDM systems, as well as systems capable of carrying 160 wavelengths per strand.

Since digital switching was introduced in the late 1970s, the basic element of the AT&T long-distance voice network has been a circuit switch which was specifically designed for long-haul use. Currently AT&T Business Services employs 143 of these switches in the network. AT&T Business Services has recently installed more than 60 of the latest high-performance carrier-grade voice switches that allow AT&T to accommodate the transition from circuit-switched to packet networks. AT&T Business Services will continue to have both circuit and packet switching technologies for some time.

In addition to its long distance network, AT&T Business Services has an extensive local network serving business customers in 90 U.S. cities. AT&T Business Services' local network now includes 155 local switches and reaches more than 6,300 buildings with approximately 7,500 miles of fiber. This network provides voice service and high-speed data connections to business users. In order to maximize asset utilization, AT&T's local network also handles consumer traffic, providing most of the dial-in numbers for AT&T Worldnet Service.

AT&T Business Services also operates one of the largest IP networks in the United States. As a tier-one provider, AT&T has direct peering relationships with other tier-one providers, providing service to carriers that route through public peering sites. AT&T offers multiple access choices to the IP network, including dial-up, dedicated private line, and digital subscriber loop (DSL), as well as IP-enabled access through ATM and frame relay networks.

AT&T Business Services has deployed Internet Data Centers across the U.S., offering web-hosting services. AT&T Business Services has 18 Internet Data Centers, with an aggregate 1.8 million square feet of space, all directly connected to AT&T Business Services' high-speed IP backbone.

INTERNATIONAL

AT&T Business Services has entered into a number of agreements and alliances with international communications companies in order to provide customers end-to-end network management capabilities and highly customized solutions. AT&T also has investments with international operations including foreign communications companies. AT&T is also building out its Global Network (AGN) in over one hundred cities in various countries.

AT&T Latin America Corp. On August 28, 2000, AT&T established AT&T Latin America in connection with the merger of Netstream, a competitive local exchange carrier in Brazil, followed by the merger of FirstCom Corporation. AT&T Latin America provides voice, data and Internet access services in five countries, Argentina, Brazil, Chile, Colombia and Peru. AT&T owns an approximately 69% economic interest (approximately 95% voting interest) in AT&T Latin America. AT&T and the Southern Cross Group, LLC have entered into a non-binding letter of intent, effective as of December 31, 2002, pursuant to which AT&T has agreed to sell to the Southern Cross Group, LLC AT&T's entire common equity interest in AT&T Latin America subject to the negotiation and execution of definitive documents and receipt of any necessary approvals.

Alestra. S. de R.L. de C.V. AT&T also owns a 49% economic interest in Alestra S. de R.L. de C.V., a competitive telecommunications company in Mexico. Alestra offers domestic and international voice, data and Internet services throughout Mexico to business and residential customers. Alestra's network comprises 3,500 route miles, with four interconnection points to AT&T Business Services' network at the U.S.-Mexico border.

Alestra is currently in a liquidity crises and is overdue in making its November interest payment on its existing notes. To address this liquidity crises and maintain its viability, Alestra is seeking to restructure its existing indebtedness to reduce the outstanding aggregate amount of the notes, to lower interest payments and extend the maturity on the notes. If Alestra's current restructuring proposal is consummated, the restructuring will be financed by a capital contribution from Alestra's shareholders in the amount of \$80 million, with AT&T's pro rata share being approximately \$39 million.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AT&T CORP.

BY: /s/ R. S. FEIT

R. S. FEIT
Vice President -- Law and Secretary

By: /s/ T. W. HORTON

T. W. Horton
Senior Executive Vice President and
Chief Financial Officer

By: /s/ N. S. CYPRUS

N. S. Cyprus
Vice President and Controller

March 28, 2003

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the date indicated.

PRINCIPAL EXECUTIVE OFFICERS:

David W. Dorman*
Chairman of the Board and Chief Executive Officer

PRINCIPAL FINANCIAL OFFICER:

Thomas W. Horton
Senior Executive Vice President and Chief Financial Officer

PRINCIPAL ACCOUNTING OFFICER:

Nicholas S. Cyprus
Vice President and Controller

DIRECTORS:

Kenneth T. Derr*
David W. Dorman*
M. Kathryn Eickhoff*
Frank C. Herringer*
Amos B. Hostetter, Jr.*
Shirley A. Jackson*
Jon C. Madonna*
Donald F. McHenry*
Tony L. White*

March 28, 2003

By:

/s/ R. S. FEIT

R. S. Feit
(attorney-in-fact)*

CHIEF EXECUTIVE OFFICER AND CHIEF FINANCIAL OFFICER CERTIFICATIONS

AT&T CORP.

CERTIFICATIONS PURSUANT TO
SECTION 302 OF
THE SARBANES-OXLEY ACT OF 2002

CERTIFICATION

I, David W. Dorman, certify that:

1. I have reviewed this annual report on Form 10-K of ATT
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
 - a) designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
 - c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

/s/ DAVID W. DORMAN

Chief Executive Officer

Date: March 28, 2002

CERTIFICATION

I, Thomas W. Horton, certify that:

1. I have reviewed this annual report on Form 10-K of ATT
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and we have:
 - a) designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
 - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
 - c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
 - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
 - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

/s/ THOMAS W. HORTON

Chief Financial Officer

Date: March 28, 2002

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I see a company with **1 million cable phone customers**

"The customers I talk to really like our AT&T Digital Phone service," says Jack Folmer, an AT&T Broadband service technician in Pittsburgh. "It gives them the same quality as a regular phone call at a price that's better than the competition."



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FINANCIAL HIGHLIGHTS	SENIOR LEADERSHIP TEAM
TO OUR SHAREHOLDERS	CORPORATE INFORMATION
WHAT DO YOU SEE?	2001 FINANCIALS

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Want a choice for local telephone service? In many parts of the United States there's no such thing. But with Digital Phone service from AT&T Broadband, 1 million customers in 15 markets have a higher-value alternative to regional telephone monopolies — proving that when companies compete, consumers win.

In this race, AT&T Broadband Digital Phone service darted out of the blocks like a gold medal sprinter. We nearly doubled our customer base in 2001, and by year's end we passed the million customers mark. Today, AT&T Broadband is the world's leading provider of phone service delivered by a cable network.

That's because AT&T Broadband Digital Phone service combines digital clarity, functionality, reliability and affordability. And it sets us apart from other cable companies who haven't invested in the network technology that makes cable telephony possible.

Analysts say this market will grow steadily over the next five years. We plan to set the pace. Our strategy, speed and flexibility put us in the lead; our scale and service will keep us there.

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