PRIVILEGED AND CONFIDENTIAL

REPORT
TO
THE WASHINGTON D.C. PUBLIC SERVICE COMMISSION

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The District of Columbia Public Service Commission (the "Commission"), by letter dated June 11, 1999 to Mr. Ken Laughlin, Vice President of the Market Services Division of PJM Interconnection, L.L.C. ("PJM"), requested that PJM's Market Monitoring Unit[1] (MMU) provide it with certain information. In particular, the Commission, "In order to fully explore the market power and reliability questions raised by Potomac Electric Power Company's ('PEPCO') divestiture application," asked the MMU to respond to five questions. The Commission states that it is particularly concerned with the market power and reliability questions associated with the divestiture of three of PEPCO's generating plants: Potomac River, Buzzard Point and Benning Road. Buzzard Point and Benning Road are located in the District while Potomac River is located in Virginia.

This report is being submitted to the Commission pursuant to section VII. B. of Schedule M of the PJM Open Access Transmission Tariff. Specifically, PJM is responding to the five questions that the Commission set forth in its June 11, 1999 letter. Each of the five questions is stated and PJM's response follows.

Summary

In summary, we conclude that if the referenced units remain PJM Capacity Resources[2] and therefore subject to PJM's must run for reliability rules, that the sale of the units will not have an impact on the market power associated with the referenced units. If the referenced units are removed from PJM Capacity Resources, reliability and related market power issues could result. PJM does not have the information required to assess whether one or more of the referenced units are required to run (by PEPCO) for local voltage support (for support of the subtransmission system).

1 The MMU is a part of PJM's Market Services Division.

2 A Capacity Resource is a generating facility which is committed to meeting loads within PJM and which satisfies a Load Serving Entity's capacity obligation under the Reliability Assurance Agreement. An owner of a generating resource within PJM is permitted to withdraw such resource from Capacity Resource status and may do so, for example, in order to sell the output outside of the PJM area without being subject to recall under a Maximum Emergency Generation condition. More precisely, a Capacity Resource is defined, under the PJM Operating Agreement, to be: "the net capacity from owned or contracted for generating facilities all of which (i) are accredited to a Load Serving Entity pursuant to the procedures set forth in the Reliability Assurance Agreement and (ii) are committed to satisfy that Load Serving Entity's obligations under the Reliability Assurance Agreement and this Agreement." PJM Operating Agreement, Definitions, page 2.

1. **An explanation of the circumstances under which PJM classifies a plant or unit within a plant as "must run."**

Schedule 1, Section 6, of the PJM Operating Agreement includes the provisions governing "'must run' for reliability generation." Schedule 1, Section 6 classifies a unit as "'must run' for reliability" when PJM determines on a day ahead basis, employing good utility practice, that the unit must run, as a result of a transmission constraint, in order to maintain the reliability of service in the PJM Control Area. This provision applies to any generation resource subject to the dispatch of the Office of the Interconnection, for which construction began prior to July 9, 1996. Must run units are subject to a price cap because of the potential to exercise market power during the period that the constraint is effective.

2. **An analysis explaining whether, and under what circumstances, Potomac River, Buzzard Point and/or Benning Road are must run plants or contain must run units.**

Under current conditions, one of the five units which comprise the Potomac River plant could be determined to be must run for reliability by PJM under some circumstances. In addition, one or more of the Potomac River units may be determined to be must run for local reliability (to support the subtransmission system) under certain conditions, by PEPCO, rather than by PJM. PJM dispatches for local reliability only when such dispatch is requested by a PJM Member that owns transmission and subtransmission facilities and operates a local control center, per Schedule 1, Section 6, Paragraph 6.3, of the PJM Operating Agreement. None of the other referenced units are regularly defined to be must run for reliability.

As background information, Potomac River is comprised of 5 coal fired steam units with a total capacity rating of 482 MW, Benning Road is comprised of 2 oil fired steam units with a total capacity rating of 550 MW and Buzzard Point is comprised of 16 oil fired combustion turbine units with a total capacity rating of 256 MW.

In order to determine whether the referenced units are expected to be must run in the near future, PJM performed a reliability analysis. The reliability analysis was designed to determine the impact on the reliability of bulk power supply to Washington D.C. of the removal from service of any combination of the Benning Road, Buzzard Point and Potomac River generating plants. The reliability analysis allows the identification of those units which would create reliability problems if they were out of service and thus the units which will be must run for reliability. PJM uses a three step methodology for this type of analysis. The first step in such an analysis is to determine the Capacity Emergency Transfer Objective (CETO). The CETO is the level of imports needed by a region in order to maintain reliability. (A region is typically defined as a fairly large electrical area, e.g. the entire PEPCO service territory.) The next step is to determine the

Capacity Emergency Transfer Limit (CETL). The CETL is a measure of the ability of the region to import power without violating a thermal or voltage criterion. As the final step, if the CETL is greater than the CETO, the test is passed.

The following assumptions and criteria were used as the basis for PJM's reliability analysis. Assumptions utilized were: a 2006 summer transmission model; PEPCO at 105% of its forecasted 2006 summer peak load; and three different generation patterns within PEPCO. Criteria utilized were: all facilities within normal voltage and thermal ratings, all facilities within emergency voltage and thermal ratings following any single contingency within PEPCO and all facilities within emergency voltage and thermal ratings following any towerline outage within PEPCO's territory. These assumptions and criteria are generally consistent with the standard deliverability analysis procedures used to calculate Capacity Emergency Transfer Limits. The focus of the analysis was on the potential outages at the three referenced plants. The imports into the area served by each plant are relatively independent of the other areas' import requirements and therefore of the aggregate import requirements of the Washington D.C. area as a whole. The analysis performed by PJM was intended to identify the contingencies that would likely limit the deliverability of energy to the D.C. area and to assess the level of operational control via redispatch that would be available to resolve any identified problems.

In summary, PJM's reliability analysis shows that, absent the addition of new generation or transmission upgrades, Benning Road and Potomac River will be likely to be determined to be must run for reliability by PJM in 2006 during peak demand periods and that Buzzard Point will be likely to be determined to be must run for reliability by PJM in 2006 during peak demand periods if one or both of the other two plants are out of service. The reliability analysis goes out to the year 2006, which is as far as reasonable given the available data.

PJM's reliability analysis of the transmission system in the District of Columbia area shows that, for peak demand periods in 2006, for the Benning Road and Potomac River plants, the separate removal of each of the plants from service can be expected to result in the violation of transmission limits, for which there is no redispatch solution. In other words, if these plants do not run during the peak periods, it is expected that load could not be served without some type of emergency procedure. The study shows that these plants must run in order to serve the load in the respective portions of the Washington D.C. area. This is not the case for the Buzzard Point plant on a standalone basis. The analysis also shows that when the Benning Road and Potomac River plants are separately removed from service and Buzzard Point is removed from service at the same time, the removal of Buzzard Point results, in each case, in incremental violations of transmission limits for which there are no viable redispatch options. The analysis also shows that when all three plants are removed from service, the result is violations of transmission limits, incremental to the other scenarios, for which there is no redispatch option. In general, the analysis produced results, for all scenarios except a standalone Buzzard Point outage, which are not consistent with a satisfactory deliverability margin. In other words, for all

scenarios except a standalone Buzzard Point outage, if the plants do not run during peak demand periods, it is expected that load could not be served without implementing some type of emergency procedure.

3. An analysis explaining whether the sale of any of PEPCO's plants may enable a buyer to exercise market power in the District of Columbia.

Market power is the ability of a market participant to profitably increase the price above competitive levels, or otherwise harm competition. In summary, while our analysis shows that the potential to exercise market power exists for the referenced plants as a result of their must run status, the existing PJM rules mitigate such market power in most cases, and market power would be detectable in the remaining cases. The sale of the plants does not create the market power associated with must run status. This potential ability to exercise market power exists regardless of the owner of the plants. The present report addresses only the potential market power implications of the sale of the referenced units and does not, in general, address the potential market power associated with the referenced units which might exist, regardless of ownership.

If the plants are sold, the new owner could choose to leave the plants as PJM Capacity Resources or the new owner could choose to remove the plants from PJM Capacity Resources. PJM's reliability analysis indicates that, if the referenced units remain Capacity Resources under the PJM Operating Agreement and thus subject to PJM dispatch, their status as must run units creates a potential market power issue which would be mitigated by the must run rules in the PJM Operating Agreement. The units would be price capped (pursuant to the PJM Operating Agreement at Schedule 1, Section 6) if the day ahead system analysis showed that a transmission constraint required that the units operate for system reliability, as would be expected to be the case, at peak load times, under PJM's reliability analysis. Thus, although PJM's reliability analysis shows the potential to exercise market power, the specified provisions of PJM's Operating Agreement would prevent any owner of these plants from exercising market power, based on must run status, within the Washington D.C. area if the units remained Capacity Resources and the mitigation provision of the Operating Agreement remain in force for these units.

The issue is somewhat more complex if the units are no longer PJM Capacity Resources. If the buyer of one or more of the plants decided to remove the units from PJM Capacity Resource status, the result could be to create a reliability issue and a related market power issue. If a resource is no longer a Capacity Resource, PJM's authority to declare the unit(s) as must run for reliability would be attenuated. PJM has the authority to order a unit which is not a Capacity Resource to must run for reliability only if it is bid into the PJM market and thus becomes subject to PJM dispatch.

If a plant were removed from its status as a PJM Capacity Resource, there are several possible outcomes:

1. The owner of the plant could bid the plant into PJM, in which case it would be covered by the must run for reliability market power mitigation provisions of the Operating Agreement;
2. The owner of the plant could self schedule the plant and run it in order to meet load which is external to PJM. As long as the plant is running, there would be no reliability or market power implications;
3. The owner of the plant could refuse to run the plant. In this case, there could be a reliability problem and possible market power issues. The market power issue could be either specific to the Washington area or a PJM market power issue could arise if the withholding of the plant capacity had an impact on overall PJM prices by requiring other, more expensive, or unplanned resources to operate.

If either Benning Road or Potomac River were removed from PJM Capacity Resource status, it could create a reliability issue and a resultant market power issue for Buzzard Point because Buzzard Point would become must run. As is the case for Benning Road and Potomac River, the market power issue for Buzzard Point would be mitigated by the continued application of Schedule 1, Section 6 of the PJM Operating Agreement. However, if all of the units were removed from PJM's identified Capacity Resource status, this could create reliability and market power issues.

4. An analysis explaining the circumstances under which market power, acquired through a purchase of PEPCO's plants, can be mitigated.

If the referenced units remain as PJM Capacity Resources, the identified potential to exercise market power could be mitigated if the plants were identified by PJM, on a day ahead basis, as must run and therefore price capped. This mitigation assumes the continued applicability of Schedule 1, Section 6 of the PJM Operating Agreement.

However, the potential to exercise market power by the referenced units could be affected by the sale of the units. This impact is the result of PJM's attenuated authority to require the units to operate, under such conditions. If, for example, PJM could not require Potomac River to run to alleviate transmission constraints, this could require Buzzard Point to be must run. If, in turn, PJM could not require Buzzard Point, or any of the units, to run to alleviate transmission constraints, reliability could be affected. Energy prices could be affected if units are withheld unreasonably and without advance notice.

These impacts could be mitigated by requiring a buyer to agree to retain the units as PJM Capacity Resources or to explicitly permit PJM to require the referenced units to be must run for reliability and to be subject to the mitigation measures as set forth in Schedule 1, Section 6 of the PJM Operating Agreement, in its current form.

In general, any reliability issues associated with the referenced plants could be resolved, with adequate lead time, by the addition of generation capacity or transmission capability. Reliance on such mitigation measures would require that the buyer agree to take specific

actions prior to removing any of the referenced units from service. PJM has not addressed the detailed generation or transmission requirements required to mitigate the reliability and market power issues or the costs associated with such actions.

5. **Two separate analyses explaining whether there may be market power implications resulting from a post-divestiture decision, by either a buyer or a legislature, to decommission any of PEPCO's plants or units. One analysis should assume that the capacity benefit margin will be retained, the other should assume that the capacity benefit margin will be eliminated.**

The decision to permanently remove from service, or decommission, any of the three referenced plants would have reliability and market power implications.

The reliability analysis was performed in order to evaluate the market power associated with the referenced plants. The reliability analysis showed that the decommissioning of either Benning Road or Potomac River would create a significant reliability issue. The supply of power to the Washington D.C. area would not be expected to be reliable during peak demand periods if either of these two plants is removed from service. The decommissioning of either Benning Road or Potomac River would create a market power issue for Buzzard Point because Buzzard Point would become must run and would therefore be required to run in order to maintain system reliability. If the Buzzard Point plant were then removed from service, this would create an additional reliability issue for the Washington D.C. area.

In general, any long term reliability issues, and resultant market power issues, associated with the referenced plants could be resolved, with adequate lead time, by the addition of generation capacity or transmission capability. Reliance on such mitigation measures would require that the buyer agree to take specific actions prior to permanently removing any of the referenced units from service. PJM has not addressed the detailed generation or transmission requirements required to mitigate the reliability and market power issues or the costs associated with such actions.

The capacity benefit margin (CBM) is a measure of the transmission system capability between PJM and surrounding control areas, which is reserved in order to provide reliability benefits to the PJM system as a whole. This transmission system import capability provides reliability benefits by providing access to external capacity resources. The primary result of the elimination of the CBM would be that PJM's overall need for capacity would increase. This need could be met either via additional generating capacity or via increased transmission import capacity. The retention or elimination of CBM does not appear to have any immediate implications for the exercise of market power by the owner(s) of the referenced PEPCO generating stations.