

Susan O. Ivey
Vice President
Transmission Operations & Planning

Exelon Corporation
2301 Market Street, S8-2
Philadelphia, PA 19101-8699
Phone: 215-841-4706
Fax: 215-841-5945
Email: susan.ivey@exeloncorp.com

July 7, 2009

Mr. Steven Herling
Vice President, Planning
PJM Interconnection, LLC
Valley Forge Corporate Center
955 Jefferson Avenue
Norristown, PA 19403-2497

Re: Exelon comments to the PJM Board on the proposed PATH Line – HVDC Study

Thank you for inviting the PJM stakeholders to submit comments on the proposed Amos to Kemptown – HVDC Study presented in the June 9, 2009 Transmission Expansion Advisory Committee (TEAC) meeting. Based on the limited information provided at the meeting on the proposed study, Exelon would like to suggest the following:

- *PJM conduct a separate planning study to determine the correct MW rating of the HVDC line, which is functionally equivalent to the planned 765kV AC line.*

At the meeting, PJM indicated that the HVDC line rating should be the emergency rating of the initially planned 765kV line and considered such rating would afford the HVDC line to be functionally equivalent to the 765kV line.

Exelon believes that this choice may not be correct. A HVDC line rated at the emergency rating of the original 765kV AC line is not functionally equivalent to the 765kV line because of the different responses of AC and DC lines to post-contingency flows. The post-contingency flow of a 765kV AC line is instantaneous and is a function of its line impedance relative to the system impedance while the post-contingency flow on HVDC lines does not vary from the pre-contingency flow absent operator action. However, if there is an opportunity to apply post-contingency operator action, the project might not be required in the first place. Without such an analysis, PJM runs the risk of comparing a higher rated HVDC line to a lower capable 765 kV AC line and potentially overbuilding the line. Therefore, Exelon suggests PJM include as part of its study an analysis to determine the appropriate rating of the HVDC line that would solve all the problems that were mitigated by the originally planned 765kV line and would not result in an overbuild.

- *PJM form a Working Group, reporting to the Market Reliability Committee, to identify the implications of dispatching the HVDC line in the Day-ahead and Real-time markets.*

Operationally, the fast controllability of the power flow on the HVDC lines allows PJM operators to re-direct power flow in the PJM system such that the Locational Marginal Prices can be affected. Hence, an operator's decision would have significant impact on the Day-ahead and Real-time PJM markets as well as the value of Financial Transmission Rights. In the planning arena, the modeling of the HVDC would also impact the study results and, hence, the required RTEP projects.

To avoid PJM inadvertently creating winners and losers in the PJM market and developing unnecessary RTEP projects, Exelon suggests that PJM form a Working Group to report out on the implications of the HVDC line prior to approval and to develop any needed operations and planning procedures prior to the line being placed into service.

- *PJM should engage stakeholders in developing policy regarding the additional incremental costs from the alternate HVDC proposal including the substantial increased costs of the proposed underground installation of the HVDC line from Welton Spring to Kempton.*

At the TEAC meeting, you have confirmed that the originally planned 765KV AC overhead line solves all the reliability violations that drove the justification of the 765 kV AC line and can be constructed on the identified right of way. No technical issues, siting issues or other issues associated with the design or the construction plan were mentioned.

If an overhead AC line is an adequate solution and can be constructed as planned and some entities want a more expensive alternative including undergrounding a portion of the line, the normal rule in many jurisdictions, is for those requesting a design change that increases the costs to pay the difference of the costs between the least cost and the more expensive solution (this is routinely applied to localities requesting or demanding undergrounding of a line).¹ As you stated at the meeting, PJM itself is not getting into the cost allocation discussion, and the study is to focus on engineering concept and design of such a DC line and to develop a cost estimate. Exelon supports that decision. But it is in the interests of all stakeholders to discuss the issue.

¹ See e.g., Commonwealth Edison Co. Rider LGC (Local Government Compliance Adjustment).

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As PJM is considering reversing a decision made by the PJM Board of Managers two years ago to install an AC line, PJM needs to start this conversation as the cost responsibility will be a major issue if the cost of the HVDC overhead/underground line is greater than the cost of a technically adequate 765kV AC line. The idea that local interests can spend other customers' money will not be something that others will accept. Those pursuing a higher cost solution must understand that unless they pay for those increased costs, there will be substantial litigation against paying, especially by those who do not benefit from the increased costs.

- *Finally, we request that PJM release the detailed scope of the commissioned HVDC study to TEAC stakeholders for review and comment.*

Please feel free to contact me by phone at 215-841-4706, or e-mail at susan.ivey@exeloncorp.com.

Sincerely,

A handwritten signature in cursive script that reads "Sue Ivey". The signature is written in black ink and is positioned below the word "Sincerely,".