PUBLIC SERVICE COMMISSION OF WEST VIRGINIA
AT CHARLESTON

CASE NO. 07-0508-E-CN

TRANS-ALLEGHENY INTERSTATE LINE COMPANY

BRIEF OF THE SIERRA CLUB, INC. IN OPPOSITION TO ISSUANCE OF CERTIFICATE OF CONVENIENCE AND NECESSITY TO TRANS-ALLEGHENY INTERSTATE LINE COMPANY

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I. CONTROLLING LEGAL AUTHORITY – W. Va. Code § 24-2-11a

Pursuant to the January 25, 2008 Procedural Order of the Public Service Commission ("PSC" or "Commission"), the Sierra Club, Inc. ("Sierra Club"), by Counsel, submits this Brief in Opposition to the issuance of a certificate of convenience and necessity to Trans-Allegheny Interstate Line Company ("TrAILCo") authorizing the construction and operation in West Virginia of a 114-mile segment of a 500 kV electric transmission line. In support of its opposition, the Sierra Club respectfully directs the Commission attention to the following points and authorities.

Title 24 of W. Va. Code, § 24-2-11a, provides in subsection (a) that no public utility, person or corporation may construct an electric transmission line without first having obtained from the PSC a certificate of public convenience and necessity approving the construction and proposed location of the transmission line.

Subsection (b) of W. Va. Code, § 24-2-11a, provides that an entity seeking to construct an electric transmission line must file with the Commission an application which contains a description of the location and type of line facilities, plus:

- a statement justifying the need for such facilities, and
- a statement of the environmental impact of such line facilities

Section (d) authorizes the PSC to approve an application for certificate of convenience and necessity, to construct an electric transmission line if, and only if, the PSC, after proper notice to affected parties, determines, on the record before it, that the proposed transmission line:

- will economically, adequately and reliably contribute to meeting the present and anticipated requirements for electric power of the customers served by the applicant or is necessary and desirable for present and anticipated reliability of service for electric power for its service area or region; and
- will result in an acceptable balance between reasonable power needs and reasonable environmental factors.

Alternatively, W. Va. Code § 24-2-11a, in subsection (e), provides that the Commission may approve an application subject to such conditions or modifications as the PSC deems necessary to achieve an acceptable balance between reasonable power needs and reasonable environmental factors.

II. TRAILCO FAILED TO CARRY ITS BURDEN OF PROOF TO DEMONSTRATE NEED FOR THE PROPOSED TRANSMISSION LINE.

1. Description and Justification for TrAILCo's Proposed Transmission Line

As proposed by TrAILCo, the electric transmission line would begin at a point in Pennsylvania, cross into and over West Virginia, and terminate in Virginia. Of the total 165 miles, 114 miles would be in West Virginia. The line is proposed to have a capacity of 500kV

and is justified solely by the need for reliability. In addition to requesting authority for construction of the electric transmission line, TrAILCo requests that the Commission determine that it is a public utility for purposes of W. Va. Code § 24-2-1 and § 24-1-2, thereby extending to it the power of eminent domain with which it intends to acquire rights-of-way across 600 separate parcels of private property in West Virginia. No part of the proposed electric transmission line will cross the state of Maryland where increased demand has generated the purported reliability violations that TrAILCo asserts warrant construction of the line.

2. West Virginia, A Net Exporter of Electricity, Needs No Additional Electricity

TrAILCo does not assert that the transmission line is needed to deliver increased volumes of electricity to customers in the West Virginia market, and TrAILCo does not represent that any of the electricity transmitted across the proposed line will be consumed in the State of West Virginia. The reason for this limited justification is not a mystery. Ronald Klein, Ph.D., Chairman of the Department of Electrical Engineering at West Virginia University from 1979 to 1990, appearing as a witness on behalf of Halleck -Triune Community and the Laurel Run Watershed Association, in opposition to the issuance of the certificate of convenience and necessity, testified -- without contradiction -- that West Virginia was a very substantial net exporter of electricity:

> Q. HOW DOES DEMAND FOR ELECTRICITY IN WEST VIRGINIA COMPARE TO GENERATION OF ELECTRICITY IN WEST VIRGINIA?
>
> A. Based on 2005 statistics, West Virginia generated 93,626,286 megawatt-hours (Mwh), and West Virginia retail sales consumed 30,152,069 MWh, yielding a margin of 63,474,2 17 MWh of excess generation. West Virginia exports more than twice the amount of electric energy than it consumes.
>
> Q. ARE YOU AWARE OF ANY PROJECTIONS OF INCREASES IN DEMAND IN WEST VIRGINIA IN THE COMING YEARS?
>
> A. No, none of increasing demand. In fact, from 2006 to 2007, West Virginia generation declined by 419,000 MWh, a decrease of 4.6%.
>
> Q. DOES THE DEMAND FOR ELECTRICITY IN WEST VIRGINIA, OR THE RESULTING LOAD, EVER EXCEED THE TRANSFER CAPACITY OF TRANSMISSION LINES IN WEST VIRGINIA?
>
> A. No. The capacity of available West Virginia transmission lines relative to the capacity needed to serve West Virginia's load is very large. The excess exists in order to accommodate the larger geographical transmission grid, that is, to support the transport of electrical generation generally, as well as to accommodate West Virginia's generation and its transport both internal and external to West Virginia.

December 3, 2007 Direct Testimony of Ronald Klein.

3. Demand for Electricity in Mid-Atlantic region of PJM Alone Requires Increased Supply.

The need for increased electrical transmission lines in West Virginia arises, TrAILCo contends, because of the growth in electric consumption in the mid-Atlantic region of PJM, specifically, the northern Virginia, DC and Baltimore metropolitan areas. According to Steven Herling, the Vice President for Planning at PJM, increased demand for electricity in the Mid-Atlantic region, including DC, Maryland and northern Virginia, created the need to import electricity from the western portion of PJM and, consequently, the construction of increased transmission capacity. The increased demand in the Mid-Atlantic region was also identified by former PJM employee Scott Goss:

> Q. On page 16 of your Direct testimony, you were asked whether the studies identified the load zones affected by reliability problems, and as Mr. Herling did this morning, you identified the mid Atlantic and northern Virginia as the areas the study identified as being affected; correct?
>
> A. That is correct.
>
> Q. And on page 19 you said that the primary factor causing the electrical need for the West Virginia segments is consumer demand in the mid Atlantic and northern Virginia areas?
>
> A. That is correct.
>
> Q. And at least as far as your Direct testimony is concerned, in answer to the question, how will the electric customers within the Allegheny power zone be affected if the TrAIL line is not built, your answer was, that customers served by Allegheny in northern Virginia, the load in the Allegheny power zone that is located east of the overloaded transmissions lines will be at risk for electrical occurrences 1 through 8 and 10 through 12; is that correct?
>
> A. Yes, in the context of my Direct testimony.
>
> Q. And that's what I'm focused on right now is your Direct testimony.
>
> A. I did suggest the fact that it would be to the east of the overloaded facilities. The fact is that because that substation then has transmission lines that head back west, if you will, electrically below what appear east of that substation, is really a matter of whether or not you're talking geographically or electrically. But yes, the primary load that is affected is east.

January 9, 2008, Cross Examination of Scott Gass, at pp. 268-269.

4. Purported "Reliability" Violations Are Cited As Justification for the TrAILCo Line

Rather, TrAILCo asserts that the line is justified because of the projected occurrence -- in June 2001 -- of twelve (12) "violations" of various reliability standards. As described by Scott Gass, a former PJM employee with the title Manager Transmission Planning, of the twelve violations, violations, 1 through 8 all resulted in the Mt. Storm – Doubs line exceeding its emergency rating and overloads, violation 9 resulted in the Mt Storm – Prunytown line exceeding its emergency rating and overloads, and violations 10 through 12 resulted in drops in the voltage levels below acceptable levels at the Meadow Brook substation, and a risk of voltage collapse in the area. See Exhibit SWG -1 attached to Scott Gass Direct Testimony submitted with TrAILCo's March 30, 2007 Application.

These violations alone are submitted in justification of the construction of the 165 mile transmission line at a cost of approximately One Billion Dollars ($1,000,000,000.00). All of these costs, TrAILCo contends, may be passed through to various Load Serving Entities (LSE) which move electricity within PJM, the Regional Transport Organization authorized by the Federal Energy Regulatory Commission (FERC) for the 13 state area including 51,000,000 citizens in West Virginia, Pennsylvania and Virginia, and other states. The various LSE's may in turn pass through the costs of the TrAILCo line allocated to them to their own consumers, under regulations of the PSC of this and other states.

Underscoring the fact that demand in the Mid-Atlantic region of PJM, around DC, Baltimore and northern Virginia was driving the decision to construct TrAILCo's proposed line, was the isolation of the Mt Storm – Doubs line "violations" as the most significant of the purported 12 reliability violations. Gass testified that violation 9 did not occur until 2014, three years after the June 2001 projections for violations 1 through 8 and 10 through 12:

> Q. Let's start with your issue number nine. And that's been subject to some discussion and subject to a correction in your testimony. And your issue number nine is an outage of Hatfield-Black Oak. And as I understand it, that occurs in 2014?
>
> A. That is correct.

January 4, 2008 Cross Examination of Scott Gass, at p. 274.

Similarly, purported violations 10 through 12 at the Meadow Brook substation could be eliminated by the expenditure of $50,000,00 for a static VAR compensator – barely 5% of the cost of the $1,000,000,000 TrAILCo proposed for construction of the 165 mile electric transmission line. See January 11, 2008 Cross Examination of Lawrence Hozempa at p. 17.

Responding directly to the importance of the violations numbered 1 through 8, Gass testified as follows:

> Q. You have 12 items listed on your electrical occurrences. … How many of those items are required to justify the TrAIL line?
>
> A. In the PJM view of it, any of the electrical occurrences one through eight, by themselves, would be sufficient to justify the line.

January 4, 2008 Cross Examination of Scott Gass, at p. 275.

However, the violations 1 through 4 at the Mt Storm – Doubs line were acknowledged to be simply different outcomes from the application of different test criteria – one from PJM and the other from Dominion – to the same facilities at Mt. Storm – Doubs. In short, they represent alternative manifestations of the same four purported capacity limits of the Mt. Storm – Doubs line -- not eight separate problems that dealt with the capacity of the lines or the substation. See January 4, 2008 Cross Examination of Scott Gass, at pp. 279-281; and January 5, 2008 Cross Examination of Scott Gass at pp. 21-22.

And the problem at Mt. Storm – Doubs was straight forward, as described by PJM witness Gass. When stressed by the increased demand in the Mid-Atlantic region – projected for June 2001 – the increased demand resulted in "violation" of emergency ratings, i.e., modeled outcomes that suggest the possibility of an overload and consequent black outs on the highest demand days of the year, typically the hottest July or August days that result in peak use of airconditioning in the major Mid-Atlantic metropolitan areas, i.e., DC, Baltimore, northern Virginia. The fact that both PJM's ratings, and the separate ratings of Dominion, were applied to the same electrical occurrence is what generated the multiplicity of "violations" numbered 1 through 8. January 5, 2008 Cross Examination of Scott Gass at pp. 27-28.

5. PJM Disregarded Increased Generation Capacity in Mid-Atlantic PJM

Notwithstanding the fact that the "violations" at Mt. Storm – Doubs are created by increased demand in the Mid-Atlantic region of PJM, significant potential new electric generation capacity in the Mid-Atlantic region was not considered by PJM in making the determination to order Allegheny Energy to construct the TrAILCo line. During cross examination on January 9, 2008, Mr. Herling stated that projected new generating capacity would not be included in any analysis of projected generation capacity. Specifically, the CPV Warren 600 MW natural gas facility planned for Warren, Virginia -- approximately 30 miles from the terminus of the TrAILCo line in Virginia and immediately adjacent to both 500 kV and 138 kV substations – was excluded from the calculation of available generation capacity in the Mid-Atlantic region of PJM because CPV Warren did not, at the time of the 2006 RTEP, have a signed interconnect agreement:

> Q. Is new generation in Eastern PJM one of the developments that could defer the need for the TrAIL line?
>
> A. On a conceptual basis, yes. Based on the timing at this point, any new generation would have to be fairly far advanced to realistically be able to obviate the need the for the TrAIL line.

Q. And as I understand PJM's plan, the TrAIL line is to be in place by June 2011?

A. That's correct.

Q. So three years, three and a half years. So any generation that could be put in place within three and a half years in the right places of the load pocket could take care of the need for TrAIL; correct?

A. Recognizing that we will only consider generation a viable solution once it has progressed to the point of having assigned an interconnection service agreement. So if a generator were identified to us today, we would not consider it a viable solution until it had proceeded through the study process to the point of executing an interconnection service agreement.

Q. Understood. When you say that you don't include projects that haven't assigned an interconnection service agreement, do I understand you correctly that you don't model any of those projects at all?

A. We model generators that have proceeded beyond the point of completing a system impact study and have executed a facilities study agreement. A facilities study is the point in the process where we do primarily the design work associated with the facilities necessary to connect the generator reliably to the system. The earlier phases, feasibility and impact studies, are to identify any problems that are cause --- that need to be resolved. A facilities study is the point in time when we're actually designing those facilities. At the end of the facilities study, we execute a system interconnection agreement, at which point we would begin construction of the transmission facilities.

January 4, Cross Examination of Steven Herling, at pp 34-35.

Q. Okay. You talked about the certainty requirement with respect to generation. Do you have that same certainty requirement with respect to transmission?

A. Emergency transmission?

Q. No, any transmission.

A. Transmission, once it is approved by the Board, it is then included in every subsequent RTEP analysis.

Q. So from your perspective, a line like the TrAIL line is considered, from your planning perspective, a certainty?

A. It is considered a certainty --- yes, it is.

Q. And why should it be treated differently than generation?

A. Because again, here I'm getting into a grayer area, because this is really a PJM answer, but PJM can essentially require transmission to be built, and they have the mechanisms through their tariff to make it happen. They don't have those same mechanisms for generation.

January 4, Cross Examination of Steven Herling, at pp 34-35.

To be sure, CPV Warren presented testimony that a total of nearly 2,500 MW of electric generation capacity in the Mid-Atlantic region of PJM had been excluded, without explanation, from the load models used to determine the existence of the reliability "violations" upon which PJM and TrAILCo based the claim for increased transmission capacity from the western portion of PJM. Specifically, Sharon K. Segner, a Director of Competitive Power Ventures, the parent of CPV Warren, testified that 2,465 MW of licensed electric generation capacity, listed on a PJM document, Staff Cross Exhibit 4, in the eastern PJM, including the 600 MW capacity of CPV Warren were excluded from PJM generation calculations for reasons never explained. January 16, 2008 Cross Examination of Sharon Segner at pp. 155-156.

And TrAILCo witness Scott Gass acknowledged that increased generation would constitute a potential solution to reliability issues caused by the increased electric demand in eastern PJM, but denied knowledge of how much would be needed:

Q. ... You don't disagree that some other solution like that would be possible.

A. If a sufficient amount of generation came forward in an adequate amount of time, yes, it could be.

Q. Do you know how much generation is built and the load pocket it would take to address reliability problems?

A. I do not know.

January 10, 2008 Cross Examination of Scott Goss at p. 117.

6. PJM Did Not Consider Potential DSM Savings in the Mid-Atlantic Region

Regarding Demand Side Management (DSM), the Sierra Club called as a witness Hale Powell, who during the period 1992-2002 was employed as a senior DSM evaluation and program design specialist at National Grid USA, a major electric utility with retail electric and gas operations in Massachusetts, New York, Rhode Island and New Hampshire. From 2002-2003 Mr. Powell was employed by the Northeast Energy Efficiency Partnership (NEEP) an eight-state regional collaborative funded by regulated utilities, the USDOE and the USEPA, to increase energy efficiency and reduce peak demand impacts by means of enhanced energy code requirements for new residential and commercial buildings.

In his Direct Testimony of December 5, 2007, Mr. Powell testified that:

> Demand reduction strategies and programs are vastly under-developed in West Virginia and the entire region to be served by this line. Savings produced by demand reduction programs targeted at large customers is extremely limited and virtually no effort has been made to address these demand resources in the residential or medium/small commercial customer sectors that make up the bulk of system electric demand. In contrast, comprehensive demand reduction strategies have been widely and successfully implemented in other regions of the US to reduce demand growth.
>
> A more effective and ambitious implementation of these strategies in West Virginia and PJM as a whole can cost effectively produce large demand reductions that can address the congestion and reliability issues raised by the applicants. The "need" for the TrAIL transmission line does not reflect an immutable and unavoidable fact; instead, it merely reflects a failure to successfully restrain demand growth using policy and programmatic tools readily accessible to both policy-makers and utilities.

Regarding the TrAILCo application, Powell testified that:

> TrAILCo did not comprehensively review all alternatives. In large part TrAILCo's argument in favor of the TrAIL project is based on pursuing a specific "wires" approach to meeting PJM's transmission reliability criteria rather than establishing conclusively that the proposed project is in the best economic interests of the state's ratepayer?.
>
> For example, while TrAILCo's application devotes considerable attention to line siting and reliability concerns, its testimony and exhibits have provided insufficient analysis of the potential benefits and comparative costs of alternative investments in the demand side electric resources.

December 5, 2007 Direct Testimony of Hale Powell.

TrAILCo witnesses Hozempa and Zarkinau filed rebuttal testimony and testified under cross examination regarding DSM's potential to obviate the need for the proposed TrAILCo line. Mr. Hozempa in his January 4, 2008 rebuttal testimony stated, without explanation, that 829.4 MW would need to be recovered by DSM to avoid the "reliability" issues that justified construction of TrAILCo's proposed line. Additionally, in his pre-filed January 4, 2008 rebuttal testimony, Hozempa repeatedly asserted that tens of thousands of West Virginia customers were at risk – unless TrAILCo's application were granted. TrAILCo's counsel in the January 4, 2008 pre-filed rebuttal testimony of Mr. Hozempa, asked the following question:

> Q. DO YOU HAVE ANY INDEPENDENT ANALYSES THAT TEND TO CONFIRM THE IMPACT ON ALLEGHENY POWER AND ITS CUSTOMERS IN WEST VIRGINIA?

A. Yes, I do. PJM recently completed a study regarding the proposed creation of a new Locational Deliverability Area ("LDA"), one of the purposes of which is to define a geographic area within the PJM region that has limited transmission capability to import capacity and limited internal resources 1 with which to assure reliability in that area. Using a 2010 model that does not include the impact of TrAIL, PJM monitored the flow on the Mt. Storm-Doubs 500 kV line. PJM then grouped the buses for the proposed LDA based on the Distribution Factor ("dfax") of the bus on the Mt.Storm-Doubs 500 kV line. (The dfax is a mathematical ratio representing the impact the load at each bus has on the flow on a transmission line.) PJM used a dfax cutoff of 8.4% or 0.084 for the buses to include in the proposed LDA. This means that if more than 8.4% of the load at the bus flows on the Mt. Storm-Doubs 500 kV line, that bus will be included in the proposed LDA. On page 4 of PJM's presentation discussing the proposed LDA (attached to this testimony as Exhibit LAH-3), PJM clearly shows that based on its analysis, all of Berkeley and Jefferson County and parts of Morgan and Hampshire County are in the proposed LDA.

Q. HOW DOES PJM'S LDA ANALYSIS BEAR OUT YOUR POINT?

A. PJM's proposed LDA offers a parallel to the reliability impact on Allegheny Power customers in West Virginia should the Mt. Storm-Doubs 500 kV line overload. Based on the LDA study, in order to reduce the flow on the Mt. Storm-Doubs 500 19 kV line by 600 MW, 242 MW of load will need to be shed (that is, blacked out) in West Virginia in addition to generation re-dispatch and load 1 shed outside of West Virginia. This controlled load shedding will affect over 77,000 of Allegheny Power's customers in West Virginia, and will be required in the event of an overload on the Mt. Storm-Doubs line.

Q. YOU MENTIONED THAT AN OVERLOAD OF THE MT. STORM-DOUBS LINE WAS THE RESULT OF EIGHT OF MR. GASS' ELECTRICAL RELIABLITY VIOLATIONS. WHAT ABOUT MR. GASS' ELECTRICAL OCCURRENCES INVOLVING VOLTAGE LEVELS AT THE MEADOW BROOK SUBSTATION?

A. The situation is similar. In the event of a NERC Category C3 contingency at the Meadow Brook Substation (shown in Mr. Gass' Exhibit SWG-1 as Electrical Occurrence 10), over 66,000 of Allegheny Power's customers in Berkeley, Jefferson, and eastern Hampshire County, West Virginia are at risk for a blackout. PJM and Allegheny Power are mandated to meet the NERC reliability standards. TrAIL is the solution in fulfilling our public service obligation.

January 4, 2008 Rebuttal Testimony of Lawrence Hozempa at pp. 7-9 (emphasis added).

Additionally, although TrAILCo had in discovery disclaimed knowledge of the amount of DSM needed, in MW, to obviate the need for TrAILCo's proposed line, when the time came to rebut Mr. Powell the necessary DMS calculations conveniently appeared. Without disclosing

any basis for his calculations, other than a bare assertion that it was calculated by use of an $8,000 computer program called PSSE, Mr. Hozempa stated that the magic number was 829.4 MW.

> Q. YOU PROVIDED INFORMATION REGARDING DSM TO DR. ZARNIKAU. PLEASE EXPLAIN WHAT INFORMATION YOU PROVIDED AND IF ANY LOAD IN WEST VIRGINIA WOULD BE IMPACTED.
>
> A. The demand side management ("DSM") information for the 1 Allegheny Power Zone that I provided to Dr. Zarnikau for preparation of his rebuttal testimony was based on relieving the overload on the Mt. Storm-Doubs 500 kV line for the worst contingency. The reason I limited implementation of a DSM program to only the Allegheny Power Zone is that is the only zone in which Allegheny Power has the ability to implement a DSM program. Based on my analysis, the load at specific stations in the Allegheny Zone that will have the most impact on the Mt. Storm- Doubs line will have to be reduced by 829.4 MW or 36% of their forecasted peaks. Of this total, 187.5 MW is in West Virginia.

January 4, 2008 Rebuttal Testimony of Lawrence Hozempa at pp. 14-15.

Attached to Mr. Hozempa's testimony was a PJM document summarizing the proposed LDA upon which his testimony was based. Undisclosed in Hozempa's testimony was the fact that, at the 108th meeting of the PJM Planning Committee, held on October 18, 2007, PJM had expressly rejected the specific PJM document which Hozempa represented to this Commission constituted an "independent study" that "corroborated" his analysis. The minutes of the October 18, 2007 PJM Planning Committee meeting reflect that -- after noting that very specific questions were raised regarding the precise 8.4% dfax cutoff factor employed by Hozempa in his January 4 rebuttal testimony -- the PJM Planning Committee voted to reject the proposed LDA criteria. Members voted against it 27 to 15 with 13 absentions. Members and affiliates voted against it 34 to 29 with 21 abstentions. See SC Cross Exhibit A.

On October 31, 2007 Dominion Resources Services, Inc., the sponsor of the proposed interstate line in Virginia, directed a letter to the Members of the Board of Managers of PJM, stating unambiguously, that the MRC voting on the LDA proposal, like the October 18, 2007 voting of the PJM Planning Committee, made it "clear that the member companies do not support the need to implement this LDA in the January auction…To move forward with the implementation of this new LDA….would be ignoring a variety of well supported concerns expressed by the majority of PJM members. To do so would impair confidence in the PJM markets and stakeholder process. See SC Cross Exhibit B.

In short, on the date of Mr. Hozempa's January 4, 2008 rebuttal testimony, there was no "proposed" LDA criteria, and TrAILCo's assertion that the twice rejected proposed LDA as "confirming" or "bearing out" Hozempa's testimony is, at best, disingenuous. The plain fact is that, after initially refusing to conduct the analysis needed to determine the viability of DSM as a means of solving the reliability problems on the Mt. Storm-Doubs line, when the time came to produce testimony as to the available MW via DSM in PJM, TrAILCo conducted the DSM analysis. Importantly, the analysis was not needed by TrAILCo's DSM expert, Zarkinau, in

order to calculate the available DSM; that was a simple matter of collecting data points and applying the mathematic tool commonly referred to as addition. Rather, calculation of the 829.4 MW of needed MW was necessary to guaranted that the answers requested from Zarkinau came up short of the magical 829.4 MW presented without corroboration or explanation by Hozempa.[1] In short, Zarkinau coming up with a number for available DSM would have no probative value absent a reference point for how much MW was needed; Hozempa provided that 829.4 MW plug number.

Dr. Zarkinau, who testified that application of Hale Powells' DSM projections in the Allegheny zone of PJM would net only 201 MW, also testified that he was not able to confirm that the 829.4 MW need identified by Hozempa was accurate, that he had no idea why TrAILCo limited his analysis of available DSM to that available in the Allegheny zone of PJM. Dr. Zarkinau testified that there was "certainly" additional MW available by way of DSM in the eastern PJM, including the DC, Baltimore and northern Virginia area which generated the increased electric demand, which in turn cause the PJM load model for June 2001 to show theoretical violations of various reliability criteria.

Specifically, Zarkinau testified that:

> Q. And if you go over to page 14, you reference the testimony from Mr. Hozempa stating a peak demand production of 829.4 megawatts would be required to reduce the load in the area of concern and get it out of violation?
>
> A. Yes.

[1] In response to this Commission's direction that TrAILCo produce the computer records which permitted Mr. Hozempa to calculate 829.4 MW ,TrAILCO delivered to the Sierra Club's counsel a compact disk (CD) containing the follow files were the following: (a) one text file readable in Microsoft Word (a commonly available word processing program) titled "**DESCRIPTION OF THE FILES ON THE CD**"; and (b) two files readable in Microsoft Excel (a commonly available spreadsheet program, titled "**Distribution Factors.xls**" and **DSM Load Total**s (Zone 950).xls. Although one can argue about the meaningfulness of the foregoing files, they are nonetheless readable and a hard copy printout can easily be made from them. The three files are attached hereto as Exhibits 1, 2 and 3. The Sierra Club has no objection to the introduction of these files based on any ground other than surprise, as noted in its initial motion, which objection continues, although the Sierra Club fully appreciates that the Commission has ruled on that matter, at least preliminarily. Also included on the CD delivered by TrAILCo's counsel to counsel for the Sierra Club were two other electronic files. Those files were titled, **MAAC LD 2011 DSM Review (Zone 950 Buses and Loads).sav** and **MAAC LD 2011 DSM Review (Zone 950 Buses and Loads) 36 percent load shed.sav.** These files apparently were created -- and can only be read and meaningfully reviewed or manipulated -- by a program commonly known as **PSS™E.** The program costs a minimum of $8,000 and requires extensive training at a cost of $2,450 for the opening one week tutorial. As described in a brochure, published by Siemens Power and Transmission, Inc., the German publisher of the software program, the program: "provides users with power flow, short circuit, dynamic simulation (including long term), optimal power flow, linear network, and small signal analysis. The program employs the latest computer technology and numerical algorithms to efficiently solve networks large and small. "Hard copy printout of the files made available to counsel for the Sierra Club consisted, in essence, of an ocean of incomprehensible raw data. There production in the course of an ongoing proceeding in an unusable form was not cured by subsequent recross of Hozempa, and its admission in evidence in this proceeding was error.

Q. Okay. That's the reference point that you were using to determine whether or not demand side management tools within the Allegheny Power service area could fix the problem you intend to fix; correct?

A. That is correct, sir.

Q. Did you have any opportunity to review any of the underlying data from Mr. Hozempa, that he used to come up with that number?

A. No, I did not.

Q. Okay. You don’t have any personal knowledge as to whether it's accurate or inaccurate; is that correct?

A. That is correct. The information I received is almost verbatim what I put in my testimony. That's the Staff's, that statement from Mr. Hozempa.

Q. And so the conclusion that appears in the title, lines 14 and 16 on page 12, that it can't affect the ---. The accuracy of your conclusion there is totally dependent on the accuracy of the information given to you by Hozempa; is that correct?

A. I agree.

Q. Okay. And talk about order of magnitude of ten, that would place the rest of your conclusions?

A. It would.

Q. Is there any reason that you chose to assess the adequacy of the demand side management tools available, the savings available there, against that number only by reference to the Allegheny Power service area?

A. All I could obtain from my clients, TrAILCo, was an estimate of the amount of demand reduction in the Allegheny zone that can possibly, obviate the need for the line. So that's really the only benchmark I had to work with.

Q. Do you have any idea what portion of the entire PJM region the subset given to you represents, either megawatts or the percentage of the total or otherwise?

A. No, I wouldn't know that.

Q. Do you feel able to tell this Commission the application of the demand side management throughout the PJM area would or would not satisfy the 829 megawatt need?

A. I'd have to defer that to Mr. Hozempa. I believe he testified this morning that a DSM would be targeted in specific geographical regions to have any value and displacing the needs. Relying on that statement, I'd say --- I'll probably leave it with that. It's really Mr. Hozempa would be the witness to ask that question of.

Q. I understand the response that you gave to that question. That's why I'll repeat my question. Are you able to tell the Commission here that there is not opportunities within the PJM region to obtain 829.4 megawatts of savings?

A. If the question is are there opportunities for energy efficiency outside of the Allegheny zone, I'd say, certainly. If the question is, is there 826 megawatts of demand reduction available, PGMY, for a few years, I'd really wouldn't know the answer to that question. I haven't studied that.

January 11, 2008 Cross Examination of Zarkinau, at pp. 209-211 (emphasis added).

7. PJM's Load Model Has No Value as a Predictor of Future Electricity Demand

Planned DSM, indeed all projected decreases in consumption, are simply disregarded by PJM's load model, which purports to predict the future. In response to questions from the Consumer Advocate Division, John M. Reynolds, the PJM official with primary responsibility for the PJM load model employed in the 2006 RETP, testified as follows regarding the use of projected DSM in the PJM load model (and the resulting order to build the TrAILCo proposed line):

Q. I went through your entire white paper, as well as your 2006 forecast, load forecast. Would I be correct in making the observation that I did not see the words demand-side management --- or the 1 phrase demand-side management or the word conservation mentioned at all?

A. I'm sure you are correct. You saw neither of those terms in that white paper.

Q. Given that and given the fact that, yes, that it's not an explicit factor that goes into your forecast, how does PJM account for demand-side management activities and conservation activities in its different states and its different zones?

A. I'd like to begin by clarifying the term demand-side management. Demand-side management is a very broad term. It encompasses a lot of activities. It would range from active load management to what we term passive load management. And it would also include energy efficiency programs. In PJM's planning model, we do not account explicitly for conservation, nor for load management that is not, as we call, active. By active, I mean that it's load that could be turned off in emergency situations and also must be under PJM's dispatch. There is mentioned in our white paper the fact that our load model forecast --- what PJM calls their unrestricted load, so it would be --- the thing we're trying to forecast is the

underlying full load. So to get to our historical unrestricted loads, PJM is rather unique, maybe not completely unique, but uncommon in that we spend the time and the energy to 1 collect load drop estimates each hour of the year when any load management is in effect.

Those who hold the load management in PJM, which we now generally refer to as a curtailment service provider, if they interrupt that load in any hour, at the end of that season, they need to report those numbers to PJM. Those numbers then get added back to the meter load in addition to two other types of load drop estimates.

One would be for any voltage reductions that were taken. PJM generally estimates those voltage reductions. And the third type, what we call add-back, would be significant losses of load. And those would be losses of load beyond what --- you know, at any point of any day, if some substation has an outage because of a squirrel, machinery or an accident --- or an auto accident has taken down a pole or two, taken out some load. We're generally talking about the kind of loss of load that gets in the newspaper. We try to estimate that and add it back. So our forecast model accounts for load management in that system by adding it back and forecasting the entire amount. On the opposite end of our planning process, after we've forecasted this unrestricted load, we then do an estimate of how much load management we'll have. And in our studies, that's taken out. So you'll see it in our white paper. We don't model load management. We make assumptions about it.

Q. It's more of an after-the-fact type of operation?

A. It's an after-the-fact adjustment to the model.

Q. Let me see if I can summarize. You do include explicit adjustments for active DSM programs that PJM has control over?

A. Yes. It's load that we have the ability to dispatch once we've reached an emergency condition. And beyond that, the response to that is mandatory, not voluntary.

***

Q. What I've understood so far is that you include the effect of demand-management programs that PJM directly controls. Do you consider DSM programs that may be in place in the various states that are covered by PJM?

A. Not explicitly, but they do in the end have the impact that you would expect based on the forecast. If the people who have load management that they don't delegate to PJM use it, by definition, they're going to lower the load and are not going to do what I termed as an add-back. So the forecast is going to use that lower load, so it would lower the forecast.

Q. However, once again, the impact on your forecast would only be on an after-the-fact basis, after it's already --- the savings have already occurred?

A. Correct.

Q. In other words, you wouldn't be forecasting those savings?

A. Correct. The philosophy there is that before that has occurred, we don't know it would occur. So in the planning perspective, we need to plan to serve that purpose, because you don't know whether or not it's going to be off in the system.

Q. And your load forecast, is the basis of the stress tests on the transmission system that resulted in showing the need for this line?

A. Could you repeat that, please?

Q. In your load forecast, is the basis of the, I'm going to call it a stress test, the load 1 deliverability test and the generator deliverability test, that showed the need for this line?

A. It would have been what I referred to as our forecast of the unrestricted load, then decrement it by the amount of load management that would be important. So they take the full load and then decrement the anticipated load management.

January 11, 2008 Cross Examination of John M. Reynolds, at pp. 104-107, 113-114.

Again, in response to questions from counsel for the Sierra Club, Reynolds testified as follows:

Q. … [T]he model, as its designed, and it's inherent, the factors it takes into account and the factors it can't take into account, does it have some likelihood that it will send basically a false signal, a forecast of a problem like this, to the extent that it --- assume that it does not take into account any decreases in the load that result from government policies or changes in consumer behavior until those changes in fact are there. In other words, you have to find out whatever the change is going to be in 2011, your model won't reflect those changes until 2011 data is available; is that right?

A. I would say that our forecast does not make adjustments for any of those types of developments. But our forecast, we do not believe is biased. It is the appropriate forecast for plain purposes.

***

Q. So there's no way those plans can, in the life of your model, will be able to accommodate or even be aware of decreases five years out in consumer usage or energy efficiency or changes in policy because that data won't be incorporated into your model until it's history?

> A. I believe I said this. To the extent that there's been that sort of intervenor task, it will be reflected in our forecast. To the extent that that sort of activity is accelerated beyond this kind of trend in the future, it would not.

January 11, 2008 Cross Examination of Reynolds at pp. 126-128.

In short, even if there are manifest and totally foreseeable decreases in future usage, the PJM model used to conduct the stress tests in the 2006 RTEP -- which again was the basis for determining the existence of reliability "violations" warranting construction of TrAILCo's proposed 165 mile, $1,000,000,000 transmission line -- do not incorporate DSM data into its model until after the fact, when it is reflected in actual historic decreases in consumption. In short, the model has, to put it gently, limited value as a predictor of the future in an era of changing policy to decrease consumption.

8. PJM Did Not Consider Reconductoring the Mt. Storm –Doubs Line

PJM did not consider reconductoring the Mt Storm–Doubs line -- to increase its rating and thereby avoid any reliability violations -- as an alternative to construction of the proposed TrAILCo line:

> A. Dominion Virginia Power has 98 percent of the Mt. Storm-Doubs 500 kV line. Allegheny Power owns two percent of the line. No studies have been completed to determine the technical feasibility of reconductoring the Allegheny Power portion of this line. TrAILCo is not aware if it is technically feasible or if any studies were completed by Dominion Virginia Power to determine the technical feasibility or reconductoring the Dominion Virginia Power portion of the Mt. Storm-Doubs 500 kV circuit.

January 4, 2008 Cross Examination of Scott Gass, p. 119.

However, later testimony from JPM's Mr. Herling, and CPV Warren witness James Bouford, strongly suggest that it was possible to reconductor the Mt. Storms-Doubs line, and thereby raise its rating to a level that avoided reliability violations – and eliminated TrAILCo's claim that the proposed line was "desirable for present and anticipated reliability of service for electric power for its service area or region." W. Va. Code § 24-2-11a. In short, reconductoring, although not studied by TrAILCo, may well be a viable alternative to expenditure of one billion dollars on construction of a 165-mile long transmission line that crosses 600 parcels of real property in West Virginia alone. On cross examination by CPV Warren, Mr. Herling readily confessed his ignorance of technical issues pertaining to the conductor limits on the Mt. Storm-Doubs line:

> Q. In Commission Exhibit 2 - B , what we call the phone book, there's two green tabs. And we know what the first green tab is. What's the second green tab?
>
> A. The second green tab identifies the ratings on the Dominion portion of the Mt. Storm-Doubs line.

Q. And is it actually referring --- when it refers to DEV, which is in the first line, which I assume is device, 551-Z, is it your testimony that that's referring the Line.

A. Yes. 551 is the Dominion designation for the I understand that.

Q. What's the Z stand for?

A. I'm not sure.

Q. You're not sure?

A. I'm not sure.

Q. About 15 pages back from there, and I have under the red tab, but you don't have to look in there, because you can look in Exhibit 2-B --- or excuse me, 2-A, the second item down there is Mt. Storm 500 - kV , and it's DEV 572-Z. Do you see that?

A. Yes, I do.

Q. And 572 is what line?

A. I do not know.

Q. And if I told you that it was Mt. Storm-Greenland Gap, would you agree with that?

A. No, because I don't know that that's true.

Q. Okay. And again, do you know what the Z stands for there?

A. No, I do not.

Q. And right below the 572-Z, there's a reference to SER DEV. What's that mean?

A. I don't know.

January 19, 2008 Direct Examination of Steven Herling, pp. 118-120.

By contrast, CPV Warren transmission expert witness, James Bouford, explained the significance of the various codes identifying equipment on the Mt. Storm-Doubs line:

A. … In looking at the Dominion One line, 572 represents the line from Mt. Storm-Greenland Gap. And this is another device identified on the Mt. Storm-

Greenland Gap line. It was identified in exactly the same way as the 551 – Z device substation within the Mt. Storm substation on the Mt. Storm-Doubs line. In this particular case, you'll find that again, we have graphical representation of the loading or load limits on this device.

Q. And again, Mr. Bouford, the information graphically represented came out of Exhibit 2-B; Commission Exhibit --- ?

A. Commission Exhibit 2 - B .

Q. Commission Requested.

A. That is correct.

Q. Sorry. Go along with your story.

A. The interesting part about this is that there are three data points on 572-Z and 551-Z on the emergency rating that are exactly the same. The normal ratings are exactly the same, and the only difference between the two is that the high temperature end and a low temperature end drop off on 551-Z.

Q. And on 572-Z they remain in the parallel line; correct?

A. Almost parallel, yes.

* * *

Q. And where we started with all that, that indicated to you that what?

A. Well, our concern was that even after raising the conductors on the Mt. Storm-Doubs, line there was still equipment within the substation on Mt. Storm that would load up the line to 2,704. What this shows me, in my experience, that that piece of equipment, the 551-Z item, could be replaced with a similar item of 572-Z, and the rating of the line, if it indeed could be raised high enough to get above this, would be 2,910.

Q. Is it correct you went one step beyond Mr. Herling who said he didn't know whether there was a limiting factor, and you looked and said, well, this might be a limiting factor, the 551-Z, and if it is, this is how it could be corrected?

A. My experience as a planner and to manage a plan is that that's something that is always done.

January 19, 2008 Direct Examination of James Bouford, pp. 151-152 (emphasis added).

Regarding the failure of JPM Witness to recognize the opportunity to raise the

effective rating by changing the conductor on the Mt. Storm-Doubs line, COMMISSIONER MCKINNEY inquired as follows:

> Q. Not that I want to really - - - I do want on the record. Would you expect someone to know the 551 - Z and the 572 - Z or the issues on 2-B Cross to be?
>
> A. I would expect that if the company ran into a line being a problem to spend a billion dollars on, that you would want to find out everything you could about what was causing that problem beyond just the immediate thing that pops up, that you would want to know what could be done, when it could be done, how it could be done, with all the alternatives on fixing those problems.

January 19, 2008 Cross Examination of James Bouford, p. 161.

9. PJM's 2006 RTEP Used Inaccurate Line Ratings to Create Reliability Violations

It bears repeating that all of the arguments for the existence of reliability violations in the future are resolved by reference to the ratings of the various components of the electrical grid. In this case, the controlling rating was the rating on the Mt. Storms–Doubs line. As it develops, there are at least two published ratings on the relevant portions of the Mt. Storm-Doubs line. Allegheny rated the line at 3300 MWA, and Dominion rated it variously at 2,564 and 2,598 MWA.

Predictably, PJM used the lower of the two ratings in the stress tests conducted to determine the existence of reliability violations that would warrant construction of the TrAILCo proposed line. And, the evidence at the evidentiary hearing was that the difference between the two ratings – and nothing else – generated the purported reliability violations in PJM stress tests that rationalized construction of TrAILCo's one billion dollar transmission line.

In response to a Commission information request made in the course of the evidentiary hearing, both TrAILCo and CPV Warren submitted information regarding the rating of the Mt. Storm – Doubs line, 97 miles of which is operated by Dominion and 2 miles of which is operated by Allegheny Energy. According to TrAILCo, the emergency rating on the Mt. Storm – Doubs line was as follows:

> [T]he summer continuous and emergency ratings for the Mt. Storm-Doubs line and the winter continuous and winter emergency. Summer continuous is 2564 .

January 19, 2008 Direct Testimony of Steven Herling at pp. 91-92.

In response to TrAILCo's counsel, Herling confirmed that this was the line rated used in the analysis leading to the order to build TrAILCo's proposed line:

> Q. Were these ratings provided to PJM for the use in PJM ' s planning process?

A. Yes.

Q. And these ratings and particularly the summer emergency rating were used by the PJM in the 2006 RTEP to identify the liability problems, were they not?

A. That's correct.

January 19, 2008 Direct Testimony of Steven Herling at p. 92.

Aware that the 3300 MWA rating on the Allegheny portion of the line was higher than the 2564 MWA rating used by Dominion, Herling explained the difference by stating that the utilities develop their own ratings, and Dominion's lower rating was accounted for by ground clearance matters:

Q. Okay. Mr. Herling, I think the sense of your testimony so far is that the transmission owners develop the use, which is separate of line ratings, line ratings are their very own; is that correct?

A. That's correct. Each transmission develops the rates for their facilities.

Q. And does each transmission owner develop its own procedures and rating methods to identify the appropriate ratings for its line?

A. Well, in particular there are assumptions that have to go into the ratings, and as we illustrated here, which is overhead conductors, for example, the critical perimeters typically are the air temperature, the wind speed, and temperature that the conductor is able to be raised to before it was sagged by ground clearance.

Q. Are you familiar with the different rating methods and procedures that Allegheny Power and Dominion Virginia Power use on their transmission lines?

A. Generally, yes.

Q- Could you compare and contrast those based on your knowledge and with reference to the demonstrative exhibit?

A. I'm sorry. The ambient temperature difference --- as you can see, Dominion uses 100 degrees Fahrenheit and Allegheny uses 90 degrees Fahrenheit is typically a function of the service territory of the transmission owner. Dominion, when they are experiencing summer peak conditions expect that they can exceed temperatures in the 100 degree range, so they use 100 degrees Fahrenheit to establish their conductor 54:42. The Allegheny system typically sees lower temperatures at summer peak conditions, so they use 90 degree Fahrenheit.

The wind speeds, while they are stated differently, three feet per second and two miles per hour are, in fact, virtually identical. That one converts to something very

similar to the other. The conductor temperature is a function of the line itself. Based on the available ground clearance, the transmission owner will specify an acceptable conductor temperature for each individual line, potentially a different conductor temperature for each individual line. And that's based on the available ground clearance for the line, so the less ground clearance the lower that temperature can be before the line would sag and violate that clearance.

January 19, 2008 Direct Testimony of Steven Herling at pp. 100-101 (emphasis added).

Summarizing, Herling left no question as to Dominion's limiting factor:

Q. ... What's the limiting factor for Dominion in rating this line?

A. Well, it is primarily a functioning ground clearance.

January 19, 2008 Direct Testimony of Steven Herling at p. 102 (emphasis added).

On cross examination, Mr. Herling acknowledged that ground clearance can be changed, can be changed relatively cheaply, was changed in the prior year by Dominion, and that the effect of the relatively cheap change the immediately preceding year was to raise the effective rating for the line. Mr. Herling, the PJM Planning chief, lacked knowledge about the potential for raising the rating on the Mt. Storms – Doubs line:

Q. So just so that we're all clear, the 2,598 rating that has been used to justify this line is a function of the ground clearance of that conductor above the ground?

A. And a number of other things, but yes.

Q. I assume that there are ways to change the height of the conductor; is that correct?

A. Yes.

Q. What are those ways?

A. You either raise the conductor or you lower the ground.

Q. Has Dominion done any of that?

A. Yes.

Q. In fact, last year they were out with lowering the ground; weren't they?

A. I believe that work was done in early 2006.

Q. What else have they done?

A. That's the only project I'm aware of.

Q. Do you know how many spans in this 97 miles are subject to the 2,598 rating because of available ground clearance?

A. No.

Q. When you were putting together your need analysis and the possible ways to correct that need analysis, I know you looked at reconductoring and a lot of other things. I didn't hear anybody suggest that PJM or anybody else look at raising the conductor or lowering the ground; did you?

A. Not in the 2006 RTEP. We had looked at that in 2005, and Dominion did some analysis and identified that they could essentially reduce the level of earth below a number of spans to achieve the rating that we had to.

Q. But they haven't done any additional analysis to see whether it's one tower or 50 towers or 100 towers that need to be raised; have they?

A. I don't know.

Q. Certainly as the PJM head of planning, you don't know about it if they did; is that fair?

A. I don't know about it if ---.

Q. If they did it.

January 19, 2008 Cross Examination of Steven Herling, pp. 111-112.

Q. When Dominion --- let me back up. Allegheny, the rating, the emergency rating was 3,300 MVA; correct?

A. That is correct.

Q. Are their towers the same height as Dominion's?

A. I do not know.

Q. I'm assuming that this line was all built at the same time, that it wasn't built 97 miles for Dominion, then several years later, the other two miles were built. Is that a fair assumption?

A. Fair assumption.

Q. And that the engineers that engineered it would have been a single set of engineers; is that a fair assumption?

A. I don't know.

Q. And you don't, I assume then, know why there's no ground clearance issue on the Allegheny portion while there is on the Dominion portion?

A. No, I do not.

January 19, 2008 Cross Examination of Steven Herling, pp. 113-114 (emphasis added).

Mr. Herling estimated the cost of the ground movement necessary to raise the rating on the Mt. Storm-Doubs line at less than $10,000,000 – barely 1 % of the one billion dollar cost of TrAILCo's proposed transmission line. January 19, 2008 Cross Examination of Steven Herling, p. 135.

And Herling eliminated any doubt that if Allgeheny's higher 3300 MWA rating were applied to the Mt. Storm-Doubs line – in lieu of Dominion's lower 2,598 MWA rating – the violations which purport to support the need for TrAILCo's billion dollar transmission line evaporate. Mr. Herling was asked whether PJM would have ordered the TrAILCo transmission to be constructed if the Allegheny rating on the Mt. Storm-Doubs line of 3300 MVA were used in lieu of the 2,598 rating of Dominion. Herling responded:

A. If the 3300 rating were applicable, no, we would not need it today. When you say use ---.

Q. Okay. In the same place where the 2598 was used.

A. If the rating on the Dominion facility were, in fact, 3300 that is correct.

Q. And if I understood your exchange with Mr. Engleman, you have not identified any factor that accounts for the 702 MVA difference between that and 2598 other than ground clearance; is that correct?

A. That is my understanding, yes. The difference is based on ground clearance issues.

January 19, 2008 Cross Examination of Steven Herling, at p. 131 (emphasis added).

10. TrAILCo Failed To Demonstrate Need For the Billion Dollar Transmission Line

W. Va. Code, § 24-2-11a requires an entity seeking to construct an electric transmission line must file with the Commission a statement justifying the need for such facilities, viz.: a showing that it is, in the language of the statute, "desirable for present and anticipated reliability of service for electric power for its service area or region." TrAILCo has had ample opportunity

in the eleven months since the May 2007 filing of its initial application to justify the need for the proposed transmission line. Manifestly, if the reliability violations in the 2006 RTEP can be eliminated by increasing the Mt. Storm-Doubs line rating some 702 MWA at a cost of $10,000,000 to move dirt under existing lines by bulldozer, there is no conceivable justification for expending one hundred times that amount – some $1,000,000,000 – to build a 165-mile transmission line, crossing 600 separate private parcels of real estate in West Virginia, and disrupting forever the lives of the people in the way of that line.

TrAILCo must be deemed to have failed the threshold test for issuance of a certificate of convenience and necessity. It has made no showing that the proposed line is needed, at a cost of one billion dollars, to deal with a ten million dollar ground clearance issue (for purported violations 1 – 8), or a fifty million dollar static VAR compensator (for purported violations 10 - 12).[2]

Consequently, as a matter of law, it is not necessary to address the other obvious issues in the proceeding: (a) whether there are any terms on which the Commission might conditionally issue a certificate, or (b) whether the environmental costs of the proposed line are "balanced" or offset by necessary reliability benefits – no reliability violations have been plausibly projected. Nonetheless, the Sierra Club addresses the issues of a conditional certificate, and environmental costs, together in the following section of this Brief.

III. THE ECONOMIC AND ENVIRONMENTAL COSTS OF THE PROPOSED ELECTRIC TRANSMISSION LINE OFFSET ANY DEMONSTRATED ELECTRICAL BENEFITS.

1. The Proposed TrAILCo Electric Transmission Line Will Perpetuate West Virginia's Disproportionate Dependence on What Is Certain To Be A High-Cost Future For Coal-Fired Electricity.

Central to any analysis of the proposed line is the fact that it is being constructed to facilitate the generation of low-cost, coal-fired electricity in the western part of PJM, and transport that coal-fired electricity to the eastern portion of PJM. That this is the primary purpose of TrAILCo's proposed line can no longer be doubted. Indeed, PJM Planning Chief Steven Herling, in a moment of total candor, made the purpose crystal clear as the opening witness in testimony on January 9, 2008. Responding to a question as to the origin of the TrAILCo proposal, Herling testified as follows:

> Q. … It's my understanding that the TrAIL proposal was actually in response to a PJM initiative. The Project Mountaineer Initiative that was announced in May of 2005 for PJM said, we'd like 5,000 megawatts of new transfer capability west

[2] Problem 10 was dropped as justification for the line when it was recognized that the problem did not appear until 2014, three years after the 2011 delivery date for TrAILCo's 165-mile long transmission line.

> to east to address transmission constraints, and that proposal was an economic type enhancement.
>
> A. The Mountaineer concept was not an initiative of PJM. There was a specific FERC technical conference, and the question they raised was, what would it take to move, you know, for example, large amounts of coal. And we put forward at a very high level proposal that said, if you were going to move this amount of energy, it would take some combination of these lines, and it was referred as the Mountaineer concept.

January 9, 2008, Cross Examination of Steven Herling at pp 55-58 (emphasis added).

Moreover, Thomas Witt, Ph. D., a professor of economics at West Virginia University, and the director of the Bureau Business and Economic Research, appearing as an economic witness on behalf of TrAILCo, allocated fully 80% of the economic benefits from the TrAILCo line to the expected construction of four 675 MW, coal-fired IGCC electric generation plants in the state of West Virginia, at a cost of $1,000,000,000 each. Dr. Witt testified that it was appropriate to assess the direct benefits from the infusion of $1,000,000,000 into the West Virginia economy from the construction of TrAILCo's proposed line itself. And he added that the indirect costs must be assessed also:

> [I]n fact, the real focus should be on the indirect impacts, because those are the impacts that accrue through the West Virginia economy...
>
> ***
>
> ...when we add the direct, indirect and induced we would get the total economic impact.

January 12, 2008 Cross Examination of Tom Witt at pp. 21-22.

As part of his analysis of the indirect economic benefits of the proposed TrAILCo line, Dr. Witt testified that:

> …we were advised by TrAILCo that the 502 junction segments of TrAIL along with the Loudon segment would be able to accommodate 2,700 or more megawatts of interconnected generation. We were asked by TrAILCo to estimate what the economic impact would be if those were cited in West Virginia as four integrated gasification combined cycle power plants.

January 12, 2008 Cross Examination of Tom Witt, Ph.D. at pp. 21-22 (emphasis added).

Because TrAILCo ordered the analysis of the benefits of four, coal-fired IGCC plants, and requested that Dr. Witt cite the IGCC plants as a central part of the economic justification for the proposed electric line, it is imperative that this Commission assess either the economic or the environmental impact of the substantial increase in CO^2 emissions that will necessarily flow

from the expansion of the coal-fired electric generation infrastructure represented by TrAILCo's proposed line.

In this regard, it is germane to note the beginning point of Allegheny Energy's carbon footprint. David Flitman, President of TrAILCo, authenticated Allegheny Energy's "Global Climate Change Report dated December 2007, admitted as SC Cross No. 4., and posted at http://www.alleghenyenergy.com/Newsroom/NewsReleases/2007/AYE%20Climate%20Change%20Report%20FINAL.pdf. See January 12, 2008 Cross Examination of David Flitman at p. 233.

Mr. Flitman acknowledged the accuracy of the statement in the December 2007 "Global Climate Change Report" that Allegheny Energy currently emitted 45 million tons of CO^2 annually. See January 12, 2008 Cross Examination of David Flitman at p. 227. Allegheny Energy's December 2007 Report acknowledges further that Allegheny Energy's CO2 "output is expected to increase based on more productive plant performance forecast over the next several years, SC Cross at p. 4.

Additionally, without specifically referencing the Intergovernmental Panel on Climate Change's call for an 80% reduction in carbon dioxide emissions by 2050, Allegheny's 2007 climate report accepts the widely-acknowledged reality that "No current technology exists to enable many of the carbon dioxide reduction levels being proposed in national, regional and state proposals" (SC Cross at p. 2).

Regarding the various proposals relating to direct carbon taxes or cap and trade systems, currently under discussion nationally, Allegheny Energy's December 2007 states that:

> Regardless of the eventual mechanism, for Allegheny Energy this quickly becomes a major challenge.

SC Cross Exhibit 4 at 4.

Mr. Flitman acknowledged that the impact on the financial operations of Allegheny Energy resulting from the imposition of a $10 per ton carbon tax (or cap and trade cost), which would generate a $450,000 additional fuel cost, would be "material" and, therefore, a mandatory disclosure in management representations to outside accountants. See Financial Accounting Standards Board, Statement of Accounting Standards No. 5, titled "Accounting for Contingencies."

See January 12, 2008 Cross Examination of David Flitman at p. 227.

Allegheny's December 2007 report acknowledged that economic entities other than itself would be affected by the anticipated regulatory costs imposed on coal based energy:

> Most notable will be the potential impact on customer bills and disproportionate increases in energy cost in areas which have built their energy and industrial infrastructure over the past century based on coal-fired electric generation.

SC Cross Exhibit 4 at 4.

Flitman, who is President of Allegheny Energy's three electric distribution subsidiaries, Monongahela Power, The Potomac Edison Company and West Penn Power, in addition to being President of TrAILCo, confirmed the statement in Allegheny Energy's December 2007 report that Allegheny was dependent on coal as a fuel source for generation of 95% of its electricity. While disclaiming any ability to speak to the proportionate dependence on coal for the state of West Virginia, Mr. Flitman conceded that "I can certainly speak to this as true of our company." January 4, 2008 Cross Examination of David Flitman at p. 229.

TrAILCo's economist, was more forthcoming about the impact of the disproportionate dependence of West Virginia. Dr. Tom Witt testified about the impact on customers generally of higher cost electric generation plants:

> Q. …[I]nstead of costing $4 billion, let's assume for the purposes of our discussion that it costs $2 billion for the exact same four plants. The costs are going to be passed to the customers as one half; ---
>
> A. Right.
>
> Q. --- correct?
>
> A. Correct.
>
> Q. And that would --- in most economic models, you would assume that if that cost of electricity that's recovered from customers loads that's going to result in lower prices of energy.
>
> A. That generally would be the case.
>
> Q. Correct. And you would assume that the people that are in that situation would be at least more competitive economically than the people who are stuck picking up that had $4 billion; correct?
>
> A. Yes.

January 14, 2008, Cross Examination of Tom Witt, p. 24.

And Witt further conceded the adverse competitive impact on businesses located in areas disproportionately dependent on high cost fuel:

> Q. [I]f you were disproportionately dependent on a system that required recovery of $4 billion in costs, you would have a greater impact on your electric rate system [than those] dependent on a $2 billion system; correct?

A. Everything else being equal.

January 14, 2008, Cross Examination of Tom Witt, pp. 33-34.

Mr. Flitman, while not an economist, did not dispute Dr. Witt's conclusion:

> Q. …[T]o the extent that West Virginia's consumers' dependence on coal mirrors Allegheny Energy's, that is a gross disproportionate dependence on electricity generated by coal, they're going to incur whatever increase in cost is associated with a cap and trade program; is that correct?
>
> A. They would incur a proportionate amount, yes.

January 14, 2008, Cross Examination of Tom Witt, p. 321.

As noted below, the adverse economic impact of West Virginia's continued disproportionate dependence on coal-fired electric generation – which TrAILCo proposes to extend and perpetuate – is not the only adverse impact from the TrAILCo proposal.

2. TrAILCo Has Not Filed The Required § 24-2-11a (b) "*Statement Of The Environmental Impact Of Line Facilities*" Necessary to Permit This Commission To Determine Under § 24-2-11a (d), That The Proposed Line Will "*Result In An Acceptable Balance Between Reasonable Power Needs And Reasonable Environmental Factors*."

As noted in Section I above, the statutory controlling this Commission's decision on an application for a certificate of convenience and necessity to construct an electric transmission line requires at § 24-2-11a (b) the applicant to file a "statement of the environmental impact of line facilities" and permits this Commission to issue the certificate only upon a showing, on the record, that the proposed line will "result in an acceptable balance between reasonable power needs and reasonable environmental factors." See § 24-2-11a (d). Absent the former, it is impossible, as a matter of law, for the Commission to do the latter.

The Sierra Club called as an expert witness on adverse environmental impacts Duane Nichols, Ph.D. and James Kotcon, Ph.D. Dr. Nichols, a chemical engineer, is a professor of Engineering at West Virginia University and, for thirty years, worked at Consol Coal. Dr. Nichols was selected to teach a course on global warming at WVU in 2007 and has published numerous peer-reviewed articles on chemical interactions of coal and industrial processes. Dr. Nichols has testified as an expert in prior PSC proceedings.

Dr. Nichols explained the core chemistry of global warming as follows:

> **Q. WHAT CAN WE LEARN FROM AN UNDERSTANDING OF THE CARBON CYCLE TRANSITIONS OVER GEOLOGIC TIME?**

> The Earth and the Sun have an essential relationship to each other. Sun light has been used by earth processes to capture carbon dioxide from the atmosphere and store it underground as coal, as petroleum, as natural gas and in some other forms. These are called fossil fuels because they can be rather easily burned, as we all know. But, what wasn't always appreciated is that over geological time, the atmospheric level of carbon dioxide became about 280 parts per million, until the industrial age initiated an unnatural progression up to almost 400 parts per million. This is unnatural because it cannot be readily reversed by natural processes, nor can it be reversed by mankind.

December 5, 2007 Direct Testimony of Dr. Nichols.

Additionally, Dr. Nichols quantified the cost, on energy consumers of proposed carbon taxes, whether direct or indirect via cap and trade systems:

> [E]lectricity would grow to perhaps 6.4 cents at $10 per metric ton of carbon dioxide produced and this would grow to 10 cents at $50 per metric ton of carbon dioxide. In this scenario, the cost of conventional pulverized coal-fired electricity from base-load power-stations would rise first above that for natural gas fired electricity and then above the cost for wind-turbine generated electricity. Nuclear power will only be indirectly affected by the influence of carbon dioxide emission, so nuclear power is taken at 6.3 cents per kilowatt-hours, below the cost of coal-fired electricity at the generation site for either level of "carbon tax" considered.
>
> Clearly, the "carbon tax" cost for the generation of electricity is unknown at this time. However, there indeed is a real cost that must be born by the electricity generation and transmission system, given the facts that (a) carbon dioxide is legally known as a pollutant, (b) carbon dioxide is scientifically known to be responsible for irreversible damages due to global climate change, and (c) the industrial sector needs to have the costs or charges for a "carbon tax" quantified so that rational planning for the future can take place.

December 5, 2007 Direct Testimony of Dr. Nichols.

Dr. Kotcon is a Associate Professor of Plant Pathology at WVU and teaches courses at West Virginia University on plant science, fruit pathology, nematology, and environmental impact assessment. Dr. Kotcon has published numerous peer-reviewed articles on environment impacts, and has testified as an expert witness in proceedings before this Commission.

Dr. Kotcon testified as follows regarding both the *direct* and i*ndirect* impacts of the proposed line:

> **Q. What are the primary environmental impacts associated with the proposed transmission line?**
>
> R. Environmental impacts from the line will be both direct and indirect. Adverse direct impacts from the proposed transmission line include, but are not limited to:

- permanent compromise of an extended swath of virgin land across the state
- loss of use of private property along the path of the line,
- noise and disturbance during construction,
- aesthetic impacts and loss of scenic values forever,
- water quality impacts from herbicides used to maintain the line right-of-way,
- electrical interference with appliances near the line,
- loss of wildlife habitat and threat to biodiversity.

Indirect adverse effects of the line will stem from increased sales of power, including:

- increased coal mining, mine subsidence, acid mine drainage, or mountaintop removal
- increased air pollution, including sulfur dioxide, nitrogen oxides, ozone, mercury and particulate pollution, especially as power from old dirty coal plants displaces cleaner natural gas plants,
- increased emissions of greenhouse gases for the life of the line *(30-50* years+).

Q. Are these environmental impacts regulated by other agencies?

R. The direct impacts of the line are not regulated by any other West Virginia agencies, with limited exceptions for herbicide impacts and certain wildlife habitat impacts. Herbicide application is regulated by the West Virginia Department of Agriculture which has adopted regulations regarding aerial applications to transmission lines, as well as regulations for pesticide applicators. However, monitoring, inspection$, and enforcement are very limited, and usually occur only after a complaint. The wildlife habitat impacts are regulated by the West Virginia Division of Natural Resources and the US Fish and Wildlife Service. Again, this regulation is very limited and focuses primarily on listed Threatened or Endangered species, and impacts to migratory birds. Broader issues with these topics, as well as impacts due to noise, visual impacts, electronic interference, or loss of land use are issues that will be regulated, if at all, by the PSC.

Indirect impacts from increases in coal mining, air pollutant emissions, or greenhouse gas emissions are not generally considered. While power plants may have an air pollution permit, the emissions limits generally will not limit the total

pollutant emissions. For example, under the Acid Rain Program of the Clean Air Act, emissions of sulfur dioxide are capped for each power plant, however, any plant may exceed those limits simply by purchasing emissions allowances on the open market. Similarly, there is currently no overall limit on the amount of mining permitted, nor on the emission of greenhouse gases.

Q. Are greenhouse gas emissions regulated as a pollutant?

R. Not currently. However, several bills have been introduced in the U. S. Congress to limit these emissions. Reporting of carbon dioxide emissions from power plants is already required under the Clean Air Act Amendments of 1990. In addition, the US Supreme Court in June 2007 issued a ruling that requires the EPA to regulate greenhouse gases as pollutants under the Clean Air Act.

Thus it seems inevitable that these emissions will be regulated in the near future, creating a significant additional cost for power generators using coal. Since a primary purpose of the line is to provide increased capacity for transmission of electricity from coal-fired power plants, significantly increased costs for electricity from these plants suggests that there may be less demand for the line than investors might predict from current trends. Nevertheless, while there is no law against foolish investments, it is clear that investors are expecting that the ratepayers, not the stockholders, to cover all costs of the line. State law does require the PSC to balance all available information to assure that the proposed transmission line is "in the public interest". The combination of the financial risks from regulation of greenhouse gas emissions and the lack of accountability by TrAILCo stockholders suggest that the TrAILCo line, as currently proposed, does not meet that standard.

Q. What impact will greenhouse gases have on the surrounding areas?

R. No credible scientist is currently able to precisely predict future climate on a scale as small as one city or county or even several counties, however EPA has made assessments of the impacts likely to occur regionally for the areas including West Virginia. These include a higher frequency of heat waves with increased incidence of heat-related mortality, increased concentrations of ground level ozone with the commensurate adverse effects of this pollutant, an increase in incidence of certain infectious diseases, and an increased frequency of extreme weather events such as droughts, floods, and severe storms. These will have direct annual costs to local residents and businesses, for example, insurance will become more expensive or harder to obtain.

Q. What adverse impacts are associated with sulfur dioxide?

R. Sulfur dioxide is created when the sulfur in coal is burned and combines with oxygen. It is directly toxic to plant and animal life. Sulfur dioxide is known to exacerbate both heart disease and respiratory ailments in humans. Medical

science does not yet allow us to assign air pollution as a direct cause of death to specific individuals. However, the epidemiological evidence is overwhelming, if air pollution levels increase, more people will die.

In plants, sulfur dioxide interferes with photosynthesis and causes chlorosis and necrosis of leaf tissue, leading to dead spots on foIiage, reduced crop yields, reduced timber stands in forests, and increased susceptibility to a wide variety of microbial pathogens. It is well established that crop plants are affected at levels below those that cause human health impacts, and that pollutant levels are already high in West Virginia, so any increase in emissions will adversely affect local farmers and the timber industry.

In addition, sulfur dioxide reacts with water in the air to produce sulfuric acids, the major cause of acid rain. Acidic deposition leaches plant nutrients from soil and the effect is already so severe that the U. S. Forest Service this year proposes to alter timber harvests and take other steps to manage nutrient depletion in forest soils on the Monongahela National Forest. Preliminary estimates indicate that as much as 40 % of the Monongahela National Forest may have soils at high risk for nutrient depletion from acid deposition, and it is reasonable to expect that a significant proportion of privately-owned forest land has similar susceptibility.

Sulfur acids also other affect air-quality related values that have economic impacts to West Virginia. Sulfuric acid creates haze that reduces visibility in important tourist attractions. Acid deposition already affects many native West Virginia trout streams so severely that trout populations can no longer survive. Acidity also leads to deterioration of paint and metal structures by causing increased corrosion and weathering. This creates expenses through increased maintenance costs and shorter life of products ranging from automobiles to bridges to concrete buildings.

Q. What adverse impacts are associated with nitrogen oxides and VOCs?

R. These pollutants combine in sunlight to form ozone, known more commonly as “smog”. Ozone causes adverse effects to both human health and plants. Health impacts include aggravation of asthma and other respiratory diseases. Agricultural crops and forest trees are also adversely affected. The Southern Appalachian Mountains Initiative estimated in their 2002 Final Report that losses to forest tree basal area ranged from 3 to 22 % depending on timber species. While this may seem to be a small impact, the adverse effect occurs over a multi-state area and has a large cumulative impact on the timber industry.

Q. What adverse effects are associated with Particulate pollution?

R. Particulate matter is regulated based on the size of the particles, with the smaller particles being of increasingly greater health concern because they are inhaled more deeply into the lungs. Particulate pollution has been associated with increased respiratory disease and death, especially among vulnerable populations such as children, the elderly, and those with lung disease.

Q. Does West Virginia meet current EPA health standards for these air pollutants?

R. The areas traversed by the proposed line are currently in attainment for the current standards. However, some areas of the state, including the northern Panhandle, the Eastern Panhandle, and the Huntington,/Charleston/Parkersburg region are currently not in attainment of the fine particulate standards, and Berkeley and Jefferson Counties are not in attainment of the ozone standard. Significant investments will be required to reduce existing emissions in these areas. In addition, EPA is proposing to significantly tighten the standards for ozone and fine particulate. This means that it will be even more difficult for those non-attainment areas to come into compliance, and areas that are currently in compliance, such as those counties crossed by the proposed line, may be declared as non-attainment areas as well. In addition to the adverse economic impacts associated with the non-attainment status, the adverse health effects described above become more common and more severe.

Will the increases in emissions of these air pollutants produce health effects in West Virginia:

As pollution emissions increase, more people die. A study by Abt Associates ("Power Plant Emissions: Particulate Matter-Related Health Damages and the Benefits of Alternative Emission Reduction Scenarios" (Julie 2004), available at: http://www.cleartheair.org/dirtypower/docs/abt_powerplantwhitepaper.pdf) documents the adverse health impacts from power plant pollution.

Using these estimates, the effects of this pollution were estimated for individual states (Dirty Air, Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants. Ledford, 2004, available at: http://www.cleartheair.org/dirtwower/docs/dirtyair.pdf.

The report shows that West Virginia leads the nation in per capita deaths from power plant pollution. The study calculates that 399 West Virginians die from power plant pollution each year. Under pollution reductions triggered by the EPA's Clear Skies proposal, mortality would be reduced by about 40 %. It is not possible to calculate precisely how large the impacts will be because TrAILCo has not estimated the increased capacity factors induced by construction of the line (TrAILCo's Response to Sierra Club's Fourth Discovery Request). But if emissions increase due to increased plant operations, those mortality rates will inevitably head back up. More people will die.

Q. What are the adverse effects associated with mercury emissions?

R. Mercury is emitted in several forms from the smokestacks, and tends to deposit locally nearest the source. Unlike other gaseous pollutants, a higher proportion of the mercury is likely to deposit in counties surrounding the source. It deposits as either particles or is washed out in rain, and accumulates in streams, rivers and lakes. Here, it is metabolized by various organisms and enters the food chain. Because mercury is often in fat-soluble forms, it tends to accumulate and magnify as it moves up the food chain. Thus meat and dairy products and especially fish tend to be the major sources of exposure in humans. Once in the body, mercury accumulates in tissues. Young children and developing babies in pregnant women are especially vulnerable. Mercury causes developmental problems in children and infants, leading to behavioral problems, delayed development, and reduced mental ability. The EPA recently estimated that approximately one in six women of child-bearing age already contain levels of mercury that could cause health problems for their children. Because of these impacts, fish consumption advisories have been established to limit consumption of fish from contaminated streams in West Virginia.

Q. What other adverse effects will occur from pollution emissions?

R. Air emissions of other heavy metals such as selenium, beryllium and arsenic will increase, with corresponding health effects. Emissions of acid gases such **as** sulfuric acid and hydrochloric acid will also increase the concentrations of these hazardous materials in the area.

December 5, 2007 Direct Testimony of James Kotcon, Ph.D. (emphasis added).

No TrAILCo witness addressed the topic of indirect impacts from the increased use of coal that would naturally follow from the infusion of one billion dollars into coal-based electric infrastructure of West Virginia. To the contrary, TrAILCo witnesses designated to address environmental issues freely conceded they had not the slightest clue about the indirect impacts that might accrue from the construction of TrAILCO's 165-mile long transmission line that originated as a means of moving "large amounts of coal" from west to east. Specifically, TrAILCo's witnesses testified as follows:

ATTORNEY DEPAULO: Because this was a site evaluation only, nobody asked you to conduct and you did not conduct any analysis of the --- some of the downstream activity that might occur, for instance, the construction of four IGC plants? No one asked you to analyze the ---?

MR. HALPERN: It wasn't relevant to our study.

> ATTORNEY DEPAULO: Right. No one asked you to quantify nor analyze the impacts of whatever CO2 emissions might come out of that ---?
>
> MR. HALPERON: That's not relevant to our study, right.

Transcript of Evidentiary Hearing on January 15, 2008 at pp. 18-19.

Similarly, Steven Herling, Planning Director at PJM confirmed that an analysis of the impact of a coal fuel source played no part in PJM's analysis:

> Q. ... If I understand your testimony, it is that if you can solve a problem at a given point in time in a given location by getting the electricity there, the fact that the electricity was generated by natural gas, coal or wind or any other source is not relevant to that determination; is that correct?
>
> A. That's correct, we don't make any judgments about what generation will ultimately serve the load.
>
> Q. And if this commission were required, as it is, by law to weigh those environmental impacts or costs, certainly they cannot rely upon PTM as a surrogate for having made that kind of a balance, because you accord no weight to those costs; correct?
>
> A. We have not identified those costs.

January 9, 2008 Cross Examination of Steven Herling at pp. 154-155. [3]

As a consequence of TrAILCo's failure to address the indirect environmental impacts, this Commission has no alternative but to accept as true the sworn, and demonstrably competent, testimony of Dr. Kotcon.

Moreover, as it relates to the traditional flora and fauna studies expected as part of any plausible assessment of environmental impact, TrAILCo witnesses readily acknowledged that relevant environmental studies were ongoing, and had not reached any findings or conclusions

[3] Steven Herling, the Planning Director for PJM, acknowledged that PJM's electrical analysis incorporated no environmental assessments whasoever: "Q. In the course of your assessing whether a violation occurred or what a proper solution is of that violation, is it fair to say that the only criteria that really apply, as PJM applies, is will the proper either generation or transmission of electricity solve the gap or the imbalance, whatever the character of the violation is? And no environmental cost, whether it's stated broadly or other instances that are more specific, like CO2 emissions. None of those are factored into your determination that a proper solution is appropriate; is that correct? A. First the generation mix that we use in identifying whether or not a particular solution, transmission solution will be satisfactory is the existing generation mix plus any generators that have executed in connection service agreements. With respect to citing issues associated with the transmission line, that is not considered in the identification of the solution, but in the identification of the route and the implementation of the solution. January 9, 2008 Cross Examination of Steven Herling at pp. 153-154.

that could be admitted into evidence in this proceeding between January 9 and 19, 2008, the time set aside for an evidentiary hearing on TrAILCo's March 2007 application.

Specifically, in his January 4, 2008 Rebuttal Testimony, TrAILCo witness Jack Halpern testified that rare, threatened and/or endangered species were not discussed in the line route evaluation (LRE) because "field studies are currently underway" as part of the ongoing permitting process to "identify more specific location information." January 4, 2008 Rebuttal Testimony of Jack Halpern at p. 9.

Regarding TrAILCo's failure to ascertain whether the Indiana bat and the Northern flying squirrel, were affected by the proposed route, Halpern testified again that TrAILCo has "begun conducting surveys" which are "ongoing" and which will be submitted to the United States Fish & Wildlife. January 4, 2008 Rebuttal Testimony of Jack Halpern at p. 10.

While attempting to discount their importance, Halpern further acknowledges that the location of karst topography, sinknholes, wells, springs and other hydrological features along the line "is currently being assessed in a geotechnical study." January 4, 2008 Rebuttal Testimony of Jack Halpern at p. 11.

Regarding criticisms of the calculation of affected wetlands, Tim Gaul, another TrAILCo employee testifying in support of the line location, stated that these were "post-certification matters" January 4, 2008 Rebuttal Testimony of Tim Gaul at p. 11. His colleague, Alan J. Fleissner, testified that "TrAILCo expects to have a consultant do additional, in-depth field delineation work along the Preferred Route to locate the exact extent of wetlands." January 4, 2008 Rebuttal Testimony of Alan Fleissener at p. 4.

Regarding the impact of the route on historical, archeological and other culturally significant sites, Fleissner testified again that "they have come to an agreement on additional historic and archeological studies to be completed" but that completion of studies before filing of TrAILCo's application was not "practicable." anuary 4, 2008 Rebuttal Testimony of Alan Fleissener at p. 5.

The issue before this Commission is not what was "practicable" before the March 30, 2007 filing of TrAILCo's application; the question is what evidence was admitted prior to the close of the record on January 19, 2008, nine months and nearly three weeks later. As to that showing, the witnesses at the evidentiary hearing on January 15, 2008 all conceded that the record was deficient:

> ATTORNEY DEPAULO: Okay. And there are a number of studies ongoing now; correct? I mean, there are studies about wetlands. There are studies of fish and wildlife. There's SHIPO, the Historic Preservation people. There are field surveys being done by DNR; correct?
>
> MR. HALPERN: They're being done by some of our consultants to get ready to make application 1 to those various agencies.

> ATTORNEY DEPAULO: All right. I won't go through each one of those in detail. These are your three testimonies. Each one of these orange tabs represent a point or a particular type of study that is going on, some of which may be more important than others. But nonetheless, they're ongoing studies. Obviously, the results of those studies are not available to us now; correct?
>
> MR. HALPERN: That's correct.
>
> ATTORNEY DEPAULO: And they'll be ongoing for some time; correct?
>
> MR. HALPERN: Yes, sir.
>
> ATTORNEY DEPAULO: There's no evidence in the record of this proceeding at this time, nor will there be by the conclusion of this hearing, at the end of this week, as to the findings from those ongoing studies, will there?
>
> MR. HALPERN: No, that's right.

Transcript of Evidentiary Hearing on January 15, 2008 at pp. 16-18.

> ATTORNEY DEPAULO: I want you to assume for the moment that our Public Service Commission were required --- just assume that the standard is that they strike an acceptable balance between reasonable energy needs and reasonable environmental needs. If they wanted to consider the environmental impact of all these studies, they're not going to have any of that data before them, are they?
>
> MR. HALPERN: No, sir.

Transcript of Evidentiary Hearing on January 15, 2008 at p. 18.

The West Virginia Supreme Court of Appeals has repeatedly recognized that 'The delegation by the legislature of broad discretionary powers to an administrative body, accompanied by fitting standards for their exercise, is not of itself unconstitutional. Point 8 Syllabus, Chapman v. Huntington, West Virginia, Housing Authority, 121 W. Va. 319 (3 S.E.2d 502) [1939]." Syl. pt. 5, State ex rel. West Virginia Housing Development Fund v. Copenhaver, 153 W. Va. 636, 171 S.E.2d 545 (1969). W. Va. Cemetery & Funeral Ass'n v. W. Va. PSC, 216 W. Va. 431, 434 (W. Va. 2004).

However, the redelegation of authority, implicit in the applicant's request that this Commission defer to the unreviewed, future judgments of numerous state and federal agencies, who have yet to rule on the applicant's proposal, would be an inappropriate redelgation of legislative authority. Indeed, such redelegation would be an abrogation of our statutory duty in W. Va. Code § 24-2-11a.

2. The Best Regulatory Course of Action for This Commission Is To "Just Say 'No'."

This Commission should seize the opportunity presented by this record to demonstrate that it can influence the behavior of energy regulators in DC, Maryland and Virginia by one simple expedient -- "Just say 'NO'." It would correct simply to deny the application for a certificate because of the failure to show need, based in part on the improper line rating employed by PJM, but – looking to the future – it would be far preferable to deny the application based on the failure of the beneficiary jurisdictions to adopt meaningful conservations programs, including aggressive DSM.

Specifically, this Commission should state that, in future applications for a certificate of convenience and necessity pertaining to electric transmission lines, the applicant's statement of need required by W. Va. Code 24-2-11a (b) must recite all Demand Side Management policies and practices adopted by the customers in the applicant's market to be served by the proposed line. Further, this Commission should adopt a rule that requires, as a part of a *prima fascia* showing of need, that the applicant demonstrate that alternative solutions -- including conservation techniques such as DSM -- have in fact been considered and, for reasons which the applicant can adequately document, are inadequate to achieve the required electrical objective. In short, this Commission should require the applicant to show that the inherently disruptive electric transmission line is, in fact, needed, and that the means of achieving that electrical objective is the least costly means from an environmental point of view.

IV. ON THIS RECORD, THE COMMISSION CANNOT, CONSISTENT WITH THE PUBLIC INTEREST, ISSUE TRAILCO A CERTIFICATE THAT IS NOT CONDITIONED ON THE TRANSFER TO THE BENEFICIARIES OF THE PROPOSED LINE, 100% OF THE ENVIRONMENTAL COSTS OF THE LINE

Should the Commission decide to issue a certificate -- notwithstanding TrAILCo's patent failure to sustain its evidentiary burden -- this Commission must, pursuant to W. Va. Code § 24-2-11a (e), condition that certificate on explicit terms that pass through the 100% of the environmental costs absorbed by this state, to the out of state electric consumers that receive 100% of the benefits of the line.

In the course of the ten-day hearing from January 9, 2008 through January 19, 2008, this Commission heard the unambiguous evidence of irreparable hardship – none of which can be fully compensated by any amount of money – that construction of the proposed TrAILCo line, crossing 600 parcels of privately owned property, would impose upon dozens and dozens of the citizens of this state. TrAILCo submitted no evidence that would begin to carry the burden of proof necessary to warrant issuance of a certificate of necessity and convenience in this case.

However, if the Commission, despite the evidence, should issue TrAILCo a certificate (and the Sierra Club plainly does not believe that such a decision would be supported by

substantial evidence necessary to withstand review by the West Virginia Supreme Court of Appeals), the question of conditions cannot be allowed to pass without observing the obvious -- TrAILCo should be forced to fix all intervenors' problems, regardless of the cost.

In this case TrAILCo has not even pretended to confer any real electric benefits on the state of West Virginia. Notwithstanding the transparently concocted "reliability" violations along the Mt. Storm-Doubs line, in fact, all of the benefits of the proposed line go to residents of Washington, DC, Baltimore, MD and northern Virginia. Those citizens of the United States are entitled to expect public authorities to take actions allowing utilities to provide reasonable electrical services to them. And as Commissioner Staats recognized at the conclusion of ten days of hearings, if plausible reliability issues were in fact presented, the West Virginia Public Service Commission is ready to put the interests of the greater number ahead of the equally legitimate needs of the smaller number, even if the smaller number consists of West Virginia citizens, and the greater number is represented by citizens outside this state. However, no circumstances justifying the patent sacrifices of West Virginia citizens are even remotely suggested by this record.

TrAILCo witnesses Jack Halpern, Tim Gaul and Alan Fleissner testified before this Commission in detail regarding the guidelines which their superiors had directed them to employ in selecting the location of the proposed transmission line. The witnesses claimed that, among other things, they tried to choose the shortest course, they tried to avoid crossing other electric transmission lines, and they tried to avoid double circuiting, i.e, placing the proposed line along side an existing line, such as to incur a risk that a collapse of a tower might bring down two electric lines rather than one, and they tried to minimize the number of residential sites affected by the line.

A single example serves to illustrate the speciousness of any claim that TrAILCo in fact consistently applied its criteria. On behalf of the Bhavana Society of Hampshire County, a community of Buddhist monks who sought out the wilderness of West Virginia to get out of the path of "civilization," Attorney Justin R. St. Clair cross-examined witnesses Halpern, Gaul and Fleissner. Although pages limits, and this Commission's patience, argue against the kind of detailed quotation that is fully justified by the facts, it is nonetheless fair to state that from pages 286 through 367 of the Transcript of the Evidentiary Hearing held on January 14, 2008, Attorney St. Clair disassembled, step-by-step, any claim that the purported guidelines announced by TrAILCo's witnesses were in fact followed. To the contrary, Attorney St. Clair demonstrated that TrAILCo repeatedly and arbitrarily ignored those criteria, with the result that the proposed line gratuitously intersects the Bhavana Society's compound, forever altering its character.

Moreover, PSC Staff witness, James W. Ellars, conducted a highly systematic review of the proposed line, including a fly-over by aircraft of the proposed line and its alternatives, stated in his Direct Testimony filed with the Commission on December 5, 2007, that TrAILCo had not selected the best route. Mr. Ellars testified that, even taking into consideration TrAILCo's stated siting criteria, by his observation, TrAILCo had consciously avoided the preferred route, which , at a significantly shorter length, would have crossed through the state of Maryland:

Q. BASED ON YOUR REVIEW OF TRAILCO'S FILING IN THIS CASE AS WELL AS ALL INFORMATION AVAILABLE TO YOU AS OF THIS DATE, ARE YOU ABLE TO DETERMINE THAT THE ROUTE REFERRED TO BY TRAILCO AS THE "PREFERRED ROUTE" IS IN FACT THE BEST AVAILABLE ALTERNATIVE AND HAS THE LEAST IMPACT OF ALL THE ALTERNATIVES THAT WERE CONSIDERED?

A. No. TrailCo's filing does not clearly demonstrate that the selected route does, in fact, provide the least impact to the environment and the local population, nor does it prove that the selected route is the best option as compared to the other alternatives that were considered. To the contrary, based on the data and information obtained by the Staff thus far it appears that at least one other alternate route could be considered to be a better alternative.

Q. WHY DO YOU BELIEVE THAT ROUTE(S) OTHER THAN THAT PREFERRED BY TRAILCO MIGHT BE A BETTER CHOICE?

A. TrailCo's Route Evaluation Report provides a large amount of quantitative data for each separate alternative. This information was categorized by environmental subtopics such as impacted sensitive species, proximity of structures, hydrology, stream crossings, etc. TrailCo published this quantitative data in its report, then provided qualitative reasons for selecting the preferred route. The preferred routes for each segment are labeled as Route H (from 502 Junction to Mt. Storm), and Route A (from Mt. Storm to Meadowbrook). However, there appears to be little correlation between the quantitative data provided in TrailCo's own study and the qualitative conclusions reached regarding the selection of Route H as the preferred route between the 502 Junction and Mt. Storm.

To illustrate, I will point to the direct comparison of TrailCo's preferred route (Route H) from 502 Junction to Mt. Storm with the Alternate Route A using TrailCo's own data. According to TrailCo's report, Route H was selected for the following reasons:

- "Comparatively moderate" in terms of the length of wetlands crossed and the number of residences within 250 and 500 feet of centerline;
- Would not require the removal of any known residences;
- Much of route is in undeveloped forest land;
- Lies entirely within the State of West Virginia and thereby eliminates filing requirements in Maryland;
- Minimizes the impact on sensitive species sites;

- Minimizes the impact on cultural resource sites;
- Avoids *proposed* wind energy development sites;
- Does not require "special engineering work" that would be required for another alternate route;
- The entrance into the Mt. Storm station would be simplified due to the internal configuration of the existing station;
- The "far western" alignment avoids development closer to Morgantown.

However, a quick comparison of TrailCo's own quantitative data for Route A and Route H clearly indicates that Route A has a lesser overall impact. I have included a comparison of the data provided by TrailCo for Route A and Route H in JWE-2. As can be seen from my attachment, there is no rational correlation between the quantitative comparisons between Route A and Route H and the conclusions reached by TrailCo that Route H is the best alternative, particularly in terms of least impact on the environment and on the citizens of West Virginia.

On the contrary, based on the data from TrailCo's report it appears that Route A is a better choice in almost every evaluation category except for cultural resource proximity. However, it is important to note that the cultural impacts have not yet been evaluated by TrailCo, which stated in response to an interrogatory that a cultural impact analysis will be conducted in the future by consultants retained for that purpose.

Furthermore, TrailCo did not utilize any method of compiling a "best" score or any other means to directly compare quantitative data for each alternative. It is therefore difficult to arrive at the same conclusions reached by TrailCo when looking at the route data provided in TrailCo's own report, much less when considering the information obtained by the Commission Staff in its review of the filing. One particular evaluation criterion of interest is the number of residences within 500 feet of the centerline. According to TrailCo's own data, Alternate Route A contains 27 residences within 500 feet while TrailCo's preferred route, Route H, contains 78 residences within 500 feet of the centerline. In other words, TrailCo's selected route, Route H, contains almost three times the number of residences within 500 feet of the centerline than does Route A, a route which happens to pass through Maryland.

James Ellars Direct Testimony of December 5, 2007, at pp. 8-12 (emphasis added).

Further, Mr. Ellars testified that TrAILCo's obvious desire to avoid the much more burdensome environmental review required by Maryland, had the effect of transferring to West Virginia citizens, in its entirety, the environmental cost of the proposed line. This result was particularly offensive, Ellars testified, because the electrical benefits of the line, without

exception, fell on the citizens of Maryland, whom the witness felt should be expected to pick up their fair share of the costs.

Q. DOES TRAILCO HAVE AN INCENTIVE TO SELECT A ROUTE WHICH DOES NOT PASS THROUGH THE STATE OF MARYLAND?

A. Absolutely. TrailCo states in its route report that one of its reasons for selecting the preferred route is that the entire project can be certificated in West Virginia. By selecting a route which avoids Maryland, TrailCo avoids having to file for approval of the project in that state.

Q. DO YOU FEEL THAT THE ABILITY TO CERTIFICATE A PROJECT ENTIRELY WITHIN A SINGLE STATE IS AN ACCEPTABLE REASON FOR SELECTING ONE ROUTE OVER ANOTHER?

A. No, especially when data exists which indicates that the unchosen route might have a lesser impact on the environment and its citizens. This shifts the massive burden of siting the TrailCo project upon the citizens of West Virginia, This is compounded by the fact that this project will not provide any substantive, permanent benefits to West Virginia as evidenced by Staff witnesses Lewis and Ileo.

Q. DO YOU HAVE ANY REASON TO BELIEVE THAT TRAILCO WOULD FACE GREATER DIFFICULTY IN OBTAINING APPROVAL FOR THIS PROJECT IN MARYLAND?

A. Yes. My understanding of Maryland's state environmental requirements is that they are more difficult to satisfy than West Virginia's requirements. It is my understanding that Maryland has its own statutes regarding certain environmental requirements, whereas West Virginia largely relies on the federal statutes in the absence of certain state environmental statutes. If a filing in Maryland became necessary, TrailCo could stand a greater chance of being required to file more detailed impact studies. I also understand that TrailCo might not even be permitted to file a transmission siting case in Maryland because of certain provisions in the state law regarding filing eligibility. Assuming that is correct, then TrailCo might have to file directly with the Federal Energy Regulatory Commission (FERC) for siting approval for any project crossing through Maryland. Approval at the Federal level would likely include stricter filing requirements than what is currently required at the State level.

James Ellars Direct Testimony of December 5, 2007, at pp. 18-20 (emphasis added).

In testimony from witness Mark Mader, a rate specialist, TrAILCo asserted that it could collect 100% of the costs of the construction of the line from LSE's as a consequence of the FERC approved rate, and would be entitled to a return on all money. See Supplemental Direct Testimony of Mark Mader, August 10, 2007, at p. 5. A portion of that cost will be passed through to LSE's operating in West Virginia, who in turn may pass those costs through to customers, either as a matter of market function or regulatory provision. See January 12, 2008 Cross Examination of Mark Mader at p. 97. The amount passed through has been stated as low at 2%. See Exhibits to Supplemental Direct Testimony of Mark Mader, August 10, 2007.

The obvious, compelling logic of this fact is that there are no circumstances under which West Virginia citizens -- particularly the owners of the 600 parcels of private property which fall in the path of TrAILCo's porposed line -- should absorb the genuinely horrendous, non-compensable kind of environmental damage contemplated, for example, by the Bhavana Society. As Mr. Ellars testimony makes plain, the fact is that TrAILCo has manipulated the route, at will, and without scruple, to serve their own economic interests, regardless of the impact on the people in their way.

Should the PSC approve the line despite the patent lack of evidence of need, the Commission should exercise its statutory authority under W. Va. Code § 24-2-11a (e) to condition the issuance of a certificate of convenience and necessity, such that if effectively transfer to energy consumers outside West Virginia the cost of any changes needed to avoid the damage to be inflicted on West Virginia property owners. Stated plainly, if a certificate is issued in this case, the costs should be shifted to the beneficiaries of the line via the mechanism of the FERC rate, which passes nearly 98% of the cost of the line to persons outside West Virginia. And those costs should include any amount of line relocation and redesign, including disregard of the artificially applied location criteria to the extent that they were based even in part on cost. TrAILCo should, at a minimum, be directed to truly "fix" all of the intervenor impacts testified to in this proceeding. TrAILCo's line location witnesses all conceded that there was no technical or financial barrier to additional changes to accommodate this goal. See Evidentiary hearing transcript for January 15, pp. 13-15.

Respectfully submitted,

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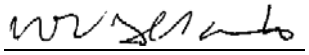

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