106 FERC ¶ 61, 277
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

PJM Interconnection, LLC Docket No. ER04-539-000

ORDER ON MARKET MITIGATION MECHANISMS

(Issued March 24, 2004)

1. In this order, the Commission rejects the tariff revisions filed by PJM Interconnection, LLC (PJM) for temporary mitigation of the market power created by the integration of the transmission system of Commonwealth Edison Company (ComEd) into PJM. This order benefits customers because it protects them from insufficiently supported regulatory actions.

BACKGROUND

2. In 2002, several Midwestern utilities proposed to form the Alliance Regional Transmission Organization (RTO). The Commission ruled, however, that the Alliance proposal lacked sufficient scope to exist as a stand-alone RTO, and therefore required the companies that had planned to join Alliance to, instead, choose another RTO.[1] Subsequently, in a July 31, 2002 order, the Commission accepted filings by American Electric Power Service Corporation (AEP), ComEd, Dayton Power and Light Company (DP&L) and other former Alliance companies (collectively, the New PJM Companies) in which they stated their intent to join PJM.[2]

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[1] Midwest Independent Transmission System Operator, Inc., 97 FERC ¶ 61,327 (2001).

[2] Alliance Companies, et al., 100 FERC ¶ 61,137 (2002) (July 31 Order) at P 35.

(continued…)

3. In the July 31 Order, the Commission also noted concerns that the elongated and irregular seam that would result from splitting the former Alliance group between PJM and the Midwest Independent Transmission System Operator (MISO) might cause that choice not to be just and reasonable. The Commission found, however, that the New PJM Companies' choices could be rendered just and reasonable through certain conditions.[3] The Commission therefore ordered PJM and MISO to form a "functional common market" across the two organizations by October 1, 2004.[4] In a later order issued on June 4, 2003, the Commission clarified that PJM and MISO must file a joint operating agreement no later than 60 days prior to the commencement of transmission service over the transmission systems of any of the New PJM Companies under the PJM tariff or integration of any of those systems into the PJM market.[5]

4. On December 11, 2002, the New PJM Companies made a filing with the Commission to integrate their facilities into PJM in phases. On April 1, 2003, the Commission accepted AEP's and ComEd's filings to transfer control of their facilities to PJM.[6] At that time, all parties anticipated that both AEP and ComEd would transfer control of their systems to PJM in the spring of 2003. Currently, however, the transfer of AEP's facilities to PJM's operational control has been delayed due to state actions,[7] and it

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[3] Id. at P 35.

[4] Id. at P 40. This date has now been delayed. MISO will not begin operating its markets until December 1, 2004, and PJM and MISO will not be able to begin operating their joint and common market until 2005 at the earliest.

[5] Alliance Companies, 103 FERC ¶ 61,274 (2003) at P 36 (June 4 Order).

[6] American Electric Power Service Corporation, et al. (New PJM Companies), 103 FERC ¶ 61,008 (2003) (April 1 Order).

[7] The question of whether the Commission can authorize AEP to join an RTO over the objection of certain state agencies, pursuant to its authority under the Public Utility

(continued…)

is now anticipated that AEP will integrate into PJM's system on or before October 1, 2004.[8] On May 1, 2003, AEP and PJM submitted a compliance filing required by the April 1 Order, explaining that due to the regulatory delays in AEP's integration, ComEd would now be the first of the New PJM Companies integrated into PJM.

5. On December 31, 2003, PJM, ComEd, and MISO made four filings in preparation for the integration of ComEd into PJM on May 1, 2004. In one of those filings, Docket No. ER04-521-000,[9] PJM filed new tariff sheets to address that integration. In that filing, PJM noted concerns by the PJM market monitor concerning the possibility of market power and the need for mitigation of that market power in the Northern Illinois Control Area (NICA) after integration. PJM stated that while under most markets NICA energy markets would be competitive, under certain conditions market power could be exercised, and mitigation measures would be required to prevent that.

THE INSTANT FILING

6. On the basis of the market monitor's concern, in this filing PJM submits the following revisions to its Open Access Transmission Tariff (OATT).[10] Although PJM does not anticipate that these revisions will go into effect until ComEd integrates into PJM, in order to provide clarity to market participants PJM asks the Commission to act on this filing within 60 days.

I. Energy Markets

Regulatory Policies Act (PURPA), is the subject of a pending Initial Decision. New PJM Companies, 106 FERC ¶63,029 (2004).

[8] New PJM Companies, 105 FERC ¶ 61,251 at P 107 (2003).

[9] PJM Interconnection LLC, 106 FERC ¶61,253 (2004).

[10] The proposed measures were approved by the PJM Members Committee by a sector vote of 4.33 in favor and .67 opposed.

7. PJM states that in 2003, its market monitor analyzed expected market conditions in NICA after the integration of ComEd into PJM.[11] The monitor stated that, while under most conditions markets would be competitive, it identified two circumstances under which market power concerns could arise.

8. First, when the pathway from PJM to NICA was constrained, market power could arise because cheaper generation from PJM could not compete with higher-cost generation in NICA; in those circumstances, NICA generation could set the price in NICA because it faced no competitive pressure from PJM generation. PJM thus proposes to use its existing authority under Section 6.4 of its market rules to cap, at cost, offers from generating units that must run for reliability (RMR units), or otherwise enter into agreements with generators to mitigate market power. PJM states that it already has authority under Section 6.4 to cap energy offers, and does not need to amend its market rules.[12]

9. Second, the market monitor stated that when there were extreme market conditions in PJM but not in NICA (i.e., high temperatures in the PJM region but not in the Midwest), all of the generation in PJM would be sold locally and not be available to compete with NICA generation; thus, similarly to the situation when the PJM–NICA pathway is congested, NICA generation could set the price in NICA. PJM states that it currently has no market power mitigation mechanism to address this circumstance, and therefore proposes to add a new subsection (c) to Section 6.4.1 of its Operating Agreement to provide the following.

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[11] Report Regarding the Expected Competitiveness of Markets in the Northern Illinois Control Area after Integration into PJM, August 1, 2003, Exhibit 1 to PJM's filing (NICA Competitiveness Report).

[12] PJM also states that the market monitor analyzed whether imports into NICA other than from PJM would provide sufficient competitive pressure, and concluded that, because there are no competitive markets surrounding NICA, there was "inadequate certainty" that such additional competition would exist. Appendix to NICA Competitiveness Report, Exhibit 2 to PJM's filing, at 5.

10. When extreme conditions exist in PJM and not in NICA ("extreme conditions" in PJM will occur when the PJM average hourly Locational Marginal Price (LMP) is $500/MWh or greater), marginal units in NICA will be offer-capped at marginal cost plus ten percent. In the event this market mitigation measure is imposed, marginal units will receive the greater of their cost-based bids or the NICA market price. PJM states that this is the same mechanism applied to current PJM energy markets, and that in the past, extreme conditions have occurred in PJM in approximately .20 percent of hours during the period from April 1, 1999 through June 30, 2003. If extreme conditions exist in both PJM and NICA ("extreme conditions" in NICA will exist when the sum of the forecasted daily demand plus real-time net exports in NICA is greater than the daily total NICA supply capability, minus 2,000 MW), the NICA offer mitigation will be lifted. PJM also states that this provision will go into effect on the date that the ComEd zone is integrated into PJM, and will expire on the date that AEP integrates into PJM, at which point the market power issues stemming from NICA being a small stand-alone market will disappear.

II. Capacity Markets

11. PJM states that the NICA capacity market will be non-competitive at the time that it begins, because one generator currently owns or controls more than 50 percent of total capacity in NICA, and that at least two generation owners will be pivotal in the capacity market. On this basis, the market monitor has determined that some generators will be able to exercise market power in the NICA capacity market.

12. PJM therefore proposes that when the NICA capacity market is opened (currently anticipated to occur on June 4, 2004), it will add a new Section 7 to its Operating Agreement providing that capacity will be offer-capped at $30 per MW-day, plus any additional amounts that are shown to the PJM market monitor's satisfaction to compensate the seller of capacity for its opportunity costs or any other actual annual avoidable incremental costs of selling its capacity into the PJM Installed Capacity Market.

13. PJM states that this offer cap is based on estimates of incremental costs or going-forward costs of three broad categories of generation: peaking plants (combustion turbines), mid-merit plants (combined cycle plants) and baseload units (steam units). PJM further states that, to determine the appropriate amount of the offer cap, the market monitor considered what net revenues would or would not cover the going-forward costs of generation units, and concluded that net revenues would cover going-forward costs for

combined cycle and steam units, but would not cover the going-forward costs of combustion turbines, and that the going-forward costs of a combustion turbine are $30 per MW-day. Thus, if a combustion turbine is the marginal unit, all units that clear in the market will receive a price based on the capacity costs for a combustion turbine. However, generators are provided with the opportunity to justify additional costs to the market monitor to ensure that sellers of capacity will not be under-compensated. Additionally, the clearing prices for the market will not be posted until the market monitoring unit has screened all the offers and determined that the market is competitive. If the market monitoring unit determines that the market was not competitive, PJM will post new procedures for submitting bids and offers.

14. In the event there are scarcity conditions (namely, when available capacity in the ComEd zone is less than or equal to 1.01 times the Interim Installed Capacity Requirement, or total load plus reserves in the ComEd zone), this cap will be raised to $160 per MW-day. The PJM market monitor will also screen capacity offers in the NICA capacity credit markets to ensure that the NICA capacity markets are competitive.

15. PJM states that the capacity market mitigation measures will be effective beginning on the date that the ComEd zone is integrated into PJM, and concluding on May 31, 2005.

<u>Notice of Filing, Interventions, Protests, Comments and Answers.</u>

16. The filing was noticed in the Federal Register, with comments, protests, and motions to intervene due on or before February 26, 2004. [13]

17. Timely motions to intervene or notices of intervention were filed by the Wisconsin Electric Power Company (WEPCO), the Illinois Commerce Commission (Illinois

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[13] 69 Fed. Reg. 7923 (2004).

Commission) and Exelon Corporation. Timely motions to intervene and protests were filed by Duke Energy North America, LLC and Duke Energy Trading and Marketing, LLC (Duke), NRG Companies (NRG), Edison Mission Energy, et al. (Edison Mission), the PSEG Companies and Calpine Corporation (PSEG) and Dynegy Power Marketing, Inc. and Dynegy Midwest Generation, Inc (Dynegy). On March 12, 2004, PJM filed an answer to protests. On March 15, 2004, PJM submitted an executed version of the Declaration of Joseph E. Bowring, Manager of the PJM Market Monitoring Unit, which was attached to the answer.

Comments and Protests

18. Issues relating to constraints on the PJM-NICA pathway. PSEG and NRG state that PJM has not substantiated its claim that the 500-MW pathway between PJM and NICA must be unconstrained for competitive conditions to exist.[14]

19. Dynegy argues that PJM's assumption that market power will exist when the pathway from PJM to NICA is constrained does not account for competitive pressures that exist outside of NICA.[15] Edison Mission and Duke assert that NICA is a competitive market with significant import capability via interfaces with neighboring control areas, and that PJM has not explained why those other imports would not render the NICA energy market competitive.[16] Specifically, Edison Mission asserts that PJM has failed to

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[14] PSEG cites to an affidavit filed by Dr. Roy Shanker, sponsored by Edison Mission, in Docket No. ER04-521-000.

[15] Edison Mission also appears to suggest that PJM is inaccurately relying on the presumption that when the pathway between NICA and PJM is constrained, generators in NICA will nevertheless be able to export power from NICA.

[16] Edison Mission also argues that PJM's assertion that market power problems will only exist until AEP is also integrated into PJM provides another reason to delay ComEd's integration into PJM until AEP can also be integrated. Since the Commission addressed that argument in Docket No. ER04-521-000, it will not address it again here.

address the data provided in the recent Exelon Triennial Update[17] identifying levels of uncommitted capacity in surrounding control areas and import capability into NICA.

20. Lack of support for PJM's criteria. Edison Mission argues that PJM has not demonstrated that NICA will be a load pocket, which it asserts would be required in order to invoke the mitigation measures of Section 6.4.1. Duke argues that PJM bases its mitigation proposal on the unjustified assumption that NICA and PJM markets are so separate that extreme conditions in one will not necessarily affect prices in the other. Duke also asserts that PJM's statement that it will not invoke Section 6.4 "when the market monitor determines that there are adequate external resources to otherwise mitigate market power" is not sufficient to ensure appropriate mitigation.

21. Inconsistency with prior Commission decisions. Several parties—Dynegy, Edison Mission, Duke—argue that the PJM mitigation proposal is inconsistent with prior Commission orders. Among these, Dynegy states that the Commission's policy is to accept only mitigation measures that address well-defined structural problems in the market, and PJM has failed to identify such well-defined structural problems.

22. Duke asserts that PJM's capacity market proposal allows the market monitor to excessively second-guess the competitive market insofar as the monitor has the authority to deem the capacity markets non-competitive under the proposed Section 7.3 of the Operating Agreement. Duke argues that PJM should not cap bids into the NICA capacity markets to any greater extent than such bids are generally applied in PJM. NRG argues that the combination of the existing PJM mitigation plans in NICA and the proposed capacity market provisions will fail to provide a reasonable opportunity for generators to recover their costs, and thus will inhibit investment in needed infrastructure.

23. PJM's answer. On March 15th, PJM filed answers to certain intervenors' comments. PJM stated that the PJM market monitor specifically analyzed imports into NICA in evaluating the need for mitigation in the NICA markets. The PJM market monitor found that, under current market conditions, when the 500 MW pathway from

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[17] Exelon Generation Company, Docket Nos. ER00-3251-000, et al., Triennial Market Power Study Update, filed November 7, 2003.

PJM to NICA is constrained, imports into NICA will not be competitive with NICA generation. Using the GE MAPS model, the PJM market monitor ran a series of simulation analyses, one of which was a sensitivity test to evaluate the expected role of imports more directly. In this sensitivity test, 3,000 MW of mid-merit generation[18] were eliminated from NICA and then the entire Eastern Interconnection was redispatched based on each generator's marginal cost to determine how the generation would be replaced. Over 90 percent of the eliminated generation was replaced in the modeling simulation by other generation within NICA; less than 10 percent was replaced by imports from outside NICA. The PJM market monitor states that the results of this sensitivity test showed that competition from areas external to NICA had a very limited impact on the mid-merit segment of the supply curve. The PJM market monitor argues that the sensitivity analysis demonstrates that the mere existence of import capability in NICA does not assure competition. The market monitor argues that the analyses conducted clearly demonstrate that imports are not demonstrably competitive with NICA generation.

24. PJM asserts that, if generators believe that conditions in NICA have become sufficiently competitive as to not warrant mitigation, they are free, at any time, to file with the Commission a request that the PJM-NICA pathway constraint be excluded from market mitigation, pursuant to Section 6.4.1(d) of the Appendix to Attachment K of the PJM Tariff and Schedule 1 of the Operating Agreement.[19] PJM states that this would follow the same course that the Commission followed when it initially authorized PJM markets.

25. PJM states that the proposed $30/MW-day offer cap for capacity market

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[18] Mid-merit generation refers to generation whose variable costs are higher than baseload generation and lower than peaking generation.

[19] Section 6.4.1(d) reads: "Price caps shall not be applicable to generation resources used to relieve the Western, Central and Eastern reactive limits in the PJM Control Area. In addition, price caps shall not be applicable to generation resources used to relieve any other transmission limit as to which the FERC has authorized the use of market based rates."

mitigation reflects going forward cost estimates based on current manufacturers' data. PJM asserts that the $160/MW-day offer cap is consistent with current PJM market design and reflects one hundred percent of total going forward and carrying costs of a new combustion turbine, without considering any energy market net revenue offset. PJM offers to develop a proposal that would change the amount of supply that would trigger the $160/MW-day offer cap to 102 percent of the Interim Installed Capacity Requirement, and to do so in time for the May 1, 2004 integration of ComEd.

DISCUSSION

I. Procedural Issues

26. Pursuant to Rule 214 of the Commission's Rules of Practice and Procedure, 18 C.F.R. § 385.214 (2003), the notices of intervention and timely, unopposed motions to intervene serve to make the entities that filed them parties to this proceeding.

II. Analysis

27. The Commission rejects PJM's filing because the proposed mitigation measures have not been adequately supported, and because, as designed, these mitigation measures accord the market monitoring unit within PJM too much discretion in the application of the mitigation measures.

A. Energy market mitigation issues

28. The PJM proposal for extreme conditions will invoke mitigation in the NICA energy market when the 500MW pathway is constrained from NICA to PJM. Mitigation will be applied to NICA when there are extreme conditions—such as high temperatures—in PJM and not in NICA. This will trigger mitigation in NICA when PJM's generation could not profitably compete in NICA. As many intervening parties argue, PJM, in employing such a trigger, chose not to consider the impact that imports from neighboring regions could have in mitigating market power in NICA. Based on the

record in this case, we are not persuaded by PJM's reasoning. The 500 MW capacity of this pathway is very small relative to the peak load in NICA, which exceeds 20,000 MW. PJM's rationale fails to adequately consider the effects on competition in NICA of the much larger transmission capabilities between NICA and its immediate neighbors, or between NICA and AEP, which, according to Edison Mission's witness, amounts to 12,500 MW and 5,375 MW respectively.[20]

29. Additionally, we are not persuaded by PJM's arguments in its answer to protests that imports provide inadequate competitive discipline. PJM's argument is not that imports are unavailable, but rather, that they are more costly than energy produced by mid-merit resources within NICA. However, PJM fails to report the magnitude of the cost difference. We might agree with PJM that imports provide inadequate competitive discipline if the supply curve is steep and imports are significantly more expensive than internal NICA generation. But imports could provide reasonable competitive discipline if the supply curve is relatively flat and imports are only slightly more costly than internal NICA generation.

30. Also, we find that PJM's analysis of the effects of contracts on competition in the spot market to be incomplete. PJM has proposed measures to mitigate market power in its spot energy market. The incentive of generators to exercise market power in the spot market is reduced or eliminated to the extent that the generators are owned or contractually committed to buyers. The reason is that energy from such generators is produced and sold outside of the spot market. Generators' compensation for such energy does not depend on spot market prices, and thus, would not increase due to the exercise of market power in the spot market. PJM's answer states that it considered the effects of contracts between EME and ComEd in calculating HHI concentration statistics. However, it is not clear how the HHI statistics were calculated, or what portion of the market is covered by these statistics. Moreover, it is not clear how PJM took into account the fact that ComEd, as a buyer, owns generation resources.

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[20] See affidavit of Roy J. Shanker, Ph.D., Attachment A to Edison Mission's protest at 18.

31. Thus, the proposed mitigation measures do not adequately consider the competitive effects of (i) generation from adjoining utilities and their ability to mitigate the exercise of market power, as well as (ii) ownership of, or contracts with, generators by buyers, when the 500 MW pathway is constrained from PJM to NICA. The Commission finds it unreasonable for PJM to base its mitigation trigger solely on whether the 500 MW pathway to PJM is congested, particularly when there may be an ample supply of capacity that could be imported into NICA and/or a significant percentage of load is protected from the exercise of market power through ownership or contracts with generators. PJM states that it will not invoke market mitigation "when the market monitor determines that there are adequate external resources to otherwise mitigate market power."[21] The Commission finds that this commitment gives the market monitor too much discretion in determining periods when mitigation measures will apply.

32. Therefore, we will reject PJM's seller-specific bid cap proposal for extreme conditions without prejudice to a future proposal that either: (1) provides adequate justification for the triggering mechanism proposed in this docket, or (2) proposes a different triggering mechanism for the bid caps and provides an adequate justification for that mechanism.

33. PJM also proposes to use the existing provisions of section 6.4 of its tariff for NICA.[22] These provide that units will be subject to cost-capping if the unit is dispatched out of economic merit to maintain system reliability as a result of limits on transmission capability. However, the existing tariff contains an exception to this tariff provision under which units are not subject to cost-capping for constraints to relieve the Western, Central, and Eastern reactive limits in the PJM control area. These measures, including the exceptions, were approved for the original PJM market based on the competitive situation in that market. Several of the commenters have argued that there should be such

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[21] Transmittal letter at 6.

[22] We also note that we are examining PJM’s existing local market power mitigation measures in Docket. No. EL03-236-000. Our actions here are without prejudice to any actions that may be taken in that proceeding.

an exception added for NICA in instances when the 500 MW pathway is constrained.

34. PJM has not explained why the competitive situation in NICA does not warrant a similar exception from cost capping. In particular, we are concerned that the failure to consider the ability to import into NICA from surrounding control areas may overstate the instances when market power could be exercised within NICA due solely to congestion on the 500 MW pathway. We are also concerned that section 6.4 could be used to cost cap generators inside PJM when the 500 MW pathway is congested from NICA to PJM (and when no other transmission constraints exist within PJM). Therefore, we will require PJM to file an explanation within 30 days explaining why an exception should not be added to section 6.4 of the tariff for NICA and PJM in instances when the 500 MW pathway is constrained in either direction. PJM also should explain whether the cost cap of 110 percent will provide adequate scarcity pricing within NICA, in particular taking into account potential differences between NICA and the traditional PJM area, such as the anticipated periods in which cost caps will be applied.

B. Capacity market mitigation issues

35. PJM proposes to limit capacity offers, during the interim period, at $30 per megawatt day (except in scarcity conditions, when a $160 per megawatt day limit would apply), "plus such additional amounts as are shown to the satisfaction of the Market Monitoring Unit to compensate the seller of Capacity Credits for its opportunity costs or any other actual annual avoidable incremental costs of selling Capacity Credits from its Capacity Resource in the PJM Installed Capacity Credit Market." In an order in Docket No. ER03-1120-000, the Commission stated that it believed that clear rules to reduce opportunities for manipulation are important in assuring market integrity.[23] The Commission does not believe that PJM has proposed rules that are sufficiently clear with regard to the capacity offer cap, specifically as to any additional amounts added to the initial $30 per megawatt day cap. The Commission finds that such a mitigation scheme

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[23] California Independent System Operator Corp., 106 FERC ¶ 61,179 (2004) at P 15.

accords the market monitor excessive discretion in determining the level of individual offer caps.[24]

36. Proposed section 7.3 of the Operating Agreement would authorize the PJM market monitor to void the results of the NICA capacity market if, after screening the capacity offers, the market monitor has deemed the capacity market to be non-competitive. The Commission finds that this provision fails to provide sufficient clarity as to what constitutes a competitive offer to capacity sellers. We believe that this proposed provision accords excessive discretion to the market monitor.

37. We are not persuaded that PJM's proposed bid cap of $160 per megawatt day during scarcity periods is reasonable. While a cap reflecting average costs might be reasonable if it were available to generators in all periods, that is not the case here – it would be available only during periods of capacity scarcity. As a result, we conclude that the $160 cap is too low if it is to be applied only during periods of scarcity. Moreover, PJM's proposal to mitigate bids in the capacity market is premised on the conclusion that the capacity market is highly concentrated, and thus, that the sellers in that market would have market power. In reaching this conclusion, PJM did not adequately consider generation in other, neighboring control areas and the ability to import that generation into NICA over available transmission capability, as discussed earlier in this order. We are not persuaded by PJM's analysis, since it has not adequately considered all potential sources of capacity. Therefore, we will reject PJM's proposal for mitigation of the capacity markets, without prejudice to a future filing that provides adequate support, including an analysis of the effects on competition of all potential sources of capacity.

The Commission orders:

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[24] The Commission has rejected granting this level of discretion to market members in defining when penalties would apply. Investigation of Terms and Conditions of Public Utility Market-Based Rate Authorizations, California Independent System Operator Corp., 105 FERC ¶ 61,218 (2003).

(A) PJM's filing is rejected.

(B) Within 30 days of the date of this order, PJM must file an explanation of why an exception for NICA in instances when the 500 MW pathway is constrained should not be added to the existing provisions of section 6.4 of its tariff.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.