STATE OF MARYLAND

PUBLIC SERVICE COMMISSION

MARYLAND PUBLIC SERVICE COMMISSION POSITION PAPER CONCERNING PJM'S RPM PROPOSAL

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PJM'S RPM PROPOSAL

The PJM Interconnection, LLC (PJM) proposes the Reliability Pricing Model (RPM) as a means to ensure long-term reliability of electric service in PJM. RPM is a forward-looking resource adequacy construct designed to replace the current short-term capacity market structure. The Maryland Public Service Commission (Commission) has reviewed the RPM proposal and concludes that PJM is on the right track in its effort to develop a next generation reliability model to replace the current capacity market construct. The Commission recommends experimental economic analysis and testing to demonstrate that the final RPM design will produce economically efficient prices without distorting electric markets.

It is the position of the Commission that experimental economic analysis and testing can be conducted without delaying the first full four-year forward auction, with the locational component, which is currently scheduled for May 2006. At this time, the Commission does not believe that the current schedule, calling for the implementation of the RPM in transitional phases and a March 1, 2005 submission date with the Federal Energy Regulatory Commission, is feasible or advisable. The Commission believes that additional time should be allotted to thoroughly test the features of the model as well as its underlying assumptions. In the interim, to address specific identified locational concerns until the implementation of RPM, PJM should consider negotiating reliability must-run contracts with individual generators as a short-term solution, if necessary.

BACKGROUND

The Commission instituted Case No. 8980[1] to consider how electric generating resource adequacy should be maintained in the competitive electric industry in Maryland. The Commission invited written comments in this docket from interested persons[2] and held a hearing on the RPM proposal to assist the Commission in formulating its position stated in this paper.[3]

In Case No. 8980, PJM stated that the results of recent system planning studies and events in the capacity markets have led to the reconsideration of the efficacy of those markets in the PJM region. PJM has identified constraints in the ability to move generation from resources in the west to certain load centers in the eastern portion of PJM, and an increase in generating unit retirements could turn this into a reliability problem. In light of these concerns, and the fact that the current reliability construct does not require any long-term commitment of resources, PJM proposes prompt changes to its capacity markets, stating that these changes are necessary in order to ensure long-term reliability.

Regarding the performance of existing capacity markets, PJM notes that clearing prices historically have been low when supply exceeds the installed reserve margin and quickly rise to the capacity deficiency rate when PJM is short on capacity. PJM concludes that this price behavior not only results in investment signals that can lead to unpredictable behavior, such as sudden unit retirements, but also fails to provide a stable, long-term price signal that is necessary to secure financing to build new generation. PJM

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1 *In the Matter of the Inquiry into Electric Generating Resource Adequacy*.

2 The Commission appreciates the effort of those who participated in this proceeding.

3 This paper states the Commission's initial position in this matter, since PJM is still in the process of developing RPM and many program details have yet to be finalized.

further notes that its market monitor is concerned with the potential exercise of market power in the PJM capacity credit markets. To address these issues, PJM proposes significant changes to the existing capacity markets.

The majority of the participants in Case No. 8980 generally support the concept of a forward-looking locational market mechanism for capacity. These parties note that revenues from the existing capacity markets do not adequately compensate generation, and that a forward price signal is necessary to assure long-term resource adequacy. The Commission shares the concern that the retirement of generating units in constrained areas under PJM's existing short-term reliability construct could threaten system reliability. The Commission believes that a forward-looking approach with a locational component would alleviate that concern.

Some parties in Case No. 8980 are concerned with the specific RPM proposal and encourage the Commission to oppose it. The main criticism of RPM is that the cost of capacity may increase significantly without assurances that the benefits will outweigh program costs. In general, these participants do not believe that PJM has demonstrated that significant changes to the current capacity market design are necessary. As discussed herein, the Commission recommends experimental economic analysis and thorough testing to assess the merits of the RPM design and reasonable alternative market solutions.

RPM AND EXPERIMENTATION

As noted above, the Commission generally concludes that PJM is on the right track in its effort to develop a next generation proposal to replace the current capacity market construct. The Commission notes that deregulation fundamentally shifted

investment risk from captive customers to investors. The RPM proposal shifts some of that risk back to customers. This is being done in recognition of the premium placed upon reliability. The Commission can accept some of the risk shifting back to customers to ensure reliability; however, it does not want to re-regulate electric generation. While a forward-looking approach is appropriate to provide investors with important information to drive future investment decisions, PJM should ensure that it adopts a market mechanism, including a locational component, to achieve the objective of establishing economically efficient capacity prices without distorting electric markets.

Given the significant changes proposed in the RPM, PJM should subject the model to experimental economic analysis and thorough testing. The proposed RPM replaces a decentralized market structure consisting of a bilateral market and a short-term capacity spot market auction with a centralized market for forward capacity.[4] PJM will also be the sole buyer in the RPM capacity auction, and charge the cost of capacity back to load serving entities (LSEs). Transactions in the new procurement regime will create some unhedgeable positions for LSEs procuring forward capacity rights, necessarily increasing risk and perhaps costs for LSEs.[5] The pricing impacts of RPM on retail markets need to be examined and understood.

Furthermore, the development of the administratively determined demand curve is as yet not well understood. Nevertheless, the success or failure of the RPM will depend on the ability of the demand curve to accurately predict future demand. Even small

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[4] PJM characterizes its RPM as a "residual" capacity market; that is, the forward capacity required after consideration of bilateral agreements and self-supply resources. Other stakeholders predict that the PJM auction will become the dominant market for capacity in the future.

[5] PJM states that LSEs may hedge capacity costs through bilateral transactions with resource providers. However, most LSEs are not now, nor will they be, in a position to hedge through bilateral transactions because the supply contracts are shorter than the four-year forward nature of the proposed RPM.

miscalculations could expose consumers to millions of dollars in unnecessary costs, or worse, could drive up capacity costs without producing the necessary price signals to bring needed investment. These above-noted features, among others, can be evaluated for problems through experimentation and testing. The assumptions built into the RPM should be analyzed thoroughly with economic analysis, and testing should be conducted before the first auction.

The experimentation and testing on RPM should further compare the benefits of RPM to alternative capacity market models that achieve the same or similar goals set forth by PJM. An example of an alternative capacity market model is a four-year installed capacity (ICAP) obligation.[6] In addition to testing the RPM and variants, further experimentation and testing could reveal whether alternative market constructs, besides a stand-alone capacity market, could accomplish the objectives of achieving long-term resource adequacy and addressing locational constraints. PJM should also consider a locational ICAP requirement or other alternatives to address locational reliability concerns.

The Commission notes that PJM is not currently in a crisis position such that there is a need to rush to implement a new capacity construct. PJM projects a reserve margin no less than 19 percent through 2010, which substantially exceeds the current minimum reserve margin requirement of 15 percent. PJM should take the time necessary to ensure that possible problems can be identified, and it should articulate the nexus between any

[6] The current mechanism for ensuring short-term adequacy of generating capacity is the Reliability Assurance Agreement (RAA), which binds LSEs to own or have under contract sufficient capacity to serve their load plus the stated reserve margin. As noted, this is a short-term obligation of LSEs, which can be met on a daily basis. It may well be that a four-year forward RAA obligation would create a four-year forward bilateral capacity market, which could be supplemented by a formal centralized market for capacity four years out. This, and other alternatives to the centralized RPM auction, should be explored further.

problems detected and the remedy chosen. To the extent capacity shortages surface in the near term on account of generating unit retirements, PJM should address those situations in the interim with reliability must-run bilateral contracts, if necessary.

LOCATIONAL AND FORWARD-LOOKING ELEMENTS

The two most important attributes of the proposed RPM are its locational and forward-looking elements. While the PJM region is currently long on capacity in the aggregate, the Commission is concerned that there are constrained areas and the capacity prices in the market may not incent necessary investment going forward. Therefore, PJM might be confronted with local capacity shortages. The shortages could continue until such time that prices rise to the level necessary to signal opportunities for economic investment and, responding to that signal, new generation can be constructed. Locational marginal pricing in the energy market is a valuable source of information to investors, but it has not proven adequate to incent the investment community to invest in new generation in constrained areas. A forward-looking element would provide information necessary to give the investment community confidence about the returns possible from investing in generation, and a forward-looking construct with locational differentiation is needed in PJM to direct investment to constrained areas.

The RPM should not be phased in without the locational component, because of the critical importance of this feature. Without the locational component, the resulting prices will not produce accurate price signals in areas needing investment. In addition, the resulting prices will almost certainly produce higher costs to consumers and capacity may be built in areas where it is not presently needed. The usefulness of the RPM would be significantly undermined if it is implemented without the locational component.

RPM INTEGRATION WITH PJM RTEPP

A third positive feature of the RPM is its integration with the transmission planning process. According to PJM, the forward-looking price signal and its integration into the planning process is the key feature under the RPM.[7] PJM proposes to use the results of the Regional Transmission Expansion Planning Protocol (RTEPP) to determine local constraints on the electric system. This enables PJM to differentiate the value of generating capacity based on location. By timing the forward commitment of capacity resources with the planning process, this should lead to cost-effective and efficient solutions to ensure system reliability. As PJM notes, absent RPM integration with RTEPP, generating unit retirements and system load growth may necessitate transmission system enhancements to mitigate reliability criteria violations, even though new generating resources (or demand-side response resources) might be the most cost-effective solution.[8]

OPERATIONAL FLEXIBILITY COMPONENT

If additional operational flexibility is necessary to operate the system, the RPM would provide greater compensation for generators with characteristics that directly affect operational reliability, such as load-following capability and supplemental reserves. In other words, PJM also proposes a forward-looking price signal to incent investment in certain operational characteristics. The Commission has concern with adding an operational flexibility component to the RPM. The addition of such constraints on the electric capacity market could, among other things, reduce the efficiency of the

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[7] Transcript, 11/8/04 (Case No. 8980), at p. 13.

[8] Following any forward auction under RPM, PJM should include milestones to ensure that capacity obligations will be met through capacity additions or demand-side response resources.

market. It appears to the Commission that some of the operational flexibility that PJM is seeking may be addressed in the ancillary services market. Market solutions to address operational flexibility concerns should be evaluated thoroughly through RPM experimentation and testing.

DEMAND CURVE

PJM recently advised the Commission that it has abandoned the initial concept of establishing the demand curve on value of lost load, indicating it was not the best method. PJM is currently considering a demand curve concept based on a net revenue analysis to ascertain revenue sustainability for resource providers. Development of this important component of the RPM is ongoing, and the Commission has been unable to assess the demand curve.

The Commission notes that very small anomalies in the demand curve can produce magnified errors. Therefore, and in light of anticipated complexity and controversy regarding the administratively determined demand curve, the methodology for establishing it needs careful attention and it should be thoroughly analyzed. The various demand curve options should also be evaluated through program experimentation and testing prior to RPM implementation. Furthermore, state commissions should have the opportunity to provide input into a final demand curve proposal.

MARKET POWER

While PJM must ensure that generators are prevented from exercising market power to increase the cost of reliability, market power mitigation methods must not constrain legitimate market bids. The Commission is concerned about the potential for overly inclusive offer caps on generation capacity where there is no evidence of the

exercise of market power or the possibility of the exercise of market power is exceedingly remote.

The Commission is also concerned about applying offer caps based on embedded cost analysis. If long-term investment is to be attracted, the Commission would expect that capacity prices might match or exceed the costs of new generation for short periods of time. This is particularly so in constrained areas. Mitigating offers in constrained areas below the cost of replacement capacity will entrench the incumbent generator, and fail to send appropriate price signals to retail markets about the value of demand response. An appropriate balance between sending proper economic price signals and protecting consumers from the exercise of market power is critical to the success of capacity markets.

CAPACITY CHARGES

Capacity charges to LSEs should coincide with peak demand periods. Under RPM, PJM is proposing to assess LSEs a fixed daily allocation of total capacity costs from the auction. LSEs, however, bill retail customers on an energy (MWh) basis. Since fewer MWh are billed off-peak, consumers will experience higher rates for capacity costs off-peak than on-peak. This is a perverse result and should be remedied by charging capacity costs to LSEs during the peak load periods of the year.

Properly assessing capacity costs will create greater opportunities for economic demand-side programs. Since PJM consistently experiences peak loads during the summer months, it should ensure that capacity payments to resource providers take place during the 3- or 4-month peak demand season.

CONCLUSION

The Commission generally concludes that PJM is on the right track in its effort to develop a next generation proposal to replace the current capacity market construct. The Commission is of the opinion that PJM should take the additional time necessary to conduct experimental economic analysis and thorough testing to demonstrate that the major features of the model, as well as its underlying assumptions, will produce the desired results. The Commission believes that this experimentation may be conducted without delaying the first full four-year forward auction, which is currently scheduled for May 2006.[9]

The Commission does not believe that the current expedited schedule calling for the implementation of transitional phases for the planning periods commencing 2006/07 through 2009/10 is necessary. A prudent course of action affords time for thorough analysis to demonstrate that the program will meet its objectives and that the benefits derived from the program will offset the risk of potentially significant increases in capacity costs.

[9] *See* RPM presentation at the Electricity Market Committee meeting dated December 1, 2004.