



June 16, 2008

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

Re: Proposed HVDC Segment of Mid-Atlantic Power Pathway Project

Dear Mr. Herling:

FPL Energy Generators (generating subsidiaries of FPL Energy, LLC in the PJM footprint) hereby submit these comments on the proposed HVDC segment of the Mid-Atlantic Power Pathway (MAPP) Project, for transmittal to the PJM Board of Managers for consideration at the Board's June 24, 2008 meeting.

FPL Energy Generators suggest that the Board of Managers not approve the proposed HVDC segment because this change is not adequately supported by the information presented.

By way of background, a set of slides was provided to stakeholders on June 6, 2008, a few days before a Transmission Expansion Advisory Committee (TEAC) conference call on June 12, 2008. This conference call was the sole forum for information and discussion. There does not appear to be a detailed study or other analytical document regarding the proposed HVDC segment.

From a process standpoint, we are concerned with committing \$400 million on this basis. There should be a detailed study with consideration of alternatives and with a cost-benefit analysis that documents the projected costs and quantifies and documents the projected benefits.

Our principal concern with the proposed HVDC segment arises from the lack of rigorous analysis comparing costs and benefits. The cost discussion in the slides appears to focus on costs of the AC segment from Calvert Cliffs to Indian River, despite the HVDC alternative being an estimated \$400 million more expensive.

The estimated \$400 million added cost of the HVDC alternative should be compared with quantified and documented benefits. Here the claimed benefits are not quantified, and appear to consist of:

- (1) a smaller terminal yard/substation where the Bay crossing makes landfall on the Eastern Shore (due to an incremental footprint effect of shunt reactors for an AC line, relative to conversion from 6 cables to 12 cables for the DC line);
- (2) a smaller disturbed area for the Bay crossing, 250 feet versus 400 feet, due to 6 DC cables instead of 9 AC cables;
- (3) an ability to operate the three DC circuits independently during maintenance or forced outage; and
- (4) controllability of the DC circuits providing potentially increased transfer capability/reduced generation redispatch.

Benefit # 1 should be weighed against the impact of three DC-AC converter stations and, in any event, does not appear significant in the overall context of the project.

Benefit # 2 may be overstated due to the fact that the Bay is less than 50 feet in depth for most of the crossing. In any event this is a one-time impact so the incremental value of a reduced disturbed area would appear to be small, and should be quantified in terms of the incremental cost of additional mitigation so that the incremental mitigation cost could be compared with the \$400 million incremental cost of the HVDC alternative.

Benefits # 3 and 4 are not quantified. The claimed benefits are generally true of DC versus AC lines, yet all 500 kV transmission in PJM is built as AC rather than DC. This standard practice appears to reflect a judgment that the added cost of DC is not justified. There has not been a cost-benefit analysis showing why the standard practice would not apply here. Among the elements to consider in such an analysis would be the losses and unavailability rates of voltage source converter (VSC) HVDC. For example, the losses of the VSC converter stations would appear to be 3+%. At a 50% average loading and \$64/MWh energy price, incremental VSC losses of 3% would have a direct incremental cost of approximately \$25 million annually.

Moreover, with specific regard to Benefit # 3, if independent operation of the circuits were worthwhile, there should be consideration of the cost of redesigning the AC line, or at least the Bay crossing portion, for independent operation, so that this incremental cost could be compared with the \$400 million incremental cost of the HVDC alternative.

Thank you for your consideration of these comments.

Sincerely,

/s/  
Stephen L. Huntoon  
202-349-3348