

BEFORE THE  
PENNSYLVANIA PUBLIC UTILITY COMMISSION

IN RE: APPLICATION OF TRANS-ALLEGHENY	:	
INTERSTATE LINE COMPANY FOR	:	
(I) A CERTIFICATE OF PUBLIC CONVENIENCE	:	
TO OFFER, RENDER, FURNISH AND/OR	:	
SUPPLY TRANSMISSION SERVICE IN THE	:	
COMMONWEALTH OF PENNSYLVANIA;	:	
(II) AUTHORIZATION AND CERTIFICATION	:	
TO LOCATE, CONSTRUCT, OPERATE AND	:	Docket Nos. A-110172,
MAINTAIN CERTAIN HIGH VOLTAGE ELECTRIC	:	A-110172F0002,
TRANSMISSION LINES AND RELATED ELECTRIC	:	A-110172F0003,
SUBSTATION FACILITIES; (III) AUTHORITY	:	A-110172F0004, and
TO EXERCISE THE POWER OF EMINENT	:	G-00071229
DOMAIN FOR THE CONSTRUCTION AND	:	
INSTALLATION OF AERIAL ELECTRIC	:	
TRANSMISSION FACILITIES ALONG THE	:	
PROPOSED TRANSMISSION LINE ROUTES	:	
IN PENNSYLVANIA; (IV) APPROVAL OF AN	:	
EXEMPTION FROM MUNICIPAL ZONING	:	
REGULATION WITH RESPECT TO THE	:	
CONSTRUCTION OF BUILDINGS; AND	:	
(V) APPROVAL OF CERTAIN RELATED	:	
AFFILIATED INTEREST ARRANGEMENTS	:	

SUPPLEMENTAL DIRECT TESTIMONY OF  
MARK A. MADER

Re: Updated Allocation of Revenue Requirement for TrAIL

July 26, 2007

1 Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

2 A. My name is Mark A. Mader, and my business address is 800 Cabin Hill Drive,  
3 Greensburg, Pennsylvania 15601.

4 Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

5 A. I am employed by Allegheny Energy Service Corporation, and my title is Director, Rates.  
6 My time is devoted to tasks performed for the regulated companies of Allegheny Energy,  
7 Inc., ("Allegheny") including The Potomac Edison Company ("Potomac Edison"),  
8 Monongahela Power Company ("Mon Power"), and West Penn Power Company ("West  
9 Penn"), all doing business as "Allegheny Power", and Trans-Allegheny Interstate Line  
10 Company ("TrAILCo").

11 Q. DID YOU PREPARE DIRECT TESTIMONY THAT WAS FILED PREVIOUSLY IN  
12 THIS CASE?

13 A. Yes. My Direct Testimony was filed on April 13, 2007 ("April 13 Testimony"). That  
14 testimony generally described how PJM had allocated the revenue requirements for the  
15 Trans-Allegheny Interstate Line ("TrAIL") among load serving entities in the PJM  
16 transmission zones, what West Penn's allocation was projected to be, and how West Penn  
17 would recover its portion of the TrAIL revenue requirement. I also described certain  
18 affiliate agreements governing interaction of TrAILCo with other Allegheny companies.

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PURPOSE OF TESTIMONY

1  
2 Q. PLEASE DESCRIBE THE PURPOSE OF YOUR SUPPLEMENTAL DIRECT  
3 TESTIMONY.

4 A. Recent orders by the Federal Energy Regulatory Commission (“FERC”) have changed the  
5 cost allocations by PJM, and the associated revenue requirement allocated to Allegheny  
6 Power, that are described at page 4, line 10, through page 10, line 17 of my April 13  
7 Testimony. The purpose of my supplemental testimony is to describe how, based on these  
8 FERC orders, TrAILCo expects the revenue requirements for TrAIL, and the continuation  
9 of the line and associated substation expansions (“DVP Facilities”) to be owned by  
10 Virginia Electric and Power Company (“Dominion Virginia Power”) will be determined  
11 and allocated based on those orders to distribution utilities, also referred to as load serving  
12 entities (“LSEs”), in the PJM transmission zones. I will also describe the updated  
13 estimated budgeted costs for TrAIL. This supplemental direct testimony updates and  
14 supersedes the seven pages of my April 13 Testimony that I note above, but otherwise that  
15 previous testimony remains unchanged.

EXHIBITS

16  
17 Q. PLEASE IDENTIFY AND DESCRIBE THE EXHIBITS TO YOUR SUPPLEMENTAL  
18 DIRECT TESTIMONY AND SUMMARIZE THE CONTENTS OF THOSE  
19 EXHIBITS.

20 I am sponsoring two additional exhibits with my supplemental direct testimony:

- 21       • TrAILCo Exhibit No. MAM-5 presents the updated allocation of revenue  
22       requirements to Allegheny Power; and

- 1           • TrAILCo Exhibit No. MAM-6 presents updated TrAIL cost estimates.

2                                   UPDATED FERC COST ALLOCATION PROCESS

3 Q.       PLEASE DESCRIBE THE RECENT FERC ORDERS YOU REFERRED TO  
4 EARLIER.

5 A.       On April 19, 2007, FERC issued orders in Docket Nos. EL05-121-000, *et al.*, and ER06-  
6 1271-003, *et al.* (“April 19 Orders”) directing that new, centrally-planned facilities  
7 within PJM that operate at or above 500 kV (such as much of the TrAIL facilities) be  
8 fully allocated on a region-wide “postage stamp” basis and that costs for facilities below  
9 500 kV (such as the Prexy 138 kV facilities of TrAIL) be allocated based on a  
10 “beneficiary pays” methodology. Under a region-wide “postage-stamp” rate design, the  
11 costs of new, centrally-planned transmission facilities in the PJM region will be allocated  
12 to all LSEs in PJM according to each LSE’s share of the regional load. Currently the  
13 total Allegheny Power zonal load is approximately 6% of the total PJM regional load.  
14 This load ratio share is updated annually. Under a “beneficiary pays” methodology, the  
15 beneficiaries of a particular transmission upgrade will be identified and directly allocated  
16 the costs of that upgrade.

17 Q.       HOW DO THE REVENUE REQUIREMENTS FOR TRAIL DIFFER FROM WHAT  
18 YOU DESCRIBED IN YOUR APRIL 13 TESTIMONY AS A RESULT OF FERC’S  
19 APRIL 19 ORDERS?

20 A.       Under the prior methodology, as I pointed out at pages 5 through 10 of my April 13  
21 Testimony, all the revenue requirements associated with the non-Prexy portions of TrAIL  
22 and the DVP Facilities were allocated to loads outside the Allegheny Power Zone, while

1 all of the revenue requirements associated with Prexy Facilities were allocated to the  
2 Allegheny Power Zone. Under the April 19 Orders, however, the revenue requirements  
3 for the facilities constructed by TrAILCo and Dominion Virginia Power that operate at or  
4 above 500 kV will be allocated in accordance with the region-wide “postage-stamp”  
5 methodology, while the revenue requirements for the facilities that operate below 500 kV  
6 continue to be allocated under a “beneficiary pays” methodology.

7 Q. HOW WILL THE REVENUE REQUIREMENT FOR TRAIL AND THE DVP  
8 FACILITIES BE DETERMINED AND RECOVERED BY TRAILCO AND  
9 DOMINION VIRGINIA POWER?

10 A. The revenue requirement for these facilities will be determined by FERC based upon  
11 filings submitted by TrAILCo for the TrAIL facilities and Dominion Virginia Power for  
12 the DVP Facilities. These filings are submitted by the companies under the PJM Open  
13 Access Transmission Tariff (“PJM OATT”).

14 Q. HAS TRAILCO SUBMITTED ITS REVENUE REQUIREMENT FILING TO FERC?

15 A. Yes. On February 21, 2007, TrAILCo submitted a formula rate filing to FERC in  
16 Docket No. ER07-562-000 under which it proposed to collect the annual transmission  
17 revenue requirement for TrAIL and certain other transmission facilities to be effective  
18 June 1, 2007. When the revenue requirement becomes effective, PJM will collect this  
19 revenue requirement from LSEs in accordance with allocations determined pursuant to  
20 the April 19 Orders.

1 Q. PLEASE EXPLAIN THE METHODOLOGY PROPOSED BY TRAILCO IN FERC  
2 DOCKET NO. ER07-562-000 TO DETERMINE THE TRANSMISSION REVENUE  
3 REQUIREMENT FOR TRAIL.

4 A. TrAILCo proposes to base the transmission revenue requirement on a formula  
5 methodology. This transmission formula rate is designed to recover the annual  
6 transmission revenue requirement for TrAIL, including operation and maintenance  
7 expenses, depreciation expenses, return on rate base, taxes other than income taxes,  
8 income taxes and revenue credits. A similar formula methodology has been approved by  
9 FERC in filings by Baltimore Gas and Electric, the operating affiliates of PHI Holdings,  
10 Inc., UGI Utilities, Inc., and Duquesne Light Company. Also included in TrAILCo's  
11 filing is 100 percent of construction work in progress ("CWIP") for TrAIL in rate base,  
12 based on the projected cost of the construction activity.

13 Q. HAS DOMINION VIRGINIA POWER SUBMITTED ITS REVENUE  
14 REQUIREMENT FILING FOR THE DVP FACILITIES TO FERC?

15 A. No. However, once Dominion Virginia Power submits its revenue requirement for these  
16 facilities and it becomes effective, it will be collected by PJM from LSEs in the same  
17 manner as the TrAILCo revenue requirement.

18 Q. HAVE YOU PREPARED AN EXHIBIT THAT SUMMARIZES THE ESTIMATED  
19 COST ALLOCATION BY PJM OF THE REVENUE REQUIREMENTS FOR THE  
20 TRAIL AND DVP FACILITIES.

21 A. Yes. This summary is provided as TrAILCo Exhibit No. MAM-5.

1 Q. PLEASE EXPLAIN TRAILCO EXHIBIT NO. MAM-5.

2 A. Column 1 identifies the types of facilities that comprise TrAIL and the DVP Facilities.  
3 Column 2 identifies the owner's estimated investment in these facilities and is provided  
4 for informational purposes. Except to the extent recovered by the owner through its  
5 revenue requirement, the owner's investment is not used for PJM billing purposes.  
6 Column 3 indicates the owner's estimated annual revenue requirement associated with  
7 the facilities listed in Column 1.

8 Column 4 shows the percentage of owner's estimated annual revenue requirement in  
9 Column 3 for the facilities identified in Column 1 to be billed to the Allegheny Power  
10 transmission zone of PJM ("Allegheny Power Zone"). Column 5 shows the dollar  
11 amount of those estimated billings.

12 Column 6 shows the percentage of the estimated annual billings by PJM to the  
13 Allegheny Power Zone that Allegheny Power as an LSE will allocate to West Penn.  
14 Column 7 identifies the dollar amount of that allocation.

15 Q. SINCE THE REVENUE REQUIREMENT FOR TRAIL WHEN IT IS PLACED IN  
16 SERVICE HAS NOT BEEN DETERMINED AND DOMINION VIRGINIA POWER  
17 HAS NOT FILED A PROPOSED REVENUE REQUIREMENT WITH FERC, HOW  
18 DID YOU DETERMINE THE OWNER'S ESTIMATED ANNUAL REQUIREMENT  
19 SHOWN IN COLUMN 3?

20 A. A formula approach similar to the one I have already described was used to estimate the  
21 revenue requirements of the owners for the entire project. This estimate is based on a

1           number of assumptions that can change and are subject to annual FERC reviews as the  
2           projects are completed.

3           It should be noted that FERC has accepted Allegheny's proposal in Docket No. EL06-  
4           54-000 to include 100 percent of CWIP in rate base prior to the in-service date of the  
5           TrAIL projects. Therefore, TrAILCo's annual revenue requirement for the TrAIL  
6           facilities will gradually increase as construction of the facilities proceeds, from a level of  
7           approximately \$6.2 million in 2007 to approximately \$192 million by 2011, as those  
8           facilities near completion.

9    Q.    HOW WILL PJM BILL ALLEGHENY POWER FOR THE FACILITIES SHOWN IN  
10       COLUMN 1?

11   A.    On a monthly basis, PJM will bill each LSE, such as Allegheny Power, for its share of the  
12       TrAILCo and Dominion Virginia Power revenue requirements for TrAIL and the DVP  
13       Facilities. For the 500 kV facilities, each LSE's share will be determined on a load-ratio  
14       share basis as required by the April 19 Orders. For TrAIL's 138 kV facilities, each LSE's  
15       share will be determined by the "beneficiary pays" methodology required by the April 19  
16       Order. I have assumed for the purposes of preparing TrAILCo Exhibit No. MAM-5 that  
17       100% of TrAIL's 138 kV facilities, including the 500/138 kV Prexy Substation, will be  
18       allocated to load in the Allegheny Power Zone.

19       TrAILCo estimates that \$2.3 million of the \$38.7 million of TrAILCo's revenue  
20       requirement for 500 kV facilities physically located in Pennsylvania will be billed to  
21       load in the Allegheny Power Zone. This estimate is based on Allegheny Power Zone's  
22       6% load ratio of the PJM region load, pursuant to FERC's direction in the April 19

1 Orders that all the 500kV facilities are fully allocated on a region-wide “postage stamp”  
2 or socialized basis.

3 Q. UPON COMPLETION OF THE FACILITIES, WHAT PORTION OF THE REVENUE  
4 REQUIREMENTS FOR THE 500 KV FACILITIES OF TRAILCO AND THE DVP  
5 FACILITIES TO BE CONSTRUCTED OUTSIDE OF PENNSYLVANIA WILL PJM  
6 ALLOCATE TO THE ALLEGHENY POWER ZONE?

7 A. Based on the April 19 orders, TrAILCo estimates that \$10.5 million of TrAILCo’s and  
8 Dominion’s combined \$174.6 million annual revenue requirement for 500 kV facilities  
9 physically located outside of Pennsylvania will be billed by PJM to load in the  
10 Allegheny Power Zone. Again, this estimate is based on Allegheny Power Zone’s 6%  
11 load ratio of the total PJM region load since all the 500kV facilities are to be fully  
12 allocated on a region-wide “postage stamp” or socialized basis.

13 Q. UPON COMPLETION OF THE FACILITIES, WHAT PORTION OF THE REVENUE  
14 REQUIREMENT FOR THE 138 KV FACILITIES OF TRAILCO TO BE  
15 CONSTRUCTED IN PENNSYLVANIA WILL PJM ALLOCATE TO THE  
16 ALLEGHENY POWER ZONE?

17 A. TrAILCo estimates that up to 100% of the revenue requirement for the TrAILCo’s 138  
18 kV facilities may be allocated to LSEs in the Allegheny Power Zone under the  
19 “beneficiary pays” methodology referred to in the April 19 Orders. Prior to the issuance  
20 of the April 19 Orders, PJM, in a filing with FERC, allocated 100 percent of this revenue  
21 requirement for these facilities to the load in the Allegheny Power Zone based on the  
22 cost-causation principles. Although the hearing to determine the details of the

1 “beneficiary pays” methodology has not been held, a 100% allocation to the Allegheny  
2 Power Zone represents a conservatively reasonable estimate. We estimated TrAILCo’s  
3 revenue requirement for the 138 kV facilities to be \$20.5 million, allocated 100% to the  
4 Allegheny Power Zone.

5 LSEs in the Allegheny Power Zone include the Allegheny Power operating companies,  
6 municipalities, rural electric cooperatives and retail suppliers. Because the Allegheny  
7 Power operating companies comprise, by far, the largest portion of the LSEs in the zone,  
8 the largest part of the revenue requirement for the 138 kV facilities will be billed by PJM  
9 to Allegheny Power on a monthly basis.

10 REVENUE IMPACT ON WEST PENN

11 Q. OF THE AMOUNT ALLOCATED BY PJM TO THE ALLEGHENY POWER ZONE  
12 FOR THE REVENUE REQUIREMENT RELATED TO 500 KV FACILITIES OF  
13 TRAIL TO BE CONSTRUCTED IN PENNSYLVANIA UPON COMPLETION OF  
14 THOSE FACILITIES, HOW MUCH OF THAT AMOUNT WILL BE ALLOCATED  
15 TO WEST PENN ON AN ANNUAL BASIS?

16 A. The PJM billing to Allegheny Power will be allocated among the three operating  
17 companies (Potomac Edison, Mon Power, and West Penn) based on their respective load  
18 ratio shares. The total West Penn retail load ratio share of the total Allegheny Power  
19 zonal load is approximately 43%. This load ratio share is updated annually.

20 Based on the April 19 Orders and the assumptions described above, I anticipate that  
21 West Penn will be responsible for approximately \$ 1.0 million of TrAILCo’s annual  
22 revenue requirement associated with the 500 kV facilities constructed in Pennsylvania

1           upon completion of those facilities. This represents approximately 2.6% of TrAILCo's  
2           total revenue requirement associated with the 500 kV facilities constructed in  
3           Pennsylvania.

4    Q.    OF THE AMOUNT ALLOCATED BY PJM TO THE ALLEGHENY POWER ZONE  
5           FOR THE REVENUE REQUIREMENT RELATED TO 500 KV FACILITIES OF  
6           TRAIL AND THE DVP FACILITIES TO BE CONSTRUCTED OUTSIDE OF  
7           PENNSYLVANIA UPON COMPLETION OF THOSE FACILITIES, HOW MUCH OF  
8           THAT AMOUNT WILL BE ALLOCATED TO WEST PENN ON AN ANNUAL  
9           BASIS?

10   A.   Based on West Penn's zonal load ratio share of 43%, the April 19 Orders, the  
11           assumptions described above and the allocation of PJM billings among Allegheny Power  
12           operating companies, I anticipate that West Penn will be responsible for approximately  
13           \$4.5 million of the annual revenue requirements of TrAILCo and Dominion Virginia  
14           Power associated with the 500 kV facilities of TrAIL and the DVP Facilities constructed  
15           outside of Pennsylvania upon completion of those facilities. This represents  
16           approximately 2.6% of the total revenue requirements of TrAILCo and Dominion  
17           Virginia Power associated with these 500 kV facilities constructed outside of  
18           Pennsylvania.

1 Q. OF THE AMOUNT ALLOCATED BY PJM TO THE ALLEGHENY POWER ZONE  
2 FOR THE REVENUE REQUIREMENT RELATED TO 138 KV FACILITIES OF  
3 TRAIL TO BE CONSTRUCTED IN PENNSYLVANIA UPON COMPLETION OF  
4 THOSE FACILITIES, HOW MUCH OF THAT AMOUNT WILL BE ALLOCATED TO  
5 WEST PENN ON AN ANNUAL BASIS?

6 A. Based on the April 19 Orders, the assumptions described above and the allocation of PJM  
7 billings among Allegheny Power operating companies, I anticipate that West Penn will be  
8 responsible for approximately \$8.9 million of the annual revenue requirements of  
9 TrAILCo associated with TrAIL's 138 kV facilities in Pennsylvania. This represents 43%  
10 of the total revenue requirement associated with these 138 kV facilities.

11 UPDATED BUDGET ESTIMATES

12 Q. ARE THE REVENUE REQUIREMENTS YOU HAVE DESCRIBED ABOVE BASED  
13 ON THE COST ESTIMATES DISCUSSED BY TRAILCO WITNESS JOHN  
14 BODENSCHATZ IN HIS DIRECT TESTIMONY FILED ON MARCH 30, 2007 IN  
15 THIS PROCEEDING?

16 A. No. TrAILCo recently updated the cost estimates for TrAIL and I have relied on the  
17 updated cost estimates shown on TrAILCo Exhibit No. MAM-6.

18 OTHER ISSUES

19 Q. HAVE THE OTHER MATTERS THAT YOU DISCUSSED IN YOUR APRIL 13  
20 TESTIMONY CHANGED?

21 A. No.

- 1 Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?
- 2 A. Yes, it does. However, I reserve the right to file such additional testimony as may be
- 3 necessary or appropriate.

**TrAIL Project - Investment by State**  
**Allocation of Revenue Requirements for TrAIL and Dominion Virginia Power Facilities**

(1)	(2)	(3)	(4)	(5) = (3) x (4)	(6)	(7) = (5) x (6)
Facilities	Owner's Estimated Investment	Owner's Estimated Annual Revenue Requirement	% of Estimated Annual Revenue Requirement billed to Allegheny Power Zone	Estimated Annual Revenue Requirement billed to Allegheny Power Zone	% of AP Zones Revenue Requirement billed to West Penn Power (PA)	Estimated Annual Billing to West Penn Power (PA)
TrAIL 500 kV in West Virginia	\$ 390,316,899	\$ 85,050,052	6%	\$ 5,102,849	43%	\$ 2,213,969
TrAIL 500 kV in Pennsylvania	\$ 177,746,049	\$ 38,730,864	6%	\$ 2,323,782	43%	\$ 1,008,217
TrAIL 500 kV in Virginia*	\$ 214,797,109	\$ 46,804,290	6%	\$ 2,808,173	43%	\$ 1,218,379
TrAIL 138 kV in Pennsylvania	\$ 94,139,943	\$ 20,513,094	100%	\$ 20,513,094	43%	\$ 8,899,999
Dominion Virginia Power 500 kV in Virginia #	\$ 186,000,000	\$ 40,529,400	6%	\$ 2,431,690	43%	\$ 1,055,036
Dominion Virginia Power 500 kV in West Virginia	\$ 10,000,000	\$ 2,179,000	6%	\$ 130,736	43%	\$ 56,722
<b>Total</b>	<b>\$ 1,073,000,000</b>	<b>\$ 233,806,700</b>		<b>\$ 33,310,323</b>	<b>43%</b>	<b>\$ 14,452,322</b>

Memo:

TrAIL 500 kV - Other than PA	\$ 605,114,008	\$ 131,854,342	6.00%	\$ 7,911,021	43%	\$ 3,432,348	2.6%
TrAIL & DVP 500 kV - PA	\$ 177,746,049	\$ 38,730,864	6.00%	\$ 2,323,782	43%	\$ 1,008,217	2.6%
TrAIL & DVP 500 kV - Other than PA	\$ 801,114,008	\$ 174,562,742	6.00%	\$ 10,473,448	43%	\$ 4,544,106	2.6%
TrAIL 138 kV - PA	\$ 94,139,943	\$ 20,513,094	100.00%	\$ 20,513,094	43%	\$ 8,899,999	43.4%

UPDATED TRAIL COST ESTIMATES

			* Total Budget	* ROW, Engineering, Construction	* Admin & Legal
<b>Pennsylvania</b>					
	<i>138 kV portion (includes Prexy Substation)</i>		94.14	88.57	5.57
	<i>500 kV portion:</i>		177.75	166.78	10.97
		502 Junction Substation	62.24	58.17	4.08
		502 Junction SS - Prexy SS 500 kV line	108.17	101.73	6.44
		502 Junction SS - PA/WV State Line 500 kV line	7.33	6.88	0.45
<b>Total Pennsylvania</b>			<b>271.89</b>	<b>255.35</b>	<b>16.54</b>
<b>Total West Virginia</b>			<b>390.32</b>	<b>366.20</b>	<b>24.12</b>
<b>Total Virginia</b>			<b>157.80</b>	<b>147.95</b>	<b>9.84</b>
<b>Total TrAIL Project constructed by TrAILCo</b>			<b>820.00</b>	<b>769.50</b>	<b>50.50</b>
<b>TrAILCo jointly owned in Virginia</b>			<b>57.00</b>		
<b>Total TrAIL</b>			<b>877.00</b>		

\* All Figures Shown in Millionths