

**PUBLIC SERVICE COMMISSION OF WEST VIRGINIA**

CASE NO. 09-0770-E-CN

PATH WEST VIRGINIA TRANSMISSION COMPANY, LLC;  
PATH ALLEGHENY TRANSMISSION COMPANY, LLC;  
PATH-WV LAND ACQUISITION COMPANY; and  
PATH-ALLEGHENY LAND ACQUISITION COMPANY

**SIERRA CLUB, INC. AND WEST VIRGINIA HIGHLANDS CONSERVANCY  
SECOND SET OF INTERROGATORIES AND REQUESTS FOR PRODUCTION OF  
DOCUMENTS DIRECTED TO APPLICANT**

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Pursuant to Rule 13.6 of the Rules of Practice and Procedure of the West Virginia Public Service Commission (“the Commission”), and the Commission Order entered in this proceeding on August 4, 2009, the Sierra Club, Inc. and the West Virginia Highlands Conservancy, by their counsel, William V. DePaulo, Esq., hereby propound the following Interrogatories and Requests for Production of Documents Directed to the Applicant.

**INSTRUCTIONS AND DIRECTIONS**

The Instructions and Directions from Sierra Club and the West Virginia Highlands Conservancy’s First Set of Interrogatories and Request for Production of Documents are incorporated herein by reference.

**THE SIERRA CLUB and  
WEST VIRGINIA HIGHLANDS CONSERVANCY**

By Counsel



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## **INTERROGATORIES**

1. Describe and provide all criteria and/or standards used in determining the Transmission Transfer Capabilities (TTCs) in all studies cited in support of the need for the proposed new facilities; this includes NERC, RFC, and PJM criteria and/or standards.

ANSWER:

2. Describe and provide all NERC, RFC, and PJM criteria and/or standards having to do with Resource Adequacy.

ANSWER:

3. Describe and provide all applicable operating criteria and/or standards that are used within PJM for determining TTCs in the actual, minute-to-minute operation of the system.

ANSWER:

4. Describe and identify facility ratings used or assumed for all critical facilities cited in testimony, and/or used in calculating TTCs. These should include normal (N), long term emergency (LTE), and short term emergency (STE) ratings of transmission lines and transformers, and pre- and post-contingency voltage ratings.

ANSWER:

5. Identify the megawatt (MW) or megavolt-ampere (MVA) ratings of all critical facilities cited in testimony – as N, LTE, and STE as above.

ANSWER:

6. Explain how these ratings are used in pre- and post-contingency analysis, for normal and emergency conditions.

ANSWER:

7. Describe and provide any other applicable criteria and/or standards used in analyses of the proposed new facilities. This includes NERC, RFC, and PJM criteria and/or standards.

ANSWER:



8. Describe and provide reports and/or results of Loss of Load Expectation (LOLE) studies for the PJM area for the 2009-2018 time period. This should include base conditions without the proposed new facilities, and with the proposed new facilities. Multi-Area LOLE studies especially should be included.

ANSWER:

9. Describe and provide reports and/or results of LOLE studies for the PJM area that relate to the proposed PATH line, if any exist.

ANSWER:

10. If Multi-Area LOLE studies were *not* utilized for determining resource adequacy on a multi-area basis, including required transmission capabilities to maintain a 0.1 days-per-year criterion, describe how the required transmission capabilities *were* determined.

ANSWER:

11. Identify all critical transmission interfaces or flowgates (e.g., as used in the Open Access Same Time Information System [OASIS]) which will be impacted by the proposed new facilities.

ANSWER:

12. Describe and provide the TTCs of all of these interfaces or flowgates, both without and with the proposed new facilities, for the 2009-2018 time period.

ANSWER:

13. Describe and provide one-line transmission diagrams showing real power (MW) and reactive power (MVAR) flows on all critical transmission facilities (lines and transformers), and per-unit voltages at all buses (substations), for all relevant load flow analyses used in determining the need for the proposed new facilities for the 2009-2018 time period. This should include base cases, pre-contingency transfer cases for the limiting TTC, and post-contingency cases for the limiting TTC, both without and with the proposed new facilities.

ANSWER:

14. Describe and provide one-line circuit breaker diagrams for all substations cited in testimony, as proposed for the 2009-2018 time period.

ANSWER:

15. List the inter-area (inter-zone) interchanges within PJM assumed in all studies, for both base and limiting transfer conditions – both without and with the proposed new facilities assumed in service. Also list inter-regional transfers assumed.

ANSWER:



16. List total Summer peak demand in each PJM area or zone for the 2009-2018 time period.

- a. If you rely upon any documents in support of your response, please identify and produce the documents.

ANSWER:

17. List total resources located within each PJM area or zone scheduled to be available for the 2009-2018 time period. This should include the full capacity of all generating units, total interruptible load, total capacity available from customer generation, and other special case resources.

- a. If you rely upon any documents in support of your response, please identify and produce the documents.

ANSWER:

18. Describe and provide reports and/or results of all interregional studies for the 2009-2018 time period which included study of the Potomac Edison systems, including, but not limited to, VACAR-ECAR-MAAC (VEM), MAAC- ECAR-NPCC (MEN), SER (SERC East-RFC), RFC-NPCC, Eastern Interconnection Reliability Assessment Group (ERAG), and/or any other interregional studies.

ANSWER:

19. Describe and provide copies of Potomac Edison's and AEP's FERC form 715, public and non-public versions, for 2005 – present.

ANSWER:

20. Describe and provide copies of Potomac Edison and AEP's Summer Near Term and Long Term Assessments of Transmission System Performance for the 2006-2019 time period.

ANSWER:

21. Provide reports for all transient stability studies, and include swing curves, if available, conducted by PJM, and/or the Applicant for the 2009-2018 time period.

22. Describe and provide maps showing the geographical areas for the following PJM (or RFC) functions: Balancing Authority; Reliability Coordinator; Scheduling; Planning

ANSWER:

23. Explain the difference between “reliability” and “market efficiency”.

ANSWER:



24. Describe and provide documentation of “PJM deliverability standards”

ANSWER:

25. Referring to the load forecasting data included in the 2007 RTEP, how do the forecast growth rates compare to current U.S. national averages? Or to the current PJM load forecast?

ANSWER:

26. Referring to the load forecasting data included in the 2007 RTEP, how do the forecast growth rates compare to long-term historical data – e.g., last 50 years?

ANSWER:

27. Referring to the load forecasting data in the current PJM forecast, how do the forecast growth rates compare to long-term historical data – e.g., last 50 years?

ANSWER:

28. Please describe each Security or Threat Assessment done in connection with any portion of the line, and produce all such Security or Threat Assessments.

29. Please describe any other analyses of potential threats to national security involving the power proposed lines, and produce such analyses.

30. Please describe what you expect will happen if one of the insulators on the 765kV is destroyed by lightning, sabotage, or some other method.

- a. If you rely upon any documents in support of your response, please identify and produce the documents.
- b. If you rely upon the statement or expected testimony of any person in support of your response, please identify the person and describe their statement or expected testimony.

ANSWER:

31. Please identify and describe the thermal capacity of the proposed new 765 kV lines

ANSWER:



32. If the 765 kV line is at its thermal capacity at Amos, describe the thermal load in Kemptown, assuming that the electricity flows to Kemptown. State whether a tap is on the line, and account for any differences, breaking out separately differences accounted for by MW and MVAR losses and line charging (MVARs).

ANSWER:

33. Please identify and describe the differences in the current expected to be flowing on the 765 kV lines at (1) summer peak, (2) average, and (3) winter peak times, and how those differences affect the magnetic and/or electric fields emanating from the lines.

- a. If you rely upon any documents in support of your response, please identify and produce the documents.
- b. If you rely upon the statement or expected testimony of any person in support of your response, please identify the person and describe their statement or expected testimony.

ANSWER:

34. Is it true that the magnetic field surrounding a high voltage AC transmission line is proportional to the current flowing in that line?

ANSWER:

35. Is it also true that all high voltage AC transmission lines operate at or near their nominal voltage almost all the time?

ANSWER:

36. Is it true that the magnetic field surrounding a high voltage AC transmission line is approximately proportional to the power flowing in that line?

ANSWER:

37. Please identify and describe how many megawatts are expected to flow through at peak load and average load in the 765 kV lines.

- a. If you rely upon any documents in support of your response, please identify and produce the documents.

ANSWER:

38. Please describe and produce all documents and/or reports prepared by consultants that refer or relate to any portion of the proposed power line including, but not limited to, all analyses, discussions, or evaluations of load forecasting data.

ANSWER:

39. Please describe the process at Potomac Edison and AEP that resulted in the currently-proposed PATH line.

ANSWER:



40. Please describe the process at Potomac Edison and/or AEP that resulted in any changes, or modifications, to the currently-proposed PATH line. What was changed? When and why was it changed?

ANSWER:

41. Please describe the process at Potomac Edison, AEP, and PJM for recommending, proposing and approving the original and/or currently-proposed PATH line including, but not limited to, a description of who was involved, what their roles were, what documents were created in connection with this evaluation, decision, recommendation and/or approval, and all authorizations or approvals that were given by in connection with this proposed project.

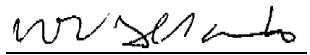
ANSWER:

42. Please identify and describe how and why the original proposed evolved from any prior variation, or proposed fix, to the currently-proposed power line project.

ANSWER:

**CERTIFICATE OF SERVICE**

I hereby certify that a copy of the foregoing **SECOND DISCOVERY REQUEST TO APPLICANT FROM THE SIERRA CLUB AND WEST VIRGINIA HIGHLANDS CONSERVANCY** was filed with the Executive Secretary of the Commission, and that an original copy was served upon the Applicant by email to Christopher Callas, Esq. <callas@jacksonkelly.com>, and J. Philip Melick, Esq. <pmelick@jacksonkelly.com>, this 19<sup>th</sup> day of August, 2009.

  
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William V. DePaulo