UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.	)	Docket No. EL03-236-000

REPLY COMMENTS OF PJM INTERCONNECTION, L.L.C.

A significant number of parties in this docket have taken the opportunity to provide comments on broad questions of market design. These comments address fundamental, and important, elements of RTO/ISO markets. At their essence, these comments raise the question whether the market alone may not appropriately produce "just and reasonable" outcomes which truly balance the interests of all parties, including load and generators.

This broad question is always appropriately the subject of Commission inquiry. However, it may make it extremely difficult for the Commission to tackle the specific issues presented in PJM's compliance filing in ***this*** docket, which attempts to address specific and real issues associated with the PJM market, including the potential that there could be retirements of generating units in existing load pockets, if it ties the resolution of this docket to a much broader discussion concerning the appropriateness of the market design in general. Rather, the Commission can consider these broader issues in the context of its review of the industry-wide comments in Docket No. PL04-2-000, review of the PJM Market Monitor's 2003 State of the Market Report, and through other vehicles.

PJM is concerned that tying its specific proposals in this docket to the broader discussion could paralyze PJM market developments and solutions to generation retirements and other matters that are needed in PJM now. PJM needs to move forward with addressing the local market power issues at hand in its markets. PJM's proposals should not await months of study and debate on issues which, although important, require more analysis and discussion than is available in this separate PJM docket and than can be accomplished within the timeline needed to address the critical issues at hand.

On the broader issue of pricing for local market power and otherwise, PJM remains committed to continuously evaluate and improve the design of its markets. Accordingly, whether all elements of PJM's markets "work" or whether refinements are warranted, are questions that PJM and its stakeholders take up every day. Specifically, whether the market is fairly compensating generators is an issue that has received continuing attention from PJM, as illustrated by two recent developments.

First, at the end of 2003, PJM filed with the Commission tariff revisions changing the methodology by which to compensate active generation for changes in dispatch directed by PJM for reasons of reactive support. PJM recognized that the existing compensation framework could be improved by permitting the affected generator to recover any lost opportunity cost incurred as the result of PJM's action through a market-based mechanism.[1] Second, PJM filed on February 27, 2004, revisions to its tariff provisions concerning generator compensation for providing black start service. The

[1] PJM Interconnection, L.L.C., Letter Order, Docket No. ER04-361-000 (Feb. 12, 2004).

revisions will add a new component that will compensate generators for the incremental fixed costs incurred by generators to enable them to provide black start service.[2]

The point is that PJM is engaged in refinements to all aspects of its markets, including the capacity and ancillary service markets that compensate generators for the reliability and adequacy services they bring to the system. The analysis of proposed refinements is best addressed through the deliberate and considered process provided by PJM stakeholder review, followed by Commission review. To impose, from the technical conference and ensuing commentary, any of the broad conceptual suggestions advanced by certain interests so as to fundamentally restructure the PJM capacity or ancillary services markets would be ill-advised. As testified by the PJM Market Monitor, the problems that may have warranted reaction in other organized markets have not manifested themselves in the PJM market, which does not experience large, chronically constrained load pockets.[3] Accordingly, ideas such as a creating a new ancillary service for "reliability support," or a menu of "reliability must run" compensation levels, or locational capacity pricing, to name just a few, are concepts that are not applicable to PJM's specific issues. If they are to be addressed in the broader context of reviewing PJM's market design, they should receive a full airing among all PJM stakeholders, rather than imposition by way of this proceeding.

To this end, PJM is in the process of considering future changes to its capacity markets, including a longer-term resource adequacy construct. Issues of local market

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2 PJM Interconnection, L.L.C., Transmittal Letter, Docket No. ER04-__-000 (Feb. 27, 2004).

3 See, e.g., Tr. 20-21, 24-25.

power are distinct from an overall framework to compensate generators. Unfortunately, much of the discourse that has taken place in this docket has confused these issues. The auction model proposed by PJM, and which remains the subject of this docket, is specifically designed to address local market power mitigation in the PJM market. It is not intended to present the solution to all questions concerning the existing capacity and ancillary services markets or the compensation of generators for those services.

PJM will continue to consider improvements to its capacity and ancillary services markets. There is no need for the Commission to impose changes at this stage regarding these markets that (i) at their essence, work well, and (ii) are subject to ongoing stakeholder scrutiny and improvement. Rather, the Commission should consider discretely the subject of market power mitigation in defined load pockets.

PJM does wish to respond to certain of the issues raised in this proceeding concerning its proposed auction model and other matters regarding local market power mitigation in the PJM market. PJM is therefore attaching the PJM Market Monitor's supplemental report on the parties' post-technical conference comments.

Respectfully submitted,

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ATTACHMENT

Supplemental Report of the PJM Market Monitor on Post-Technical Conference Comments

Introduction

It is important not to confuse the impact of overall market conditions on generators' revenue adequacy with the impact of local market power mitigation rules. While generators' net revenues have been relatively low in 2002 and 2003, there has been no demonstration of any kind that local market power rules have had a negative impact on generators' revenues. In fact, the MMU has demonstrated that local market power rules do not have a negative impact on affected generators.

Load pockets in PJM are small and relatively few in number. Offer capping of units as a result of market power in these load pockets declined in 2003. Local market power is a relatively small issue in the overall PJM markets, but one that needs to be addressed.

The purpose of PJM's local market power rules is straightforward. It is to prevent the exercise of local market power. PJM's existing rules are very effective at preventing the exercise of local market power.

The local market power rules do not result in inadequate compensation for existing generating units. However, the local market power rules do require modification in order to ensure that adequate incentives exist for new generation investment in load pockets, when such investment is needed.

It is important to understand the meaning and operational definition of scarcity pricing in the context of addressing local market power. Scarcity pricing depends on regulatory price setting to resolve scarcity problems in the presence of local market power.

The proposed auction to remedy local scarcity is a market based approach to resolving scarcity issues in load pockets. While design of such an auction is complex, use of an auction relies on the actions of market participants, within a set of rules that define risks clearly, to determine the value of resolving that scarcity.

Unit retirements can constitute a way to exercise local market power by physical withholding. It is important that the local market power rules address this possibility directly and include rules that prevent the use of retirements to exercise local market power.

Issues arise with PJM's local market power rules only because of assertions of unintended consequences of local market power mitigation. In particular, it is asserted that local market power mitigation results in non-compensatory revenues for mitigated units and in inadequate incentives to attract and retain needed investment.

The proposed competitive auction mechanism will provide economically efficient and market determined incentives to attract and retain new investment in areas with local market power while ensuring that the resultant rates are not excessive.

The modified local market power rules should apply to all PJM units including post 1996 units. However, it is fair to consider the situation of the individual post-1996 units built with the reasonable expectation that the exemption would apply. If an agreement cannot be reached with each such unit, PJM would file with the Commission to address these cases.

Generator Revenues and Local Market Power Rules

The MMU's State of the Market Report 2003, forthcoming on March 4, 2004, demonstrates that net revenues have not been adequate to fully cover the fixed costs of new combustion turbines in the PJM markets in 2002 or in 2003. This is consistent with the findings of the State of the Market Report 2002. The conclusion is that market conditions in the overall PJM markets, most importantly the energy market and the capacity market, have resulted in prices that did not result in new units earning their expected rates of return. This does not, by itself, demonstrate that there are market design issues in the overall market. The State of the Market Report also concludes, however, that offer capping for local market power does not have a significant impact on the net revenues of combustion turbines.

While offer capping does not reduce revenues compared to other similar units in PJM, nor does it reduce revenues compared to the competitive outcome, offer capping does reduce revenues compared to the outcome with no offer caps. If units with local market power were permitted to exercise local market power, prices and revenues would be substantially higher that under a competitive outcome or under offer capping.

This is a critical point. Local market power rules have not resulted in revenue inadequacy issues for units that are in load pockets. These revenue issues exist as a result of overall market conditions. It is, therefore, important not to use local market power rules to solve issues related to the overall market. It is also important not to create a special class of generation units that are guaranteed to receive above-market revenues because they have local market power.

The fundamental reason that cost capping became an issue for some generators in 2002 and 2003 is that overall market revenues from both energy and capacity markets declined in 2002 and 2003 and, as a result, net revenues declined for all units in the market. Market participants have mistakenly attempted to attribute the source of this decline in market revenues to offer capping.

Extent of Offer Capping

PJM submitted data on the extent of offer capping in PJM over the past three years in Initial Comments.

Overall, in PJM, only a very small proportion of total MW are offer capped:

- In 2001, an average of 0.8 percent of MW were offer capped.
- In 2002, an average of 0.3 percent of MW were offer capped.

- In 2003, an average of 0.3 percent of MW were offer capped.

The offer capped hours for one of two persistent load pockets in PJM, West Met-Ed, were significantly reduced in 2003 over 2002. This was the result of the resolution of problems affecting key transformers in the area that had meant higher than usual offer capping for the units in that load pocket during 2002. Offer capping for units on the Delmarva Peninsula also declined, again as the result of continued improvements to the transmission system.

It is important to note that the offer capping data presented by PJM is conservative in that it overstates the actual number of hours that the revenues received by a unit were limited by the offer cap. The offer capping data include hours even when the system LMP is greater than the unit's offer cap, if the system LMP rises during a period when a unit is offer capped. Thus, when the data show units as capped for a specific number of hours, those data may include hours during which the units were paid a market-clearing LMP greater than the units' respective offer caps. For example, in 2001 there were 792 cases where the price paid an offer capped unit exceeded the offer cap by more than $500 per MWh.

Purpose of Local Market Power Rules

The purpose of the rules addressing local market power is to prevent the exercise of market power when conditions on the transmission system and the absence of sufficient competition in the area defined by the transmission constraint, put units in a position to exercise local market power.

The rules governing the exercise of local market power were incorporated in the PJM Operating Agreement when it was first filed with the Commission in 1997. The rules on local market power were included in the Operating Agreement based on an economic analysis by Paul Joskow and Rodney Frame that was also the basis for the Commission's acceptance of market-based rates for PJM markets. These rules are, and have been, an essential part of the PJM markets from their inception on April 1, 1999.

The Joskow-Frame study explained the issue of local market power as follows:

> The nature of the potential local must run problem is that those who own or otherwise control specific generators, or small groups of generators, that must be run for reliability purposes under certain demand and supply conditions could, if unconstrained by contract or regulation, extract monopoly profits in a world where the supply of generation services of all kinds is unregulated. The owners of such must run generation could bid very high prices for their output, and the ISO would be forced to call on them to operate for reliability reasons even if the energy which they provide could be replaced by much cheaper sources absent the must run constraints.

The rules governing the exercise of local market power recognize that units in certain areas of the system would be in a position to extract monopoly profits, but for these rules. The owners of such units could choose to offer their output at prices exceeding competitive offers thus ensuring that the units would not be dispatched in economic merit order. If, because of a transmission constraint, PJM requires the operation of that unit, the unit would then be in a position to exercise local market power. This type of bidding behavior is easier to implement in areas where it is well known that a transmission constraint will result when certain units are not operating.

Required Modifications to Local Market Power Rules

Despite the fact that PJM's offer capping rules work well under normal conditions, there are situations that can arise where modifications to the rules would be appropriate. Modifications to the PJM offer capping rules would be appropriate to address conditions of long term scarcity in load pockets. If there are inadequate resources (transmission, generation or DSR) to meet the load in a load pocket, there is long term scarcity in that load pocket. In recognizing that PJM's local market power rules do not address long term scarcity, it is important to accurately define scarcity and to distinguish reliability from scarcity, as detailed below.

The proposal developed with the LMPMWG and filed by PJM includes an auction as a central component. The auction is the component of the proposal that addresses scarcity pricing.

There are two basic approaches to providing incentives to generators to locate in high cost load pockets if they are needed for reliability. One approach, termed "scarcity pricing" by some, is short term energy price based. This approach would translate into immediately higher energy prices in the load pocket whenever short term or long term scarcity conditions occur. The second approach is the competitive auction described below.

Scarcity Pricing

One alternative to the auction proposal for addressing long term scarcity in load pockets is sometimes referred to as "scarcity pricing." The details and meaning of this alternative needs to be clear before the implications of implementing scarcity pricing can be appreciated.

Scarcity pricing means using high energy market prices to attract investment in a load pocket that will resolve any scarcity problems. High prices can be implemented either by letting existing generators charge high prices without a defined limit or by setting energy prices at just the right level. In other words, scarcity pricing can be implemented by letting existing generators exercise market power without any rules or by letting generators exercise just the right amount of market power. Assuming that simply letting generators exercise market power under scarcity conditions is no more acceptable for local markets than it is for broader markets, the second option is the more realistic.

The second option has many variants. These generally include an offer cap plus the addition of some price adder ("scarcity" price) that will induce the appropriate amount of investment. Existing generators could charge this price adder only if they have market power. In other words, the second option reduces to selecting the right amount of market power. In effect, this approach is an attempt to apply the old rate base-rate of return approach. Regulation attempted to solve exactly this problem but was equipped with a much more detailed regulatory apparatus for setting and monitoring the resultant prices.

In load pockets, there are typically only one or two owners and little or no price responsive load. (When the entire Delmarva Peninsula was a load pocket, there were more owners, but typically there were one or two pivotal owners. There are no comparably large load pockets remaining in PJM.) As a result, the competitive price, or the scarcity price, is not defined when load equals or exceeds the ability of local generation to serve it reliably.

There are a number of problems with the scarcity pricing approach:

1. Any attempt to implement a scarcity price would require administrative price setting without any clear market referent and would not result from a competitive process.

2. The scarcity pricing option includes significant regulatory risk as there will be political pressure to set the administrative price at specific levels, both high and low.

3. The scarcity pricing option will tend to result in prices with more year to year volatility than those in the overall PJM market because of the small size of the market. Volatility will result because the entry of a new generator, in response to a short term energy price signal, will either be large enough to resolve the scarcity issue and will therefore produce lower prices, or alternatively the new capacity will be less than the optimal size, scarcity will persist and prices will remain high. Such volatility is costly because it raises risk premia.

4. Scarcity pricing can increase market power and the incentives to exercise market power. Scarcity prices create strong incentives for physical withholding because they can be triggered by shifts in a small number of MW of generation. Physical withholding is difficult to monitor, detect and resolve.

Clearly, the introduction of competition in wholesale power markets as a substitute for regulation was motivated by the view that rate base-rate of return regulation did not work well. Attempting to reintroduce the regulatory approach in the context of the more difficult local market power and local scarcity issues does not make sense. While scarcity pricing is presented as a market based approach, the scarcity prices are determined by regulatory procedures, albeit procedures much less precise than those implemented under rate base-rate of return rules. While there is an administrative component to all market rules, the auction approach relies on the offers of market participants in a competitive setting to establish long term scarcity pricing.

Auction

The auction approach would result in a long term solution for the scarcity issue and a correspondingly long commitment by load to pay the incremental fixed costs of the generation in the load pocket. If a generator wins the auction, the generator would receive a fixed capacity cost adder for the duration of the long term contract in return for performance guarantees and cost capping when required and a guaranteed hedge. If a transmission alternative wins the auction, the transmission owner would receive long term revenue requirement increases. If a DSM resource wins the auction, that resource would receive a fixed capacity cost adder for the duration of the long term contract in return for performance guarantees and cost capping when required. The auction approach is a form of long run scarcity pricing designed to provide a market-based incentive to retain and attract appropriate levels of investment. If the auction is designed appropriately this approach to scarcity pricing will be adequate to address both these issues. It is not necessary to layer on higher short term prices in response to either short term or long term scarcity, as they would have no additional incentive effect in the presence of an auction, other than an incentive to overinvest. The addition of such short term scarcity pricing for the period preceding the auction would result in excessive rates because it would increase volatility risk, regulatory risk and market power.

As suggested during the Technical Conference, it is important that the states understand the auction process and the obligations that result from it. Just as with transmission investments, when generation investments are selected in the auction as superior to a transmission alternative, a long term obligation is created.

The PJM proposal would implement a competitive auction when long term scarcity is identified in a load pocket. If additional resources are required in order to reliably meet load in a load pocket and a basic cost threshold for a transmission solution were exceeded, PJM would implement a competitive market in the form of an auction to obtain the least cost resource to ensure reliability. Transmission, generation and demand side resources could all make offers into the auction.

Currently, there may be a clear incentive to locate generation in a load pocket if the costs of construction, interconnection and operation are higher in the load pocket than in the market in general. Whenever the load pocket is congested, prices are higher in the load pocket than in the overall market. A generator will always earn higher net revenues in the load pocket than outside as long as it can produce for a cost less than the marginal generator in the load pocket. A generator will choose the location where it can achieve the highest returns, based on the difference between expected prices and expected costs. All else equal, generators will choose to locate in areas where costs are higher if expected prices are adequately high to result in higher net revenues.

The current default in PJM is that if a generator does not choose to locate in a load pocket, and PJM identifies a reliability issue, PJM will order the construction of transmission to resolve the problem. Transmission may continue to be the cheapest option, but the auction will provide an explicit market test to determine whether that is the case. The auction proposal would also include a transmission option cost threshold

such that the auction would proceed only if the threshold were exceeded. The purpose of the threshold is to ensure that resources are not wasted on an auction if a transmission solution is clearly the cheapest alternative.

A competitive auction will result in a market based solution to scarcity. The auction clearing price will be based on competing offers from all resources that can solve the scarcity problem and the cheapest alternative will be selected. Generation, transmission and demand side resources will all be participants in the auction. If a generation option wins the auction, the result will be an adder to the capacity price over and above the capacity revenues received in the PJM capacity market, that is guaranteed via a long term contract. In continuing discussions of the detailed auction rules, the PJM MMU intends to take the position that existing generators should also receive the market clearing capacity payment from a competitive auction in return for agreeing to a long term contract with performance requirements. The winning generation resource would otherwise be treated like all other generators. The generation resource will submit price and cost offers, be subject to the current offer capping rules and be obligated to meet performance standards. The generation resource will compete in any and all PJM markets that it feels appropriate. The generation resources' offers in the auction will be based on their analysis of total revenues and total costs and will be a market-based measure of the additional compensation that such a resource requires in order to locate in a specific area. Under an auction there is no guessing, by PJM, as to what the costs of building are, what the costs of equipment are, what the costs of labor are, what the costs of fuel transportation are or what direct fuel costs are.

It is important not to underestimate the complexities in designing a competitive auction that will satisfactorily address scarcity under conditions of local market power. In addition the auction must be carefully integrated with the PJM planning process. Nonetheless, an auction offers key advantages over a scarcity price determined by regulatory rules. The auction rules must address issues including the fact that new investments will affect the prices that exist after entry, the risks associated with entry and the market power of participants prior to the auction, in the auction and after the completion of the auction. Significant progress has been made on the auction design and on integration with the PJM planning process. Discussions are continuing with market participants. PJM anticipates making a filing with the Commission including more detailed auction rules within about eight weeks.

In sum, a well designed auction will result in market based incentives that will attract and retain investment in areas where it is needed and will prevent the payment of excessive rates that would result from the short term scarcity pricing approach.

PJM's Local Market Power Rules

Section 6 provides that a unit will be offer capped when the unit, "as a result of transmission constraints, the Office of the Interconnection determines, in the exercise of Good Utility Practice, must be run in order to maintain the reliability of service in the PJM Control Area and PJM West Region."

Units are offer capped only if they must be dispatched out of economic merit order. Units are not offer capped when their operation is required to relieve the Western, Central and Eastern reactive interface limits because it was determined, by Joskow and Frame, that there is sufficient competition in the areas defined by these limits to effectively preclude the exercise of local market power.

Units that are offer capped receive the higher of their offer cap or the market-established locational marginal price (LMP). Thus, if aggregate PJM market conditions cause the unconstrained system price to rise above the level of a unit's offer cap, the unit is paid that higher system LMP. The result is that units may receive significant additional energy market revenues even when they are offer capped and they always receive at least as much as they would if they were paid the unconstrained PJM market price.

Impacts of Local Market Power Rules

The local market power rules are extremely effective at preventing the exercise of local market power. The rules are applied in the day ahead and real time markets to all units that have the ability to exercise market power. The Delmarva Peninsula is a good example. The units in that area do not have the ability to exercise local market power because of the application of the rules by PJM. During the period from January 2000 through June 2003, PJM's rules limited the offers of 36 units in Delmarva South to cost plus ten percent. PJM's local market power mitigation rules were applied extensively in this period to prevent the exercise of local market power on the Delmarva Peninsula.

While the purpose of the local market power rules is to prevent the exercise of local market power, it has been asserted that these rules have unintended consequences for the operation of energy markets.

Some generation owners assert that the current local market power rules are not "compensatory." In order to evaluate that claim, compensatory must be defined. Compensatory could mean that mitigated offers should be equal to competitive offers. In contrast, compensatory could mean that mitigated offers should be greater than competitive offers and meet a standard that all fixed costs should be included in the mitigated offer. Some generators have defined the relevant fixed costs in various arbitrary ways including the price actually paid, when high, or the cost of a hypothetical new unit, if the price paid was low.

The local market power mitigation rules limit the offers of units with market power to marginal costs plus ten percent. This reasonably reflects the level at which a unit in a competitive market would offer its energy for sale under conditions where there is no scarcity. Units subject to local market power mitigation receive the higher of market prices or the offer capped level so such units are not disadvantaged by the cost capping. In other words, if, but for cost capping, the mitigated units would have offered their energy at marginal cost plus ten percent then cost capping does not have a negative

impact on the units. In fact, the MMU's mark up calculations[4] indicate that, as a general matter, that is how units offer their energy into the PJM markets and that is how market prices are generally set in the PJM energy market.

What is the opportunity cost of being offer capped for local market power? What opportunity is foregone as a result of being offer capped? As a general matter, that opportunity cost for offer capped units is zero because the cost plus ten percent approach reflects what a competitive offer would be for the unit. Offer capped units can export their power out of the PJM market at any price they can obtain and offer capped units can also sell their power in the PJM market via bilaterals at any price they can obtain. In addition, units that are offer capped receive the higher of the offer cap or the overall market price, like any other unit, so no PJM market opportunities are unavailable due to the offer cap. The only opportunity denied such units is the opportunity to exercise market power. In order to argue that there is an opportunity cost, generation owners must argue that they would otherwise set the price higher than a competitive offer. In other words, generation owners have to argue that they would exercise market power and that they should be permitted to exercise market power in order to increase their revenues. The paragraph below provides an example of a positive opportunity cost that should be and has been compensated in the offer capping rules.

A direct measure of the opportunity cost of being offer capped is a comparison of units that are offer capped with units that are not offer capped. The MMU did such a direct comparison for specific Reliant units and demonstrated that the offer capped units achieved better financial results than the units that were not offer capped.[5]

Some generation owners argue that the current local market power rules are not compensatory because offer capped units have a higher value than other units because of their contribution to reliability. This premise leads these generators to the conclusion that such units should receive a virtual guarantee that they will recover their annual revenue requirement including all fixed (see paragraph 14 above) and variable costs (see the proxy method) in the form of an above-market payment.

But there is nothing about units that are sometimes offer capped due to transmission constraints that means that such units have greater market value. It is certainly the case that if these units decided to physically withhold their output they could harm system reliability. That fact simply means that these units have market power but does not confer on such units the rights to special, greater than market prices or revenues. In fact, when the market is in equilibrium all generating units are required for reliability, while their market value is the outcome of a competitive market process.

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4 PJM Interconnection State of the Market 2002.

5 Prepared Direct Testimony of Joseph E. Bowring in Docket No. EL03-116-000, page 24.

PJM markets provide all generation owners with the opportunity to recover costs. Presumably generation owners purchased assets with a full understanding of the rules, including offer capping rules and with the understanding that future revenues would depend on aggregate market conditions. The position that units with local market power are owed a special, extra-market obligation to provide the recovery of purchase costs when they cannot be recovered from the market has no basis in economics or in the rules of PJM markets. The position that units with local market power are owed the equivalent of the estimated fixed costs of a brand new unit despite the fact that market conditions do not provide such recovery, similarly has no basis in economics or the rules of PJM markets.

Capping units with local market power at marginal cost plus ten percent based on the current PJM rules is both compensatory and consistent with a competitive outcome when there is no long term scarcity. There is no market or reliability based reason to implement a proxy method or, in fact, any method that increases the level of the offer caps.

Reliability and Local Market Power

The rules governing the exercise of local market power apply when a unit is not operating as a result of economic dispatch but is required to run in order to maintain the reliability of service. This means that, in order to meet PJM's operational reliability criteria, the specific unit must be operating and providing energy to the grid.

PJM's reliability criteria require that PJM operate the system so that transmission facility loadings will be within defined limits, immediately following any single potential malfunction or failure. These potential malfunctions or failures are termed contingencies. Contingencies include the sudden and unplanned loss of a generating unit, transmission line or transformer and are, more generally, any event that would result in the loss of one or more bulk power transmission facilities.

To comply with the reliability criteria, PJM may require the operation of units as one means to control for the possible failure of facilities rather than in response to the actual failure of facilities. After PJM has exhausted the other means of controlling the system, including adjusting PARs, adjusting imports and exports, switching transmission facilities in/out of service and switching reactors in/out of service, PJM will redispatch generation units to control for a contingency.

The significance of this, with respect to the local market power rules, is that PJM may require a unit to run to control for the potential loss of a facility, if that unit is the most cost-effective means of addressing that contingency, even if that unit would not otherwise operate as the result of economic dispatch. The particular unit that PJM requires to run to solve the contingency may not be the only unit that could serve that purpose but it is the most cost-effective unit.

If local load cannot be served reliably by imports into an area, it must be served by local generation. If there is inadequate competition among local generators, they will have the

ability to exercise market power and are subject to offer capping. This is true even when there are more generating units in the area than required to meet loads. The issue is not the adequacy of local generation resources. The issue is the lack of competition among local generation resources.

PJM regularly performs a series of tests to determine reliability within PJM and in subareas defined by transmission constraints within PJM. The results of those tests currently indicate that there are no areas within PJM where there are reliability issues due to inadequate generation.

Scarcity and Local Market Power

It is frequently assumed that scarcity exists whenever a unit is offer capped under the local market power rules. That is not correct. There can be, and frequently is, more than enough generation in an area to serve local load when units are offer capped.

For example, consider an area with 500 MW of load and 1,000 MW of generation, all owned by a single company. If the market clearing price is $40 per MWh and transmission facilities into the area limit imports to 400 MWh, then units in the area will be required to run and they will be offer capped if their price offers are in excess of $40 per MWh. These units would have local market power because 100 MW is required to run to meet the load and all generation is owned by a single company. In the absence of rules governing the exercise of local market power, the units could charge any price up to $1,000 per MWh (the overall PJM offer cap) and would be paid that price. To prevent such an exercise of local market power in such a situation, the units would be offer capped and paid the higher of the market price or their offer capped rate.

In this situation, there is clearly no scarcity of generation in the relevant area. There is 1,000 MW of generation and only 100 MW of load that cannot be met by imports. Accordingly, there is no need for scarcity pricing in this situation.

To extend the example, if some of the generation in the area has marginal costs of $30 per MWh yet submits price offers of $80 per MWh, the reason that the generation will not run is because it has offered its energy at uneconomic levels, i.e. it has withheld the energy economically. If the same units had offered their energy at marginal cost, they would have been dispatched in merit order and received the market clearing price of $40 per MWh. In such a case, no units would be offer capped.

It would clearly be inappropriate, in this case, to implement a high offer cap based on scarcity or the need to provide an incentive for entry. There is no reason to provide an artificial signal for entry or to pay the existing units in excess of market prices. Generation adequacy is not the issue in this example. This example represents the actual facts in most cases of offer capping in PJM.

While generation scarcity does not generally exist in cases of local market power, it can exist at times. Long term local scarcity exists when there is inadequate generation and transmission import capability to serve the load in an area. In the example just presented, there would be local scarcity if the local generation were 100 MW or less. While there

are no situations in PJM where there are reliability issues and thus no situations where long term local scarcity exists, short term scarcity could arise, for example, if load were greater than expected or if a transmission or generation facility were lost unexpectedly. Long term scarcity exists when local load exceeds the sum of the import capability into an area and local generation in that area. Short term scarcity exists when unexpected events result in a reduction in import capability, a reduction in local generation resources or an increase in load such that, in the short term, local load cannot be reliably served.

Operational Test for Local Market Power Potential

The PJM proposal would implement a specific test for the number of pivotal suppliers in a load pocket and create a mechanism to suspend cost capping if adequate competition exists. If more than three suppliers are jointly pivotal, the automatic application of local market power mitigation could be suspended, subject to MMU analysis. Analysis would be required to verify that structural conditions are consistent with competition and ongoing analysis would be conducted to verify that bidding behavior is competitive.

Under the existing rules, PJM applies mitigation to any pre-1996 unit that runs to control a constraint, without an explicit test for whether the local units have the ability to exercise market power.[6] This has little current significance as a result of the actual ownership pattern of PJM units. In other words, there are no cases that the MMU has identified where the actual ownership of units is diverse enough to eliminate concerns about the exercise of local market power. Nonetheless, it makes sense to have an explicit test, as such a test could inform decisions about divestiture by an owner of multiple units within a load pocket, about the purchase of existing units within a load pocket or about the construction of a new unit in a load pocket.

There is no magic number of pivotal suppliers that will guarantee a competitive outcome. Moreover, it is quite possible to exercise market power unilaterally, even when there is no pivotal group and when no other suppliers cooperate. Thus specifying a market-power test in terms of the size of the pivotal group cannot be theoretically justified; it is simply a rule of thumb. In this case, the proposed test will not be used to cap offers, but only to indicate whether competitive conditions need review in an area where offer capping occurs. The PJM MMU has chosen three pivotal suppliers as the threshold based on concerns about joint exercises of market power by three or fewer suppliers.

A pivotal supplier is a supplier whose output is required in order to meet relevant load. In other words, if there are five suppliers in an area, each with 100 MW of generation capability and the load in the area is 500 MW, all five suppliers are individually and jointly pivotal. If load is 400 MW, no single supplier is pivotal, but two suppliers are

[6] The only exception is that PJM does not mitigate units that are required to relieve the Western, Central and Eastern reactive interface limits, referenced earlier.

jointly pivotal. If the load is 300 MW, no single supplier is pivotal, but three suppliers are jointly pivotal. The measure of pivotal is [(Total Supply - Participants' Supply)/(Total Load)]. When this measure is less than 1.0, the relevant participants in the numerator are jointly pivotal.

Application of Local Market Power Mitigation Rules to Post-1996 Units

The PJM proposal would apply the modified local market power mitigation rules to all units, while recognizing the special circumstances associated with units for which construction commenced between July 9, 1996 and September 30, 2003. The current local market power mitigation rules exempt all units for which construction commenced after July 9, 1996.

It is nonetheless fair to consider the situation of the individual post-1996 units built with the reasonable expectation that the exemption would apply. The MMU is in the process of approaching owners of all the post-1996 units that have the capability to exercise local market power in order to develop an approach to mitigation of such units that would reflect the contribution of such units to competition, that would take account of the actual offer behavior of these units but that would not permit the exercise of market power. In the event that these negotiations do not lead to a solution, the PJM MMU would make a filing with the Commission to resolve the issues.

There is no reason to believe that post-1996 units cannot exercise local market power. The Joskow-Frame analysis did not recommend an exemption for post-1996 units. There are post-1996 units in PJM that have the ability and the incentive to exercise local market power. The units are in locations where transmission constraints result in one or more of the units being required for reliability at times. Fortunately, this ability to exercise market power is currently quite limited. The essential fact remains that these units do have the incentive and ability to exercise local market power and there is no rule in PJM to prevent this exercise of market power. There is no reason to permit these units to exercise local market power any more than a unit constructed before 1996 and it is not reasonable that any unit was constructed with the expectation of exercising market power. It makes sense to address the post-1996 issue now before the exercise of market power by post-1996 units becomes a significant issue, both for units constructed prior to 2003 and all future units.

There is no reason to apply a different test for market power to post-1996 units than to older units, while recognizing the fairness issue for units constructed between 1996 and 2003. The exercise of market power is no more appropriate for new units than it is for old units. The auction proposal will provide a market solution to pricing when new units must be constructed to address local scarcity conditions.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Washington, D.C., this 1st day of March, 2004.

Barry S. Spector
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