

**COMMONWEALTH OF VIRGINIA
BEFORE THE
STATE CORPORATION COMMISSION**

APPLICATION OF

**TRANS-ALLEGHENY INTERSTATE
LINE COMPANY**

CASE NO. PUE-2007-00033

**For certificates of public convenience
and necessity to construct facilities:
500 kV Transmission Line from Virginia-West Virginia
Boundary to Virginia Electric and Power Company
Transmission Line #580**

**REBUTTAL TESTIMONY OF
LAWRENCE A. HOZEMPA**

February 5, 2008

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Lawrence A. Hozempa and my business address is 800 Cabin Hill Drive, Greensburg, Pennsylvania 15601.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS PROCEEDING?

A. Yes. I have filed Direct Testimony on behalf of Trans-Allegheny Interstate Line Company (“TrAILCo”) on April 19, 2007.

Q. PLEASE DESCRIBE THE PURPOSE OF YOUR REBUTTAL TESTIMONY.

A. This rebuttal testimony addresses various assertions concerning the need for the 502 Junction-Loudoun line presented in the direct testimony of James D. Bouford, George C. Loehr and Sharon Segner for CPV Warren, LLC; Lamine Mili for Fauquier County Board of Supervisors; Hyde M. Merrill for the Piedmont Environmental Council and Ren Orans for Virginia’s Commitment LLC. In general terms, these witnesses deny the existence and extent of the transmission system reliability problems PJM, TrAILCo, and Dominion Virginia Power have identified, the purpose of the 502 Junction-Loudoun line, and the sufficiency of PJM’s and Allegheny Power’s consideration of alternatives for the 502 Junction-Loudoun line.

Q. WILL YOU BE USING THE SAME TERMS IN YOUR REBUTTAL TESTIMONY AS SET FORTH IN THE TABLE OF NOMENCLATURE ATTACHED TO THE APPLICATION?

A. Yes. In addition, I may define other specific terms in my rebuttal testimony.

Q. HAVE YOU ATTACHED ANY EXHIBITS TO YOUR REBUTTAL TESTIMONY?

A. No.

I. SUMMARY OF REBUTTAL TESTIMONY

Q. PLEASE SUMMARIZE THE THEMES OF YOUR REBUTTAL TESTIMONY.

A. My rebuttal testimony provides TrAILCo's perspective on a number of the points raised in the respondents' testimony on the "need" aspects of TrAILCo's Application:

- In Section II, I respond to assertions that the 502 Junction-Loudoun line is not needed to ensure continued reliability of the integrated transmission system. I will show that the timely construction of the 502 Junction-Loudoun line is critical for system reliability and to address the serious violations of NERC reliability standards that PJM has identified.
- Section III focuses on assertions that Allegheny Power did not adequately consider a range of purportedly "feasible" non-transmission alternatives to the construction of the 502 Junction-Loudoun line. In this section, I will demonstrate that just as PJM lacks the authority to compel the siting of new generation or the implementation of targeted DSM programs as a means to address identified reliability violations, Allegheny Power must take the steps available to it – the reinforcement of its existing transmission system to end-use customers – to solve these violations.
- Section IV addresses Respondents' assertions that PJM and TrAILCo did not adequately consider modifications to the existing

transmission system – such as reconductoring, double-circuiting, and the installation of reactive power devices – in lieu of the 502 Junction-Loudoun line. TrAILCo did consider these options and I will explain the fundamental weaknesses in each of them as a means to address the identified reliability violations in a timely way.

- Section V will focus on the adequacy of PJM’s planning process and the roles TrAILCo, Allegheny Power, and other stakeholder members of PJM have in that process. Respondents’ have asserted that there is a disconnect between PJM and its members in the planning process including load forecasting, load flow modeling, reliability analysis, and identification of solutions. I will validate that the entire planning process is open and involves the stakeholders throughout the process.
- Section VI emphasizes for the Commission the fundamental roles that TrAILCo and the Commission play in the continued reliability of electric service in the Commonwealth. Of all of the participants in this proceeding, and amidst all of the purported concerns they have advanced, only Allegheny Power and Dominion Virginia Power have public service obligations to end-use customers they must fulfill in Virginia.

II. THE NEED FOR THE 502 JUNCTION-LOUDOUN LINE

Q. A NUMBER OF RESPONDENT WITNESSES CONTEST, IN ONE WAY OR ANOTHER, THE “NEED” FOR THE 502 JUNCTION-LOUDOUN LINE. COULD YOU IDENTIFY SOME OF THESE ARGUMENTS?

A. Yes. There is wide variation in the approaches of these witnesses, ranging from criticisms of PJM’s application of NERC reliability standards to very generalized assertions that the system reliability problems PJM and TrAILCo have identified are “too uncertain.”

- Mr. Bouford and Mr. Loehr, witnesses for CPV Warren, assert that some of PJM's system reliability determinations are flawed and also that their client's proposed generating facilities in Virginia and Maryland, together with other unsupported assumptions they have made, can resolve reliability violations in 2011. (These claims regarding PJM's reliability studies are effectively refuted in Mr. Gass' rebuttal testimony, and I will not address them here.)
- Mr. Merrill and Mr. Loehr suggest that the 502 Junction-Loudoun line is not being proposed for reliability purposes but rather to allow specifically western coal generation to be sold into the eastern PJM markets. The 502 Junction-Loudoun line is first and foremost being proposed to assure that reliable service will be maintained on the transmission system and will also allow adequate power to be transmitted for use by customers in northern Virginia and the mid-Atlantic region.
- Additionally, witnesses such as Ms. Segner, Mr. Merrill and others suggest that the need for the 502 Junction-Loudoun line is somehow undercut by the fact that the 502 Junction-Loudoun line, as a reinforcement to the existing bulk transmission system, will allow "west-to-east power flows" to occur more reliably.

I will address each of these contentions in this Section II.

Q. MR. HOZEMPA, YOU MENTIONED THE POSITIONS OF VARIOUS RESPONDENTS; WHAT IS THE POSITION OF THE STAFF OF THE COMMISSION AS TO THE NEED FOR THE 502 JUNCTION-LOUDOUN LINE?

A. The Staff's expert witnesses, Mr. Nicolás Puga and Mr. Songhoon Yang of Bates White, LLC, prepared a "Need Analysis of the Proposed 502 Junction-Mr. Storm - Meadowbrook - Loudoun 500 kV Transmission Line" ("Bates

White”) that concluded with several important findings in support of the construction of the 502 Junction-Loudoun line:

- “In the absence of significant generator additions and/or load reduction, additional transmission infrastructure is critical to ensure that the backbone transmission system can reliably serve the expected load growth in the PJM mid-Atlantic region and the northern Virginia area” (Bates White at 3)
- “...the provision of reliable service to northern Virginia is critically dependent on the adequacy of certain regional transmission facilities that transport power not only to northern Virginia, but to much of the PJM mid-Atlantic region as well.” (Bates White at 1)
- “It may well be that the new markets will provide sufficient new generation and demand responses to reliably meet the need over time. However, the mid-Atlantic region and northern Virginia area face reliability issues in the near term that must be addressed with a high level of certainty. It would be highly risky to rely on market forces to resolve reliability issues.” (Bates White at 3)
- “The Applicants proposed Loudoun Line [the 502 Junction-Loudoun line] would fully resolve the expected reliability issues in 2011.” (Bates White at 93)

In major part, Bates White is consistent with that of PJM, TrAILCo, and Dominion Virginia Power (DVP) and we are gratified by the conclusions in Bates White. Moreover, the Commission Staff filed Supplemental Testimony on January 28, 2008 from Bates White that updated its earlier study. Bates White again concluded that “the need for the proposed Loudoun Line persists even when the most “up-to-date” power flow case is used as a basis for the reliability study.” (Bates White Supplemental Report at 1).

A. The 502 Junction-Loudoun Line is Not Motivated by Economic Justifications or by the Need to Increase West-to-East Power Flows.

Q. MR. MERRILL HAS ASSERTED (TESTIMONY PAGES 70-74) AS HAS MR. ORANS (TESTIMONY PAGE 9) AND MS. SEGNER (TESTIMONY PAGE 9) THAT THE REASON FOR THE 502 JUNCTION-LOUDOUN LINE IS TO INCREASE WEST-TO-EAST POWER FLOWS OR SIMPLY TO ENRICH TRAILCO. ARE THESE ASSERTIONS CORRECT?

A. No, my testimony, as well as several others in this proceeding, should make it very clear that these assertions are not correct. The 502 Junction-Loudoun line is being constructed to address specific NERC reliability violations as cited in TrAILCo Witness Gass' Exhibit SWG-1 as comprehensively studied by PJM. Allegheny Power is required to build transmission lines found necessary by PJM to eliminate reliability constraints as defined by NERC guidelines (and enforced by FERC), and Allegheny Power is doing so through its affiliate TrAILCo. The construction of the 502 Junction-Loudoun line will have the collateral result of increasing transfer capability of the system for both eastern and western transfers, but that is not the driving force behind its construction.

To the extent there is a legitimate misunderstanding that the 502 Junction-Loudoun line's primary purpose is for transmission reliability, that issue can be traced back

to Allegheny Power's original Trans-Allegheny Interstate Line ("TrAIL") project proposal. This proposal was submitted to PJM in February 2006 as a transmission system enhancement that would provide significant increases in west-to-east transfer capability and as a follow-up to a response by PJM to the FERC regarding system transfer improvements. Shortly thereafter, at the Transmission Expansion Advisory Committee ("TEAC") meeting in May 2006, PJM announced the results of the 2006 RTEP process that revealed the potential NERC reliability violations and proposed solutions to remedy those violations. One of the solutions announced to address the specific reliability violations on the Mt. Storm-Doubs 500 kV line and the Pruntytown-Mt. Storm 500 kV line was the proposed 502 Junction Segments and the Loudoun Segment that have become part of the 502 Junction-Loudoun line which incorporated parts of the original TrAIL project proposal. The occurrence of these events within such a short time may have led to the misunderstanding of the need for the 502 Junction-Loudoun line project. Moreover, after the 502 Junction-Loudoun line project was approved by the PJM board in June 2006, PJM completed a market study to determine the economic impact the 502 Junction-Loudoun line would have on the electric energy costs throughout PJM. Although PJM conducts economic impact reviews routinely, some parties erroneously concluded that economics is the driving factor of the

project when, in fact, the reliability issues established pursuant to time-tested and accepted NERC guidelines were and still are the driving force behind the development of the 502 Junction-Loudoun line.

III. TARGETED DSM OR GENERATION ALTERNATIVES CONSIDERED

Q. MR. ORANS (TESTIMONY PAGES 10-11, 25-26, 69-71) AND MR. MILI (TESTIMONY PAGE 16) HAVE ASSERTED THAT THE 502 JUNCTION-LOUDOUN LINE IS NOT NEEDED BECAUSE OF FUTURE LOAD REDUCTIONS. DO YOU AGREE?

A. No. I am unaware of any plans or programs being implemented that will reduce the load sufficiently to delay the construction of the 502 Junction-Loudoun line beyond 2011. Dr. Jay Zarnikau and Ms. Cindy Menhorn discuss DSM capability and existing and planned Allegheny Power programs, respectively, in their rebuttal testimony.

Q. WHAT ABOUT ALTERNATIVES TO THE 502 JUNCTION-LOUDOUN LINE SUCH AS IMPLEMENTING AGGRESSIVE DSM OR INSTALLATION OF ADDITIONAL GENERATING CAPACITY?

A. The load forecasts PJM utilizes include the expected effect of DSM as Mr. Reynolds stated. Furthermore, as Dr. Zarnikau shows, DSM is a not a viable solution to replace the 502 Junction-Loudoun line in the relevant time period

before the reliability issues must be solved. Installation of additional generation is unlikely to be a viable solution by the 2011 timeframe; moreover, neither PJM, nor TrAILCo has the authority to force the construction of generation at specific locations within a specified timeframe, and to my knowledge the amount of additional generation with a signed ISA is not sufficient to obviate the need for the 502 Junction-Loudoun line. As Mr. Herling discusses in detail, prudent and accepted planning practices do not allow speculative or uncertain events to be used as determining factors to ignore or dodge the need to take action to assure the reliability of the transmission system. As Bates White for the Staff of the Commission found, it is “highly risky” to rely on third parties to take actions in the market to assure transmission reliability (Bates White at 3).

Q. WHY DOESN'T TRAILCO OR ALLEGHENY POWER BUILD NEW GENERATION IN VIRGINIA?

A. Neither TrAILCo nor Allegheny Power owns any generating facilities in Virginia. Also, TrAILCo is a transmission company not a generating company; and Allegheny Power's core business is transmission and distribution even though its affiliates own some generation within Virginia.

Q. MR. ORANS CRITICIZED THE LACK OF A REVIEW OF NON-TRANSMISSION ALTERNATIVES (TESTIMONY PAGES 21-22). PLEASE COMMENT ON THIS.

A. The electric power industry is structured in a manner that makes studies of all conceivable alternatives impractical. The generating resource companies are independent from the transmission companies and the generation markets are fully competitive. This competitive market does not always result in the perfect or optimal improvement to the reliability of the transmission system. PJM, a not-for-profit, revenue neutral entity, is the Regional Transmission Organization (“RTO”) charged with providing and monitoring a competitive electric energy market as well as maintaining the reliability of the transmission system. PJM cannot, however, force generators to build, or specify where a generator should build. PJM must plan based on the generation, transmission and loads that actually exist or can be projected with reasonable certainty will exist in the planning horizon. PJM can only direct its Transmission Owners to construct the necessary transmission facilities to maintain the reliability of the transmission system and through market signals encourage the construction of new generation in the appropriate places. Bates White confirms the reality that IRP is not available to PJM or the 502 Junction-Loudoun line in planning for this transmission reliability solution:

Historically, utilities, largely if not exclusively, planned their transmission systems to meet the needs of their native load customers: and in doing so, utilities typically undertook an integrated resource planning approach in evaluating the economic and reliability trade-offs of potential transmission and generation alternatives. Barring significant change in federal and/or state law and policy, that planning era, at least with respect to regional high-voltage transmission infrastructure, is largely in the past. (Bates White at 3)

Mr. Herling addresses this important issue in his rebuttal testimony.

Q. WHY ARE THESE FACTS CRITICAL TO THE COMMISSION'S CONSIDERATION OF TRAILCO'S APPLICATION?

A. If the Commission accepts the premises implicit in much of the respondents' testimony – for example, that generation assuredly will be built at specific locations in specific amounts and that future load reduction programs assuredly will lead to a certain and predictable reduction in demand – then it might erroneously conclude that other feasible options are reasonably available to PJM to address the transmission system reliability violations it has identified. If, on the other hand, the Commission appreciates the rigors and reality of the PJM planning process and the limits on PJM's ability to address projected reliability violations (and, by extension, Allegheny Power's ability to comply with PJM's directives), then it will quickly realize that much of the respondents' testimony on need is off the mark. One must keep in mind PJM is limited by federal regulations in its authority and

can only direct the construction of transmission facilities to insure the reliability of the transmission system, which is one of its primary responsibilities.

IV. MODIFICATIONS TO THE EXISTING TRANSMISSION SYSTEM

Q. IS RECONDUCTORING OF THE MT. STORM-DOUBS LINE AN APPROPRIATE ALTERNATIVE TO THE 502 JUNCTION-LOUDOUN LINE AS SUGGESTED, FOR EXAMPLE, BY MR. ORANS (TESTIMONY PAGES 27-28)?

A. No. TrAILCo did not investigate reconductoring of the Mt. Storm-Doubs 500 kV line primarily because 97 of the 99 miles of the line are owned by DVP. It would be difficult to complete a reconductoring project on the Mt. Storm-Doubs line since it is a critical transmission line and its loading changes very little throughout the year. Removing this line from service for any length of time would have significant reliability implications as well as significant impacts on the price of electricity.

Q. DID TRAILCO INVESTIGATE RECONDUCTORING OR DOUBLE-CIRCUITING OTHER EHV LINES?

A. Based on previous operations and maintenance experience, it is very difficult to schedule interruptions of extra-high voltage (“EHV”) facilities at any time of the year since the EHV system is loaded near the first-contingency limit throughout

most of the year. Furthermore, EHV lines are fairly unique in their design and reconductoring may require a complete rebuild of the line including tower structures and foundations. Due to these reasons, TrAILCo did not investigate reconductoring, nor was TrAILCo directed by PJM to conduct such analyses.

Double-circuiting is not practical since all of the EHV lines owned by Allegheny Power are single-circuit structures and would require replacement of the tower structures and foundations which would require taking the line out of service for long periods of time. Moreover, as Bates White concludes, the two 230 kV line option “does not sufficiently reduce the expected flows on other parallel lines [and thus] shows new contingency overloads.” (Bates White at 61).

Q. CAN THE IDENTIFIED NERC RELIABILITY VIOLATIONS BE RESOLVED BY USE OF OTHER TECHNOLOGIES SUCH AS A PHASE ANGLE REGULATING TRANSFORMER (“PAR”), A STATIC VAR COMPENSATOR (“SVC”), OR ADDITIONAL CAPACITORS, AS MR. MERRILL (TESTIMONY PAGES 22-23 AND 59), MR. LOEHR (TESTIMONY PAGES 12-13) AND MR. ORANS (TESTIMONY PAGE 4) RECOMMEND?

A. PARs, SVCs, and capacitors do not provide additional transmission capacity, they only aid in controlling the flow on the existing transmission system.

A PAR will control the power flow on the Mt. Storm-Doubs 500 kV line, but a PAR forces the power to flow elsewhere on the system; the power transfer requirement does not just go away. It may delay the need to add transmission capacity for a short period of time but will not replace the need for a transmission line.

An SVC and additional capacitors are normally utilized to control voltage violations, not line loading violations. They may reduce the loading on transmission lines to a degree, but they also will not obviate the need for the 502 Junction-Loudoun line. Following its modeling of power flow controllers, Bates White for the Staff concluded that “[t]his shifting of power flows may introduce new contingency overloads somewhere else as a result of an active AC power flow control.” (Bates White at 7). Bates White Exhibit 41 shows the continuing transmission line overloading with the installation of a PAR on the Mt. Storm-Doubs line and clearly that is not an acceptable solution.

The identified reliability violations are directly related to the capacity of the transmission system. In 2011 the demand for power will exceed the transmission capacity of the system under contingency conditions. This is the root of the reliability violations identified in Mr. Gass’ direct testimony. Additional transmission capacity –the 502 Junction-Loudoun line – needs to be constructed.

Q. WHY ISN'T THE 502 JUNCTION-LOUDOUN LINE BEING CONSTRUCTED FOR 765 KV OPERATION OR BEING CONSTRUCTED AS A DOUBLE CIRCUIT 500 KV LINE?

A. Allegheny Power did consider the possibility of constructing the 502 Junction-Loudoun line for 765 kV operation. It was determined at the commencement of the project that to construct the 502 Junction-Loudoun line at 765 kV would require significantly more capital investment and would increase the risk of delaying the in-service date. Therefore, the decision was made to construct the line at 500 kV. Also, Allegheny Power does not have any double-circuit 500 kV lines and prefers to keep 500 kV circuits on separate structures as stated in its FERC Form 715.

V. THE ADEQUACY OF PJM'S PLANNING PROCESS

Q. SEVERAL RESPONDENT WITNESSES STATE THAT TRAILCO'S FILING REFLECTS DEFICIENCIES IN THE PJM TRANSMISSION PLANNING PROCESS. DO YOU AGREE?

A. No. This conclusion cannot be supported and TrAILCo does not believe the planning process at PJM is deficient. Mr. Herling's rebuttal testimony explores these issues at length. PJM collects inputs from many sources, including stakeholders such as Allegheny Power, and conducts analyses on a load flow model that at the time it is created best represents the expected load levels and the

generating resources and transmission facilities that will be in service. In that effort, PJM must determine the reasonableness of the assumptions and data it is using, and unfortunately not all of the data – such as the ultimate availability of all announced generation additions – is sufficiently dependable to include in the transmission planning process. Every planning process necessarily makes threshold decisions on the adequacy and dependability of factual assumptions; rather than rendering the process deficient, these initial decisions are critical to the usefulness of the end product. Nor does the fact that PJM’s planning process does not assume any ability to compel the construction or new generation, or the implementation of DSM programs, render it deficient.

Q. MR. MILI (TESTIMONY PAGE 21) SUGGESTS THAT CONSTRUCTION OF PATH WILL OBTVIATE THE NEED FOR THE 502 JUNCTION-LOUDOUN LINE. DO YOU AGREE?

A. I have not conducted any analysis regarding this assertion. PJM determined a need in 2012 for the Amos to Kemptown lines (sometimes referred to as “PATH”) through its 2007 RTEP with the assumption that the 502 Junction-Loudoun line was in-service. There is no basis to suggest that the 502 Junction-Loudoun line will not be needed if PATH is constructed.

VI. ALLEGHENY POWER'S PUBLIC SERVICE OBLIGATIONS

Q. HOW DOES THE 502 JUNCTION-LOUDOUN LINE PROPOSAL REFLECT ALLEGHENY POWER'S EFFORT TO MEET ITS PUBLIC SERVICE OBLIGATIONS?

A. Allegheny Power has an affirmative obligation to evaluate the adequacy and reliability of its transmission and distribution facilities. When those evaluations show that existing facilities are inadequate to provide reliable service or might be compromised in the future, Allegheny Power has a public service obligation to do what is necessary – including seeking the Commission's approval when required – to address the identified inadequacies and strengthen the system. Allegheny's creation of TrAILCo and TrAILCo's prosecution of this case are the expression of Allegheny Power's efforts to meet these obligations.

Q. ARE THERE OTHER OBLIGATIONS ALLEGHENY POWER MUST FULFILL?

A. At pages 14-15 of my direct testimony, I described the nature and derivation under various PJM documents of Allegheny Power's "obligation to build" the transmission facilities PJM indicates are required. As "transmission owners" whose transmission facilities are under the operational and planning control of PJM, Allegheny Power is not at liberty to ignore PJM's directives. Rather,

fulfilling the PJM “obligation to build” is consonant with its public service obligations to its Virginia customers and this Commission. In addition to these obligations, Allegheny Power is required to comply with NERC’s mandatory, FERC-approved reliability criteria, penalties for the violation of which can be as high as \$1 million per day per violation. Mr. Herling’s direct testimony describes these requirements.

Q. HOW ARE ALLEGHENY POWER’S PUBLIC SERVICE OBLIGATIONS RELEVANT TO THE COMMISSION’S ANALYSIS OF TRAILCO’S APPLICATION?

A. TrAILCo acknowledges the concerns of the other parties to this proceeding. Many are well intentioned, and are certainly entitled to their views and to meaningful participation in this process. Yet none of these parties has any affirmative obligation to maintain the reliability of the transmission system, and none has even mentioned – much less acknowledged – Allegheny Power’s obligations in this regard.

If these parties are successful in their efforts to block the construction of the 502 Junction-Loudoun line, the reliability problems PJM has identified will not simply disappear. And, when those unaddressed reliability problems must be resolved through operational means at PJM’s and Allegheny Power’s command – which

may include rolling blackouts – these parties likely will be nowhere to be found. Despite TrAILCo’s best efforts in this proceeding, when these events occur, Allegheny Power will be expected to answer for them.

TrAILCo’s Application and supporting testimony show affirmatively that the public interest requires the construction of the 502 Junction-Loudoun line by June 2011, consistent with Allegheny Power’s obligations to reliably serve its customers in Virginia.

Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

A. Yes, it does.