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**Comments of the Market Monitor re
In the Matter of the Board's
Investigation of Capacity Procurement
and Transmission Planning
Docket No. EO 11050309**

The Independent Market Monitor for PJM

October 14, 2011

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President Solomon and Commissioners, thank you for the opportunity to comment on the Board's investigation of capacity procurement and transmission planning in New Jersey. My testimony today is supplemental to my testimony at the Board's June 17, 2011, hearing. I am the Independent Market Monitor for the PJM ("IMM"), where my responsibility is to monitor the behavior of market participants and the RTO, to report on the PJM markets and to recommend changes to the PJM market rules and market design in order to ensure competitive outcomes. I am independent of PJM, and I do not speak for PJM.¹

New Jersey clearly has the right and the obligation to address its own reliability needs if it does not think they are being adequately addressed through the PJM markets. While there is no evidence that this is the case now or that it will be in the immediate future, New Jersey has legitimate concerns about the design and operation of the PJM capacity market that must be addressed.

Based on the June 17, 2011, hearing, the Board's Order in this matter includes a number of specific questions, including whether the RPM construct is "capable of signaling the need for specific types of generation capacity, in particular mid-merit and baseload capacity?"

The RPM market design does not favor peaking units, which are typically simple cycle combustion turbines (CTs). If the energy markets were perfectly competitive and all CTs were equally efficient, CTs would not cover their fixed costs in the absence of scarcity pricing or a capacity market. The structure of RPM is designed to increase the probability that peaking units are adequately compensated, but this compensation applies equally and appropriately to all unit types. The revenue adequacy issue also affects mid merit and baseload units, although to a lesser extent than peakers. In PJM, combined cycle units (CCs) are typically mid merit, and coal and nuclear units are typically baseload, although some CCs are dispatched as baseload units and some coal units are dispatched as mid merit units, as a result of the current economics of specific units. All unit types rely on a mix of energy market revenues and capacity market revenues. The proportional reliance on capacity market revenues is greatest for peakers and lowest for baseload units.

In 2010, the total price to customers of purchasing a MWh in PJM was 72.5 percent energy, 18.1 percent capacity, and 6.0 percent transmission. This is the price to customers rather than the breakdown of revenues to generating units.²

¹ See PJM Open Access Transmission Tariff Attachment M (PJM Market Monitoring Plan).

² See *the 2010 State of the Market Report for PJM*, Volume II, Section 1, "Introduction," Table 1-7, page 21.

In 2010, a new entrant CT would have earned 42 percent of its net revenue from the energy and ancillary services market and 58 percent from the capacity market. New entrant CTs are more efficient than much of the existing fleet of CTs and would be expected to have higher energy and ancillary services revenues than less efficient existing CTs. In 2010, a new entrant coal plant (CP) would have earned 71 percent of its net revenue from the energy and ancillary services market and 29 percent from the capacity market.

The expected level of RPM prices is a function both of the gross cost of capacity and the expected revenues from the energy and ancillary services markets. Energy market prices are higher in New Jersey and the eastern part of PJM than elsewhere in the PJM footprint. The incentive to build mid merit and baseload units is a result both of expected capacity prices and expected energy prices. The combined net revenues provide a signal to enter when investors believe that an investment in a new unit will be profitable. The expected mix of the two types of revenues signals the type of unit that would be most profitable. Expectations of high capacity prices and low energy prices would incent peakers to enter. Expectations of high energy prices and moderate to high capacity prices would incent mid merit or baseload units to enter. Thus, the structure of PJM energy and capacity markets is capable of signaling the need for peakers, mid merit units and baseload units. This is true with or without long term contracts. The decision to invest is a function of expected revenues. This is an efficient outcome. Expectations of low energy revenues and high capacity prices mean that there are adequate existing sources of low cost energy in the market, but that there is a need for additional capacity. This is a signal to enter for peakers. Expectations of high energy revenues and moderate to high capacity market prices mean that there are not adequate existing sources of low cost energy in the market, and that there is a need for additional capacity. This is a signal to enter for mid merit or baseload units.

However, long term contracts can play a role in the capacity market. Long term contracts shift risk about revenue uncertainty from investors to customers. Potential investors in new generation who indicate that they require long term contracts do not believe that future capacity and energy prices make new entry profitable or that there is sufficient uncertainty about the level of future capacity and energy prices that they are not willing to take the risk associated with such an investment. Such investors are willing to invest if customers provide that certainty by guaranteeing revenues for the contract term. Although if well informed investors (existing and potential generation owners) are not willing to take the investment risk, it is not clear why customers should take the risk. Long term contracts also provide customers certainty about the capacity price, which would be valuable if customers believed that capacity prices would increase over the contract term. It is not clear whether the Board has or would impose such a test on behalf of customers prior to entering into a long term contract. Under conditions where customers face substantial uncertainty about future capacity and energy prices, long term contracts may be a rational choice for customers as part of their capacity portfolio.

If parties want to test the market for long term contracts, such contracts should be acquired through non-discriminatory, competitive auctions. The IMM has proposed that this alternative be included in a final MOPR rule.³ This proposal has not yet been addressed by the FERC. However, this approach would meet the legitimate concerns raised by LSEs, by public power entities and by the New Jersey Board of Public Utilities in a manner entirely consistent with the April 12th Order, and the Market Monitor continues to support developing such a rule in the PJM stakeholder process or pursuant to an additional compliance directive in the FERC proceeding. This approach offers a simple, clear, workable and consistent solution, that is also consistent with the directives in the April 12th Order. Such auctions for long term contracts are preferable to broadening the NEPA (New Entry Price Adjustment) option. Such auctions provide the same type of revenue guarantee and risk shifting as NEPA without creating issues of redefining the capacity market product or creating issues of discrimination between new and old units. If NEPA creates a five year price guarantee and imposes a corresponding five year capacity obligation, NEPA has redefined the capacity product from a one year to a five year term, raising the question as to whether all capacity resources should be held to this definition. In addition, NEPA would, if available to all new entrants, discriminate between new entrants and existing resources.

The Board's proposal regarding the structure of auctions to purchase long term capacity contracts would impose a condition related to structural market power. The Board would require that one result of the selection of specific auction winners would be a reduction in structural market power. In other words, depending on the exact market power metric, the dominant suppliers of capacity in the relevant market could not win the auction unless the combination of all winners resulted in a reduced market share for the dominant suppliers. Reduction of structural market power is a goal shared by the IMM. But the most critical goal of competitive market design is to ensure that the product is provided at the lowest level consistent with cost. The result of imposing the market structure requirement could be to exclude competitors and to increase the price paid by New Jersey customers.

However, the Board's filed comments in the FERC MOPR proceeding also make clear that an essential underlying issue is the Board's concern that "older, dirtier" units are incented to stay in the market under the current RPM rules.⁴ There are more direct, effective and efficient ways to address the Board's issue. Old units with significant environmental risks are unlikely to be the low bidder for a long term contract that includes performance requirements. Such

³ See Motion for Leave to Answer and Answer of the Independent Market Monitor for PJM in Docket No. EL11-20 at 4--5 (March 21, 2011); *see also* Protest of the Independent Market Monitor for PJM in Docket No. EL11-20 (June 2, 2011).

⁴ Comments of the New Jersey Board of Public Utilities filed in ER11-2875-001, et al. (August 29, 2011) at 18.

units face the risk that they would have to incur significant capital costs during the contract life or be unable to meet environmental requirements. In addition, New Jersey regulators can directly address environmental requirements for generating units. State regulators can require reductions in emissions consistent with state goals which will require that owners either retire the units or incur costs to meet those requirements which would in turn be part of any market offer of that capacity and would be an appropriate market signal. When the information about the level of capacity which results is incorporated in the capacity market, the economic fundamentals will change correspondingly and the market will address any resultant shortfall in capacity. This is a direct and targeted approach to resolving the environmental problem in this example. Entering into long term contracts with new units and forcing the new units into the market without directly addressing the environmental issues at existing plants is an indirect and inefficient approach to the problem in this example which does not resolve either the reliability or the environmental issues and creates unintended consequences.

In order to incent new generation in New Jersey when it is needed, an essential regulatory goal is to attempt to permit the market prices to reflect the underlying supply and demand fundamentals. This means removing barriers to entry, modifying RPM rules to ensure that actual supply and demand are reflected. Removing barriers to entry is the best way to address any ability of incumbents to discourage otherwise economic entry. Factors that affect whether supply and demand conditions are reflected in markets include: the generation interconnection process; access to sites for generating units; the way in which LDAs are defined; the relationship among planning, operating and capacity market assumptions; the 2.5 percent reduction in demand included in RPM rules; the definition of the demand side product in the RPM market; and the weak performance obligations of existing capacity resources under the RPM and energy market provisions of the PJM tariff.

One of our functions as the IMM is to determine whether the wholesale power markets are competitive. The IMM makes such determinations on a regular basis and we report our conclusions in the annual and quarterly state of the market reports. The IMM has consistently found that the outcomes of the PJM wholesale energy and capacity markets are competitive.⁵ This is the case for PJM as a whole and all locations within PJM, including New Jersey. The wholesale markets for energy and capacity produce competitive outcomes for New Jersey. Nonetheless, the PJM capacity market is not perfect.

There are a number of features of the current RPM design that tend to suppress market prices and discourage new entry. If units do not have strong performance incentives, risks and costs can be shifted to customers and incentives are created to keep poorly performing units in the

⁵ See, for example, the *2010 State of the Market Report for PJM*. All of the MMU's reports cited in these comments can be found at www.monitoringanalytics.com.

market and to keep new units out. The 2.5 percent reduction in demand, the definition of the demand side product that requires only very limited response times and durations, and the assumption that units that do not clear in the RPM market will still be available to provide reliability, all tend to suppress price compared to the competitive level. To the extent that ownership of existing sites for generating units constitutes a barrier to entry for potential new entrants into the capacity market in New Jersey, the Board should consider its options for addressing that issue.

There are a number of additional issues with the RPM design, which, if addressed would increase the competitiveness of the RPM market. Units in Maximum Emergency only status should not be allowed to be capacity resources.⁶ Such units can, by definition, only perform for a very limited number of hours per year and cannot meet the obligations of a capacity resource. Nonetheless, such units are currently allowed to be capacity resources. Units that cannot perform on peak days due to environmental regulations should not be allowed to be capacity resources. Thus, New Jersey HEDD units that are not permitted to operate on high demand days cannot meet the obligations of a capacity resource. Creation and enforcement of strong performance requirements in the RPM rules would be consistent with the definition of capacity resources, would ensure that customers are getting what they pay for and would incent older, inefficient, dirty units to retire or to invest in improvements. All of these approaches would permit market fundamentals to be reflected in market prices and ensure appropriate links between capacity market power and energy market prices. This will make capacity market outcomes more predictable and reduce uncertainty as a barrier to new entry.

I hope that this proceeding is a significant step towards addressing New Jersey's reliability concerns within a market framework.

Respectfully submitted,

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⁶ See PJM Operating Agreement Schedule 1 § 1.3.12A.