

**UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION**

PJM Interconnection, L.L.C. and
Progress Energy Carolinas, Inc.

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Docket No. ER10-713-000

**JOINT MOTION FOR LEAVE TO ANSWER AND
ANSWER OF PJM INTERCONNECTION, L.L.C. AND
PROGRESS ENERGY CAROLINAS, INC.**

Pursuant to Rule 213 of the Federal Energy Regulatory Commission’s (“FERC” or the “Commission”) Rules of Practice and Procedure, 18 C.F.R. § 385.213, PJM Interconnection, L.L.C. (“PJM”) and Progress Energy Carolinas, Inc. (“PEC”) (collectively, the “Parties”) hereby respectfully move for leave to answer¹ and answers the Motion to Intervene and Comments of the Independent Market Monitor for PJM (“Market Monitor”) filed in this proceeding on February 23, 2010, and subsequently corrected in a filing on February 25, 2010, to the Joint Operating Agreement (“JOA”) executed and submitted by PJM and PEC. The proposed PJM/PEC JOA is intended to represent a more manageable, relevant and practical approach to joint operations between PJM and PEC, includes a proposed real-time congestion management methodology, and establishes a procedure for, among other things, the exchange of reservation and interchange schedules to permit calculation of total transfer capability (“TTC”), available transfer capability (“ATC”) and available flowgate capability (“AFC”).

¹ The Commission’s Rules of Practice and Procedure, 18 C.F.R. § 385.213(a)(2), do not permit answer to answers or protests unless otherwise ordered by the decisional authority. The Commission has made exceptions, however, where an answer clarifies the issues or assists in created a complete record. *See, e.g., California Independent System Operator Corporation*, 110 FERC ¶61,007 (2005) (answer to answer permitted to assist Commission in decision-making process); *New Power Company v. PJM Interconnection, L.L.C.*, 98 FERC ¶ 61,208 (2002) (answer accepted to provide new factual and legal material to assist the Commission in decision-making process). In this answer, PJM and PEC provide the Commission with information useful to the Commission’s decision-making process and which provides a more complete record. Therefore, this answer should be permitted.

Generally, both PJM and PEC appreciate the Market Monitors' comments relative to the implementation of the proposed JOA and the insights offered on the congestion management process negotiated by the Parties. The methodologies established by operation of the proposed JOA represent, in the view of PJM and PEC, a practical approach in implementing a congestion management process that takes into account the operational abilities and limitations of the parties. Both PJM and PEC recognize that the proposed processes are not the only way to address congestion management between the parties and future experience will likely dictate that modification and enhancements be made to the JOA, but, at the same time, PJM and PEC believe that the proposed JOA is a significant stride in the proper direction and is just and reasonable.

Importantly, the Parties are committed to dynamically refining those approaches and working towards a comprehensive, sensible solution to identify enhancements and possible techniques to achieve efficiencies. In fact, Article 3.3 of the proposed JOA recognizes that the terms and conditions of the bilateral agreement among PEC and PJM are grounded in an appreciation of their respective systems as they exist at the time of the effective date of the JOA, but they fully expect that evolving circumstances, protocols and requirements will require that they negotiate, in good faith, a response to such changes.

Despite the prospect of unidentified eventualities, both parties maintain that the proposed JOA, in its present state, is a just, reasonable, bilaterally-established approach at congestion management particular to the Parties' operational relationship. While reasonable alternatives may exist, as the Market Monitor maintains in its answer, it is not the reasonableness, or merit, of those others approaches which are relevant in this proceeding; only the determination of

whether the offered PJM/PEC proposal is just and reasonable.² As such, the PJM/PEC JOA should be approved by the Commission for filing.

I ANSWER

A. **The PEC/Duke Energy Carolinas Non-firm Parallel Flow Management Agreement is Publicly Available.**

Article 12 of the PJM/PEC JOA provides for the additional parallel flow management through PJM's support of the PEC/Duke Energy Carolinas ("DUK") non-firm parallel flow management agreement and it is this agreement which defines a method for revenue sharing to account for scheduled versus actual flows across their systems. The Market Monitor notes in its answer that the details regarding the PEC/DUK agreement were not available, but they should be.³

Since the PJM/PEC JOA contemplates further management of parallel flows on the VACAR/PJM Interface by calculating a single path, non-firm ATC value for the combined PEC and Duke Interface with PJM, PEC and Duke entered into a Non-Firm Parallel Agreement on February 22, 2010, to be made effective on April 30, 2010. This agreement was filed with the Commission on February 22, 2010, on behalf of PEC and Duke, and entitled "Managing Non-Parallel Flow Agreement on the Progress/Duke Interface with the PJM Balancing Authority," at Docket Number ER10-789-000.

² See, *California Independent System Operator Corporation*, 126 FERC 61,150 at P. 254 (2009) (citations omitted).

³ Market Monitor Answer, p. 5.

B. PJM and PEC Intend to File the Agreed Upon Loss Compensation Process for Non-Firm Power Flows as an Amendment to the JOA When the Parties Formally Develop this Process

The Market Monitor has correctly indicated in its answer that the proposed PJM/PEC JOA provides that the Parties agree to develop a process to address conditions when the non-firm power flow on one system causes parallel flow on the neighboring system resulting in an increase in the losses on the other, but that the process for determining this loss has yet to be determined.⁴ As such, the Parties did agree to work diligently and in good faith to develop this process no later than one year after the effective date of the JOA. In accord with the Market Monitor's recommendation, PJM and PEC intend to file with the Commission the jointly developed loss compensation method as an amendment to the proposed JOA, when appropriate.

C. The Dynamic Schedule Approach to Managing Congestion is Reasonable Given the Operational Abilities and Limitations of the Parties and the Commission Should Refrain from Requiring a Sunset Date of December 31, 2011 for That Approach.

Proposed Article Fourteen of the PJM/PEC JOA sets forth the congestion management processes and procedures to be implemented by PEC and PJM. In particular, this negotiated congestion management process enables PEC to quickly respond to the pricing values sent by PJM to PEC and will help manage congestion on the PJM transmission system by maintaining flows within established limits and stabilizing PJM LMP values. Moreover, these provisions are designed to help reduce the need to use the TLR process to relieve congestion by maintaining power flows within established reliability limits. As specified in the JOA, these objectives are achieved through the implementation of a dynamic schedule between PJM and PEC, the MW quantity of which will be adjusted as often as every five minutes based on the real time LMP PJM calculates for the PEC Balancing Authority Area. The real time PJM LMP value reflects

⁴ *Id.* at 6.

the impact of energy injections and withdrawals to and from PJM by PEC with respect to PJM transmission constraints. The ability to adjust to such energy transfers in real time provides PEC with the ability to respond quickly to the changes in the LMP value and, therefore, provide beneficial impact on PJM constraints.

Both PJM and PEC maintain that this approach is tailored to their unique operational relationship and provides a much more practical, and relevant, approach to managing system congestion. Indeed, the Market Monitor notes in its answer that the dynamic schedule approach is more efficient and effective for managing constraints than redispatching on one side of the congested facility. However, the Market Monitor contends that implementation of the dynamic schedule is not the optimal resolution to the congestion issue and, as such, would require that the dynamic schedule approach be approved with a sunset date of December 31, 2011, and that the parties be directed to develop a clearly defined LMP solution.⁵

Both PJM and PEC are aware that the proposed JOA and congestion management process will require refinement as experience dictates and have committed to working together to continually identify areas that require improvement or could benefit from further enhancement. To this end, the Parties' experience with the dynamic schedule approach will be continuously evaluated to ensure that it continues to represent a reasonable, and practical, approach to address congestion management which meets the particular operational characteristics of PJM and PEC. Imposition of a previously determined "sunset" date requiring the Parties to negotiate other methods to address congestion management is premature in this instance since experience may dictate that the dynamic schedule approach is the optimal methodology available to the Parties. Perhaps even more importantly, it has already been recognized by the Parties, and acknowledged

⁵ *Id.* at 7.

by the Market Monitor, that it represents a just and reasonable methodology to address congestion on the PJM and PEC systems. Moreover, the Market Monitor has not suggested a different methodology to manage congestion to stand in place of the dynamic schedule approach and it has not shown that the proposed approach is unjust and unreasonable.

D. The Provision that Requires PEC Units to Respond up to 50 MW on a 5-minute Interval Respects the Operational Abilities and Limitations of the Parties.

Article 14.2 of the JOA provides that PEC will increase/decrease generation to support a dynamic schedule change with a 50 MW maximum (or less if the PEC generation cannot move 50 MW) every five minutes consistent with the PJM LMP value compared to the PEC cost and the ability of the PEC system to modify generation output. The Market Monitor contends that it is unclear whether this “ramp rate” will adequately respond to constraints since the curtailment of external interchange transactions can be significantly larger than 150 MW on a 15-minute interval and, as such, the Commission should reject the provision that PEC units will only respond up to 50 MW on a 5-minute interval until detailed support has been provided by the Parties.⁶

Curiously, the Market Monitor appears to suggest that the 50 MW ramp rate is not enough to address congestion adequately, but, placed into context, a 600 MW generation pick-up for PEC in any given hour is very aggressive, given its operational characteristics. Yet, even more importantly, it should be noted that the 50 MW ramp rate, while contractually limits PJM’s ability to call for a 50 MW maximum every five minutes, does not suggest that PEC cannot respond with more aggressive ramp rates, if it can do so within operationally reliable limits.

⁶ *Id.* at 8.

E. The Implementation Document is Reserved to Provide for the Administration of the Proposed JOA

In its Answer, the Market Monitor has expressed concern that the specific details reserved for inclusion in the Implementation Document contemplated in Article 14.3 of the JOA should be filed with the Commission in order to ensure compliance with the JOA with respect to the exchange of data, overall implementation of the dynamic schedule and the PJM/PEC JOA in general.⁷

The intent of the proposed Implementation Document is to allow for the parties to agree to the exchange of information necessary to implement the dynamic schedule in a fashion that is mutually acceptable and can be modified to the circumstances as necessary to ensure that the Parties are exchanging appropriate and relevant information. Codification within the JOA (or other Commission-approved document) of the types and kinds of data and information necessary to implement the provisions of the JOA is unnecessary and, ultimately, could hinder the Parties' ability to perpetually assess whether they are exchanging relevant and useful information. Perhaps one of the more significant differences between the currently effective JOA and the proposed JOA is the removal of line-by-line delineation of the specific types of data that is to be exchanged by the Parties⁸ since experience with the currently effective JOA has proven that much of the data prescribed to be exchanged among the Parties is of little significance in practical experience, but since the data exchange is codified within the JOA, the parties have no choice but to unnecessarily exchange that data.

⁷ *Id.*

⁸ For example, Article Four of the proposed JOA also sets forth generic categories of general data to be exchanged amongst the parties as opposed to the line item delineation set forth in currently effective JOA.

Submission of the Implementation Document in this instance would frustrate that purpose and serve no useful benefit as it is merely intended to set forth the types and kind of data to be exchanged among the parties to facilitate implementation, and administration, of the dynamic schedule.⁹ It is intended to be an adaptable document, capable of being revised as necessary to reflect operational realities. However, despite solely concerning the operational relationship of the Parties, PJM and PEC do not oppose making the Implementation Document publicly available on PJM's website.

F. Requiring After-the-Fact Transmission Reservations for PEC to Match Dynamic Schedules is Reasonable and Provides the Proper Market Incentives to Alleviate Congestion

The Market Monitor has also objected to the provision of Article 14.4.2 which sets forth that PJM will, on behalf of PEC, make a non-firm point-to-point reservation on the PJM OASIS, after the fact, in order to match the actual MWh delivery used to support the transmission service used on the PJM system to support the congestion management process, noting that this after the fact acquisition of transmission service not available to other market participants.¹⁰ To this end, the Market Monitor suggests that an alternative method to permit PEC to acquire transmission service prior to the flow of energy should be incorporated into the JOA.¹¹

Because the magnitude and direction of the dynamic schedule will be unknown with specificity ahead of time, requiring PEC to reserve transmission service ahead of time based on

⁹ Examples of currently exchanged data include generation and transmission line status, scheduled outages, real-time and projected load, and other operations data. Additional data that will initially be exchanged to support the dynamic schedule includes (but is not limited to) PJM LMP values, generation available to support increase/decrease of the dynamic schedule and the specific units available to move.

¹⁰ Market Monitor Answer at pp. 8-9.

¹¹ *Id.*

the anticipated maximum value of the dynamic schedule would unnecessarily result in the prevention of other market participants' access to that same service. Further, because changes in the dynamic schedule value will have the effect of relieving congestion on the transmission system, such changes will, by definition, result in an increase in power transfer capability, only a portion of which will be required to support the dynamic schedule itself. By design, the PEC/PJM dynamic schedule will be adjusted to support a third party transaction with impacts similar to the PEC/PJM dynamic schedule when congestion occurs. Therefore it is reasonable to assume, and therefore just and reasonable to approve, the mechanics of after-the-fact reservation submissions to account for the transmission system usage required by the dynamic schedule.

G. Dynamically Scheduled Transactions Require Distinct Integration and Settlement Processes

Responding to the Parties' proposed integration and settlement of dynamically scheduled transactions, the Market Monitor notes that PJM and PEC will model the dynamic schedule as energy deliveries and receipts (depending on the scheduled flow) so as to account for when the dynamic schedule reverses direction, and contends that this methodology for settlements is not available to other market participants.¹² As such, the Market Monitor recommends that the integration and settlement of dynamically scheduled transactions be done using the same methods applied to all other transactions.

Despite this concern as expressed by the Market Monitor, the integration of the dynamic schedule value on an hourly basis and discretely based on direction is not inconsistent with other transactions. Every transaction must be integrated on an hourly basis for settlement, and must also be done separately based on direction. The proposed settlement process is completely

¹² *Id.* at 9-10.

consistent with PJM does for all transactions and should not serve as a basis for an objection by the Market Monitor.

H. The Proposed Determination of the Interface Price is Just and Reasonable

Article 14.5.1 of the proposed JOA addresses the determination of the energy price for imports to, and exports from, PJM utilizing a “high/low” methodology of any generator bus in PEC with an output greater than 0 MW that has an LMP, respectively, less or greater, than its marginal costs during each 5-minute calculation of LMP’s for the PJM Region. This determination, however, does exclude the bus LMPs at the generators that are not on line and also excludes nuclear and hydro units from the interface price determination.

The Market Monitor maintains that there is no economic basis for excluding nuclear and hydro units in determining the economics of the PEC system and, therefore, the interface price.¹³ Additionally, the Market Monitor notes its concern relative to the equitable treatment of third party transactions and questions why, since they may have the same impact on a dynamically scheduled constraint, they should not also receive the PEC interface price.¹⁴ Finally, the Market Monitor recommends that specific terms be added to the agreement providing that the pricing does not apply when PEC is importing or exporting from other areas.¹⁵

To be clear, the exclusion of both nuclear and hydro units from the determination of the interface pricing was a deliberate preference of the Parties because the congestion management process is designed to respond to identified constraints in a timely manner and is fashioned to incent those units that can, and will respond, both efficiently and effectively. Experience (and

¹³ *Id.* at 10.

¹⁴ *Id.* at 11.

¹⁵ *Id.*

engineering reality) has shown that nuclear and hydro units are not in a position to respond to constraints in a timely fashion, and, as such, they will not be incented to ramp production in these instances. As a result, the interface pricing determination is focused to incent those units that can, and will respond.

Additionally, the PJM/PEC JOA contemplates that there are distinct pricing determinations - one for imports to and one for exports from, the PEC control area – that apply to transactions occurring to and from the PEC control area, whether they are bilateral, or third party transactions. The same pricing determinations apply to all. Given this, the Market Monitors’ concerns with respect to third party transactions would seem unfounded.

Finally, the terms of Article 14.5.1 specifically establish that PJM shall calculate interface pricing consistent with the process documented in Section 2.6A of the Appendix to Attachment K of the PJM Open Access Transmission Tariff (“PJM Tariff”), which expressly limits the more specific pricing only when it is not invalidated by sales or purchases from other areas. Therefore, a specific prohibition on applying pricing to PEC imports from, or exports to, other controls areas is unnecessary.

I. The Proposed Method for Determining Whether a PEC Dynamic Schedule is Following Dispatch is Consistent with the way PJM Determines Whether Internal Generators are Following Dispatch.

The make whole determination contemplated by proposed Article 14.5.3 is intended to not cause PEC to lose money as a result of helping alleviate PJM’s constraints by switching from imports to exports on the dynamic schedule within the same hour, which can occur due to the hourly integration of the five-minute LMPs. The proposed make whole evaluation will achieve this “separation” by discretely considering the hourly integrated import and export transactions

on the basis of a 24-hour, calendar day and will only apply if PJM determines that PEC is responding to the defined dynamic price signal.

The Market Monitor points out that Article 14.5.3 clarifies that the PEC dynamic schedule will be considered to be following dispatch for the hour for inclusion in the make whole calculations for the day if that dynamic schedule is determined to be following PJM dispatch for at least eight 5-minute periods in an hour, but expresses concern that there is no explanation as to how the “eight 5-minute periods in an hour” criteria was determined or whether it’s ever been used before.¹⁶ Given this, the Market Monitor suggests that the Commission direct that PEC be required to follow PJM dispatch for all 5-minute periods in an hour to qualify for make whole payments.

The criteria for evaluating whether PEC is following dispatch is analogous to how PJM determines whether “internal generators” are following dispatch per Section 3.2.3(o) of the Appendix to Attachment K of the PJM Tariff. Similarly, internal generators are not held to a perfect dispatch signal, but are expected to do so within an acceptable bandwidth (which, generally speaking is based upon a time weighted average over the course of an hour). No rationale has been presented by the Market Monitor for treating PEC differently by requiring that it follow dispatch perfectly for the hour to qualify for make whole payments and, as such, that position should not be adopted here.

J. Inclusion of Export Transactions in the Calculation of PEC Total Cost/Revenue is Appropriate

The proposed method for calculating the PEC Total Cost/Revenue for purposes of make whole payments provides calculations (ultimately based upon comparing the respective value of

¹⁶ *Id.* at 11-12.

the applicable LMP by the hourly integrated MW value of the transaction in question) for, both, import and export transactions. However, the Market Monitor has recommended that the Commission require PJM and PEC to remove the proposed calculation of make whole payments for the export portion of the dynamic schedules as set forth in Article 14.5.4.2 because it is inconsistent with how PJM treats other export transactions.¹⁷

Unlike other export transactions, those at issue here are the result of PEC following a PJM dispatch signal. Because, in this case, the export transaction is the direct result of PEC moving its generation in response to a PJM dispatch signal, there is ample justification to treat the dynamic export differently than other export transactions and ensure that PEC is properly compensated for following that signal since, otherwise, there would be no incentive to follow that dispatch signal.

K. The Settlement Process will be Revaluated as Necessary in the Event it is Determined that the Make Whole Evaluation Settlement is Used More Than 10 Percent of the Hours that PEC is Responding Correctly to Relieve PJM Congestion

In the event that the Parties determine that the make whole evaluation settlement is being used inordinately (as measured by use for over 10 percent of the hours that PEC is responding correctly to relieve PJM congestion), the settlement process will be reevaluated to determine whether modifications are necessary to provide equitable compensation for the congestion relief provided. The Market Monitor has suggested that the Commission require a clarification of the time period and criteria for reevaluating the make whole settlement process.¹⁸

Further clarification in this regard is, at best, difficult to provide since application of this provision will require an initial finding by the Parties that the make whole evaluation is being

¹⁷ *Id.* at 14.

¹⁸ *Id.*

used for over 10 percent of the hours that PEC is responding correctly to relieve PJM congestion. The Parties have determined that using the make whole evaluation process at this level indicates that the settlement process may require further enhancement to ensure that the parties have adequately, and succinctly, set forth a compensation process that does not rely on continual “true-ups” to ensure equity. It is unclear to what extent, and even if, the settlement process will need to be reevaluated in the future, and proscribing a set time period and criteria for reevaluating the make whole settlement process is premature.

II. CONCLUSION

To reiterate, both PJM and PEC appreciate the comments of the Market Monitor relative to the proposed JOA and understand that the congestion management process contemplated therein will likely require modification and enhancement as future experience dictates. To this end, the Parties have committed to dynamically refining those approaches as it becomes necessary. But, at the same time, both Parties are confident that the proposed JOA, and included congestion management process, are a significant step in the right direction and represent a just, reasonable, bilaterally-established approach particular to the Parties’ operational relationship. It is not disputed that reasonable alternatives may exist, however it is not the reasonableness or merit of those other approaches which is at issue in this proceeding; only the determination of whether the proposed filing is just and reasonable in its own right. The Parties maintain that it is.

As such, for the reasons stated in the February 2, 2010 Filing and in this Answer, the Commission should accept the PJM/PEC JOA for filing as proposed.

Respectfully submitted,



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CERTIFICATE OF SERVICE

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



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