

COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION

APPLICATION OF)
)
TRANS-ALLEGHENY INTERSTATE LINE)
COMPANY) Case No. PUE-2007-000____
)
For approval and certification of electric)
transmission facilities under Va. Code)
§ 56-46.1 and the Utility Facilities Act,)
Va. Code § 56-265.1 *et seq.*)

APPLICATION OF
TRANS-ALLEGHENY INTERSTATE LINE COMPANY
FOR APPROVAL AND CERTIFICATION OF ELECTRIC FACILITIES FOR
THE
CONSTRUCTION OF 500 kV TRANSMISSION LINE

DIRECT TESTIMONY OF
MARK A. MADER

April 19, 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,
6 Rates. My time is devoted to tasks performed for the regulated companies of
7 Allegheny Energy, Inc., (“Allegheny”) including The Potomac Edison Company
8 (“Potomac Edison”), Monongahela Power Company (“Mon Power”), and West
9 Penn Power Company (“West Penn”), all doing business as Allegheny Power, and
10 Trans-Allegheny Interstate Line Company (“TrAILCo”).

11 Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND
12 EDUCATIONAL BACKGROUND.

13 A. I graduated from West Virginia University in 1986 with a Bachelor of Science in
14 Mechanical Engineering. I have been employed by Allegheny for over 20 years.
15 Among others, I have held the positions of Director, Energy Procurement; Director,
16 Asset Management; and Director, Load Management. My current duties and
17 responsibilities as Director, Rates include oversight of all aspects of electric rate
18 case preparation, revenue requirement development, jurisdictional rate of return
19 studies, regulatory finance, cost allocation, regulated pricing and tariff services, rate
20 design, load research, revenue forecasting, and PJM Interconnection, L.L.C.
21 (“PJM”) rate activities. These responsibilities encompass the distribution,

1 transmission and generation segments of the three utility operating subsidiaries of
2 Allegheny and TrAILCo, if and as applicable.

3 Q. PLEASE DESCRIBE THE PURPOSE OF YOUR TESTIMONY.

4 A. The purpose of my testimony is to describe how PJM has allocated the revenue
5 requirements for the Trans-Allegheny Interstate Line (“TrAIL”) to be financed,
6 constructed, owned, operated and maintained by TrAILCo to load serving entities in
7 the PJM transmission zones. I also explain why the Virginia portion of Potomac
8 Edison (“PE-Virginia”) is not currently assigned any of the costs associated with the
9 Virginia Segments of TrAIL. Finally, for informational purposes only, I explain
10 how TrAILCo’s revenue requirement for the Prexy Facilities of TrAIL – which are
11 not located in Virginia, and therefore are not part of the subject matter of this
12 proceeding – are currently assigned by PJM.

13 Q. WILL THE USE OF VARIOUS TERMS IN YOUR TESTIMONY BE
14 CONSISTENT WITH THE DEFINITIONS ASSIGNED TO THOSE
15 TERMS IN THE TABLE OF NOMENCLATURE ATTACHED TO THE
16 APPLICATION AS EXHIBIT 2?

17 A. Yes.

18 Q. WHAT REGULATORY BODY WILL SET THE TRANSMISION RATES
19 THAT WILL BE CHARGED TO RECOVER THE REVENUE REQUIREMENT
20 OF TRAIL?

1 A. The Federal Energy Regulatory Commission (“FERC”) will determine a revenue
2 requirement for TrAILCo. On February 21, 2007, TrAILCo submitted a formula
3 rate filing to FERC under which it proposed to collect the annual transmission
4 revenue requirement for TrAIL and certain other transmission facilities to be
5 effective June 1, 2007. Upon FERC’s approval, PJM will collect this revenue
6 requirement from the load serving entities (e.g., distribution utilities) within the
7 PJM transmission zones that have been designated in prior filings made by PJM
8 with FERC pursuant to Schedule 12 of the PJM Open Access Transmission Tariff
9 (“OATT”) and Schedule 6 of the PJM Amended and Restated Operating
10 Agreement (“Operating Agreement”).

11 Q. WHAT IS THE PROCESS USED FOR DETERMINING HOW TRAIL COSTS
12 WILL BE ALLOCATED?

13 A. After determining that a reliability-based transmission upgrade is needed, PJM
14 allocates responsibility for the revenue requirement associated with the upgrade on
15 a “cost-causation” basis in accordance with Schedule 12 of the OATT and
16 Schedule 6 of the Operating Agreement. PJM performs an analysis of applicable
17 reliability criteria, identifies the transmission zones that cause an adverse reliability
18 condition (also referred to as a “reliability violation”) and the need for the
19 transmission upgrade to be constructed, and designates the load serving entities in
20 such zones as responsible for a certain percentage of the revenue requirement
21 associated with the transmission upgrade.

1 Consistent with this cost causation approach, revenue requirement
2 responsibility for an upgrade required to mitigate a reliability violation in one
3 transmission zone may be allocated in significant part to load serving entities in
4 other zones. By means of a power flow analysis, PJM determines distribution
5 factors (“DFAX”) that identify the power flows that cause reliability criteria
6 violations that give rise to the need for transmission upgrades. PJM then
7 multiplies each transmission zone’s DFAX by each corresponding zone’s load to
8 determine each zone’s megawatt (“MW”) impact on the facility that requires
9 upgrading. Each zone’s MW impact is divided by the sum of all MW impacts to
10 yield baseline cost allocation factors.

11 In this manner, PJM identifies the “cost causers” of the reliability
12 transmission upgrade to ensure the continued reliability of the transmission system
13 and assigns cost responsibility accordingly. Since TrAIL is one of the reliability-
14 based upgrades included in PJM’s 2006 Regional Transmission Expansion Plan,
15 the cost allocation for TrAIL was determined in the above manner.

16 Q. WHAT ALLOCATION HAS PJM DETERMINED FOR THE VIRGINIA
17 PORTION OF TRAIL THAT IS THE SUBJECT OF THIS PROCEEDING?

18 A. PJM has determined that the loads causing the need to construct the 502 Junction
19 Substation, the 502 Junction Segments (including the Virginia Segments), the
20 expansion of the Mt. Storm and Meadow Brook Substations, and the Loudoun
21 Segment are located in transmission zones in the mid-Atlantic area of PJM.
22 Therefore, PJM allocated 100% of the cost responsibility for these segments to

1 loads outside of the Allegheny Power Zone. According to Schedule 12-Appendix
2 of the PJM OATT, PJM designated revenue requirement responsibility for these
3 segments as follows:

- 4 • Public Service Electric & Gas Company (14%);
 - 5 • Jersey Central Power & Light Company (9%);
 - 6 • Atlantic City Electric Company (4%);
 - 7 • Delmarva Power & Light Company (6%);
 - 8 • PECO Energy Company (12%);
 - 9 • PPL Energy Plus, LLC (9%);
 - 10 • Metropolitan Edison Company (4%);
 - 11 • Pennsylvania Electric Company (1%);
 - 12 • Baltimore Gas and Electric Company (19%);
 - 13 • Potomac Electric Power Company (21%); and
 - 14 • Neptune (1%).
- 15

16 These allocations reflect the cost-causation principles used by PJM that I described
17 earlier.

18 Q. ARE THE ALLOCATIONS FOR THESE FACILITIES FINAL?

19 A. No. PJM has filed its cost allocation for TrAIL with FERC in Docket No. ER06-
20 1271-00, and this allocation is in effect subject to hearing and refund. Some
21 parties have filed protests with respect to this allocation, but the proceeding is
22 being held in abeyance by FERC pending an order in the intra-PJM rate design
23 proceeding in Docket No. EL05-121-000. Thus, it is possible that the allocation
24 for the 502 Junction Substation, the 502 Junction Segments, the expansion of the
25 Mt. Storm and Meadow Brook Substations, and the Loudoun Segment may
26 change. If a change occurs with respect to these facilities, it is possible that some

1 of the costs will be allocated to the Allegheny Power Zone, which currently does
2 not have any costs for these facilities allocated to it.

3 Q. WHAT REVENUE REQUIREMENT WILL PJM ALLOCATE TO
4 ALLEGHENY POWER AS A LOAD SERVING ENTITY WITH RESPECT TO
5 THE SECTIONS OF TRAIL THAT ARE THE SUBJECT OF THIS
6 APPLICATION?

7 A. None, unless the cost allocation with respect to the 502 Junction Substation, the
8 502 Junction Segments, the expansion of the Mt. Storm and Meadow Brook
9 Substations, and the Loudoun Segment, discussed above, is changed as a result of
10 the pending proceeding at FERC. The portions of TrAIL to be built in Virginia,
11 i.e., the Virginia Segments, and that are the subject matter of this application, are
12 all parts of the 502 Junction Segments, for which PJM has determined the cost
13 should be allocated to other load-serving entities.

14 Q. ARE THE PREXY SEGMENTS LOCATED IN VIRGINIA?

15 A. No, they are located in Pennsylvania and subject to CPCN review by the
16 Pennsylvania Public Utility Commission.

17 Q. THEN WHY DO YOU DISCUSS THE COSTS WITH RESPECT TO THE
18 PREXY SEGMENTS?

19 A. Although the Prexy Segments, and their costs, are not a subject matter within the
20 scope of this proceeding, I wanted to describe those costs for informational
21 purposes, so that this Commission would be aware of the cost for the segments of

1 TrAIL that would be allocated to Virginia customers under the current cost
2 allocation methodology.

3 Q. WHAT ALLOCATION HAS PJM DETERMINED WITH RESPECT TO THE
4 PREXY FACILITIES OF TRAIL?

5 A. For the Prexy Facilities, PJM has allocated 100 percent of the cost to the load in
6 the Allegheny Power transmission zone. This allocation was based on the cost-
7 causation principles used by PJM that I described above. Since the “cost causers”
8 associated with the reliability violation being remedied are in the Allegheny Power
9 Zone, PJM assigned the entire responsibility for the revenue requirement
10 associated with the Prexy Facilities to the Allegheny Power Zone. As I have
11 noted, the Prexy Facilities are not a component of the Virginia Segments for which
12 TrAILCo seeks Commission approval in this case, as none of the Prexy facilities
13 are located in Virginia.

14 Q. IS THE COST ALLOCATION PROCESS FOR THIS SECTION FINAL?

15 A. No. The status of these allocations is the same as for the allocation with respect
16 to the other segments of TrAIL. Thus, it remains possible that the cost allocation
17 for this segment of TrAIL may change. Any such change in the allocation could
18 only result in less, rather than more, of the costs of the Prexy Facilities being
19 allocated to the Allegheny Power Zone, since all of the costs are currently
20 allocated to that zone.

21 Q. PLEASE EXPLAIN THE COST IMPACT OF THAT ALLOCATION.

1 A. As stated above, PJM has allocated 100% of the revenue requirement of the Prexy
2 Facilities to the Allegheny Power transmission zone, which includes the Allegheny
3 Power operating companies as load serving entities as well as municipal utilities
4 and rural electric cooperatives. Because the Allegheny Power operating
5 companies comprise, by far, the largest portion of the load serving entities in the
6 zone, the largest part of the revenue requirement for the Prexy Facilities will be
7 billed by PJM to Allegheny Power on a monthly basis. This billing will then be
8 allocated among the three operating companies (Potomac Edison, Mon Power, and
9 West Penn) based on their respective load ratio share. PE-Virginia's current retail
10 load ratio share of the total Allegheny Power zonal load is approximately 7%. This
11 load ratio share is updated annually, and the resulting revenue requirement will be
12 also.

13 Q. ONCE THE PREXY FACILITIES ARE COMPLETED, WHAT WILL BE THE
14 AMOUNT OF THE TRANSMISSION REVENUE REQUIREMENT
15 ALLOCATED TO PE-VIRGINIA ON AN ANNUAL BASIS?

16 A. Assuming that the PJM cost allocations discussed above do not change, and using
17 the current load ratio share, I anticipate that PE-Virginia will be responsible for
18 approximately \$1.9 million of the annual revenue requirement upon the
19 completion of the Prexy Facilities. However, as I noted above, the annual changes
20 in the load ratio share may cause small variations in that amount from year to year.

21 Q. PLEASE EXPLAIN THE METHODOLOGY USED TO DETERMINE THE
22 TRANSMISSION REVENUE REQUIREMENT FOR TRAIL.

1 A. The transmission revenue requirement is based on a formula methodology filed
2 with FERC on February 21, 2007. This transmission formula rate is designed to
3 recover the annual transmission revenue requirement for TrAIL including
4 operation and maintenance expenses, depreciation expenses, return on rate base,
5 taxes other than income taxes, income taxes, and revenue credits. A similar
6 formula methodology has been approved by FERC in filings by Baltimore Gas and
7 Electric, the operating affiliates of PHI Holdings, Inc., UGI Utilities, Inc., and
8 Duquesne Light Company. Also included in this filing is 100 percent of
9 construction work in progress (“CWIP”) in rate base, based on the projected cost
10 of the construction activity.

11 Q. WHAT IS THE CAPITAL INVESTMENT FOR THE PREXY FACILITIES?

12 A. The capital investment in the Prexy Facilities is estimated to be \$120 million.

13 Q. WHAT IS THE ANNUAL TRANSMISSION REVENUE REQUIREMENT
14 ASSOCIATED WITH THIS \$120 MILLION INVESTMENT?

15 A. Based on the formula approach described above, the annual revenue requirement
16 for the completed Prexy Facilities is estimated to be \$26.1 million. Using the cost
17 allocations already determined by PJM (Schedule 12-Appendix of the PJM
18 OATT), load within the Allegheny Power Zone will be responsible for this entire
19 revenue requirement.

20 Q. WHAT IS THE ANNUAL TRANSMISSION REVENUE REQUIREMENT
21 ALLOCATED TO PE-VIRGINIA?

1 PE-Virginia's approximate 7% load ratio share of \$26.1 million amounts to
2 approximately \$1.9 million of revenue requirement once the project is completed.
3 FERC has accepted Allegheny's proposal in Docket No. EL06-54-000 to include
4 100 percent of CWIP in rate base prior to the in-service date of the TrAIL projects.
5 Therefore, the annual revenue requirement will gradually increase as construction
6 of the Prexy Facilities proceeds from a level of approximately \$0.1 million in 2007
7 to approximately \$1.9 million by 2011, as those facilities near completion.

8 Again, I am providing this analysis for informational purposes only,
9 as the Prexy Facilities are not the subject matter of this application, and it is
10 my understanding, based on information provided by TrAILCo witness
11 Hozempa, that construction of the 502 Junction Segments in Virginia will
12 provide reliability benefits regardless of whether or not the Prexy Facilities
13 are constructed.

14 Q. ARE THE TRANSMISSION REVENUE REQUIREMENTS ALLOCATED
15 TO PE-VIRGINIA SUBJECT TO CHANGE?

16 A. Yes. The transmission revenue requirements are based on a formula methodology
17 filed with FERC incorporating estimated project costs that are subject to an annual
18 true-up to actual data. Other factors, such as load ratio share, will also need to be
19 updated annually to determine the revenue requirement being charged to PE-
20 Virginia, as I noted above. In addition, it should be borne in mind that the

1 transmission revenue requirement is dependant on FERC's ruling on the February
2 21, 2007 filing.

3 Q. WHAT MECHANISM WILL BE USED TO RECOVER THE TRAIL
4 TRANSMISSION REVENUE REQUIREMENT FROM RETAIL CUSTOMERS?

5 A. The revenue requirements associated with this investment will be billed to the load
6 serving entities in the form of a monthly PJM transmission enhancement charge. I
7 anticipate that these transmission enhancement charges will be recovered from the
8 retail customers through either a surcharge type mechanism (for which Potomac
9 Edison would seek Commission approval in a subsequent proceeding) or in
10 Potomac Edison's next base rate case proceedings.

11 Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

12 A. Yes, it does.