

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

<b>Hess Corporation</b>	)	
	)	
<b>v.</b>	)	<b>EL12-7-000</b>
	)	
<b>PJM Interconnection, L.L.C</b>	)	

**MOTION TO INTERVENE AND ANSWER  
OF PJM INTERCONNECTION, L.L.C.**

Pursuant to Sections 212, 213 and 214 of the Rules of Practice and Procedure of the Federal Energy Regulatory Commission (“FERC” or “Commission”), 18 C.F.R. Sections 385.212, 385.213, and 385.214, and the Commission’s October 28, 2011 Notice of Petition for Declaratory Order, PJM Interconnection, L.L.C. (“PJM”) hereby respectfully submits in the above-referenced proceeding this Motion to Intervene and Answer to *Petition for Declaratory Order, or, in the Alternative, Complaint Against PJM Interconnection, L.L.C. and Request for Expedited Treatment of Hess Corporation* in the above-referenced proceeding.<sup>1</sup> For the reasons described in more detail herein, PJM asks the Commission to: (1) find that PJM’s planning procedures under its Open Access Transmission Tariff (“Tariff”) correctly do not permit adjusting phase angle regulators (“PARs”) when conducting interconnection analyses; and (2) deny Hess’ alternative complaint and decline to order PJM to revise its Tariff or its Manuals to permit adjustments to PARs when conducting interconnection analyses.

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<sup>1</sup> *Hess Corporation v. PJM Interconnection, L.L.C., Petition for Declaratory Order, or in the Alternative, Complaint Against PJM Interconnection, L.L.C., and Request for Expedited Treatment of Hess Corporation*, Docket No.EL12-7-000 (filed Oct. 26, 2011) (“Hess Petition”). On November 21, 2011 Hess

## I. COMMUNICATIONS

Pursuant to 18 C.F.R. § 385.203 (b)(3), PJM designates the following persons as those to receive all notices and communications with respect to this proceeding:

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## II. MOTION TO INTERVENE<sup>2</sup>

PJM is a Commission established independent system operator and Regional Transmission Organization.<sup>3</sup> PJM is a transmission provider under, and the administrator of, the PJM Open Access Transmission Tariff (“PJM Tariff”), operates the PJM Interchange Energy Market and Capacity Credit Markets, and conducts the day-to-day operations of the Bulk Power System in the PJM Region.

On October 26, 2011, Hess Corporation filed the Hess Petition asking FERC to find that PJM’s Tariff would permit PJM to adjust PARs when conducting the interconnection analysis of Hess’s 625 MW generating facility so that some of the upgrades attributed to Hess as “but for” interconnection costs would not be necessary for its project.<sup>4</sup> In the alternative, if the Commission finds that PJM’s Tariff does not currently permit such an adjustment to PARs, Hess complains that PJM’s Tariff results

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<sup>2</sup> Although PJM, as a respondent to the “alternative” complaint filed by Hess in this proceeding is granted Party status under 18 C.F.R. Section 385.102(c)(2), PJM files this Motion to Intervene out of an abundance of caution with respect to Hess’ Petition for Declaratory Order.

<sup>3</sup> *Pennsylvania-New Jersey-Maryland Interconnection*, 81 FERC ¶ 61,257 (1997), reh’g denied, 92 FERC ¶ 61,282 (2000); *PJM Interconnection, L.L.C.*, 101 FERC ¶ 61,345 (2002).

<sup>4</sup> Hess Petition at p.2.

in undue discrimination and preferential treatment and that the Commission should require PJM to revise its Tariff and/or Manuals accordingly.<sup>5</sup>

PJM has an interest that will be directly affected by this proceeding because PJM is the transmission provider under, and the administrator of, the PJM Tariff, and is the entity that is responsible for transmission and interconnection planning, as well as for operating the Bulk Power System and the PJM Markets, each which may be adversely affected by the proposals in the Hess Petition. Thus, PJM has a substantial interest in this proceeding that no other party can adequately represent.

### **III. ANSWER**

#### **A. PJM APPROPRIATELY ADJUSTS PARS DURING THE ESTABLISHMENT OF ITS ANNUAL BASE CASE AND CANNOT ADJUST THE PARS AT ANY OTHER TIME PRIOR TO REAL TIME OPERATIONS**

Hess asks the Commission to declare that PJM's Tariff and Manuals currently would permit adjustment to PARs while studying an Interconnection Request. PJM's Tariff and Manuals do not permit such adjustments, for good reason, as described below.

##### **1. PJM Adjusts PARs Only To Establish Its Base Case Model**

In its Petition, Hess argues that there are no provisions in PJM's Tariff or Manuals that explicitly prohibit PJM from adjusting PARs when modeling generator interconnection requests and, thus, the Commission should find that PJM has the authority to do so.

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<sup>5</sup> *Id.* at p. 3.

The procedures governing the use of PARs in PJM planning analyses were vetted through the PJM Planning Committee years ago and have been implemented on a consistent basis in the development of the Regional Transmission Expansion Planning (“RTEP”) process and the performance of interconnection studies. The decision not to allow PAR adjustments with respect to individual contingencies in generator deliverability analyses in either RTEP or interconnection analyses was based on the need to maintain operational flexibility and to prevent the potential shifting of responsibility for baseline transmission upgrades to interconnection customers. The only exception to the rules around PAR movement is related to PJM’s load deliverability test, as will be described later. The PJM Manuals clearly provide for this exception. The Manuals do not specifically identify that such an exception does not exist for generator deliverability and will be made more clear at the conclusion of this proceeding. However, the longstanding practice with respect to the PARs is as described, was appropriately vetted with the PJM stakeholders, and has been applied consistently across both the RTEP and interconnection analyses since its development.

Hess further complains that PJM adjusts PARs for existing generation, and thus it should also adjust PARs for new generation. Hess says that not doing so for new generators interconnecting to the system will result in undue discrimination and preferential treatment because PJM does adjust PARs for existing generators.<sup>6</sup>

Hess’ argument that PJM adjusts PARs for existing generation and thus should do so for new generation confuses operational and planning practices and

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<sup>6</sup> Hess Petition at 16. Hess also claims that it is not actually PJM that adjusts the PARs but that it is Public Service Electric & Gas Company (“PSE&G”) that does so after coordinating with PJM. While PSE&G may physically adjust the angle of a PAR, it does so purely at the direction of PJM as the NERC-registered Transmission Operator because the PAR is a bulk electric system facility.

mischaracterizes PJM's handling of PARs. Further, Hess' suggestion that not to do so will result in undue discrimination and preferential treatment misunderstands the purpose of the tests and obligations imposed through the PJM planning process.

First, PJM's planning process ensures the on-going deliverability of the aggregate of generation resources to the aggregate of customer load (generator deliverability) and the ability of the transmission system to deliver energy to load pockets experiencing greater than normal generator unavailability (load deliverability). Violations of planning criteria with respect to either test impose obligations to reinforce the transmission system on network load, not on existing generating resources. The manner of performing planning analyses cannot result in discrimination in favor of existing generation because no obligation would be imposed on existing generation regardless of the manner of performing such analyses.

With respect to planning, as a matter of course, and as provided for in its Tariff and Manuals, PJM develops a base case each year and pursuant to its Manuals conducts a series of analyses to determine if the system is compliant with all applicable reliability criteria.<sup>7</sup> These analyses include simulation of various critical system conditions as required under the North American Electric Reliability Corporation ("NERC") Transmission Planning ("TPL") standards such as the load deliverability test which determines if a particular area can import sufficient energy during emergency conditions consistent with reliability requirements. For this test, adjustments are made to the system, including varying interchange, reducing load to simulate demand response and adjusting PARs to maximize the amount of power that can be imported to

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<sup>7</sup> PJM Manual 14B: PJM Region Transmission Planning Process, Attachment D.

an area.<sup>8</sup> Because this test simulates emergency operational conditions, which have a lower probability of occurrence, the simulation of these operational actions as a corrective measure in planning analyses is appropriate.

Other tests required by the NERC TPL standards are evaluated at normal, rather than emergency, summer peak load conditions. These tests are evaluated using PJM's generator deliverability testing procedures.<sup>9</sup> Importantly, the conditions under which criteria are tested must be defined by the designated Planning Authority, in this case, PJM. PJM, through its on-going stakeholder processes, has established the conditions under which analyses are performed and the methodologies by which they are performed. In the context of this complaint, load deliverability analyses allow for operational corrections, as described above, because they simulate emergency operational conditions; generator deliverability analyses do not allow for operational correction, such as PAR adjustments, because they simulate normal peak load conditions and, as will be described below,<sup>10</sup> must preserve operational flexibility for system operators to deal with the circumstances that arise, day to day.

PJM completes all of these tests, load deliverability as well as generator deliverability, as part of its baseline analysis. Once the baseline analysis is completed and a base case that is compliant with all reliability criteria is established, it is locked down for purposes of studying both generator and merchant transmission interconnection projects. Indeed, locking down the base case is necessary so that all

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<sup>8</sup> PJM Manual 14B: PJM Region Transmission Planning Process, Attachment C.

<sup>9</sup> None of these criteria tests allow for operational corrections at the conclusion of the contingency event as a means of mitigating the impact of the contingency. One of these tests, for NERC category C3 contingencies which tests the ability of the system to be returned to a reliable state following a contingency, allows for some system adjustments to be made as an interim step between successive contingencies.

<sup>10</sup> See Section III.A.2, *infra*.

interconnection projects are studied against the same model to ensure that there is no undue discrimination or preferential treatment that would impede open access. As explained further below, to adjust PARs during the interconnection analyses stage could very well result in undue discrimination; the very issue with which Hess says it is concerned.

**2. For Several Reasons, It Is Not Appropriate To Adjust The PARs At Any Other Point In Time After the Base Case is Developed and Prior To Real Time Operations**

In its Petition, Hess asks FERC to find that it would be appropriate to adjust two specific PARs on PSE&G's system – the Linden-Bayway PAR and the Essex-Aldene PAR. It says very minor adjustments to those PARs<sup>11</sup> will allow Hess to avoid some \$85 million in upgrades. Hess supplemented its filing on November 21, 2011, explaining to FERC that, based on an updated study conducted by PJM, PJM determined that Hess was no longer responsible for upgrades to the Bayway-Federal Square 138 kV circuit and thus Hess no longer requires the adjustment to the Linden-Bayway PAR.<sup>12</sup> However, Hess did not withdraw its Petition and Alternative Complaint and it continues to seek adjustment to the Essex-Aldene PAR, which it says, would result in reduction of upgrade costs by approximately \$13.5 million.<sup>13</sup> Hess asserts that, pursuant to its own consultant's study, adjusting PARs would have no impact on any other customers, and should not impede PJM's ability to conduct interconnection

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<sup>11</sup> Hess originally argued that PJM should adjust the Linden-Bayway PAR by 1/10 of one degree to achieve the result it seeks, and that PJM should adjust the Essex-Aldene PAR by 1.5 degrees. PARs are not continuously adjustable; there is a discrete number of taps which are roughly equivalent to 1 degree. Thus in this instance the PARs in question would need to be adjusted one or two taps.

<sup>12</sup> *Hess Corporation v. PJM*, Docket No. EL12-7-000, Letter to Secretary Bose (filed Nov. 21, 2011).

<sup>13</sup> *Id.* at 2

studies generally because the PSE&G system is the only system in PJM's footprint with PARs. Hess also claims that its request furthers least-cost interconnection planning that is supported by the Commission as well as prior statements of PJM.<sup>14</sup> While PJM supports least-cost transmission planning as a general matter, Hess' reliance on the *Chesapeake* case to support that PJM should adjust the PARs in question in this proceeding is misplaced. The issue in the *Chesapeake* case related to whether PJM is permitted to identify a different transmission enhancement at the Facilities Study phase than was identified in the System Impact Study stage. The Commission upheld PJM's ability to do so. However, here, Hess asks PJM to modify the underlying assumptions that are used in determining the impacts of interconnecting its project on the transmission system. As shown below, it is not appropriate to modify such planning assumptions.

Hess' portrayal of its proposal to adjust PARs for its project as an easy solution with no actual or potential impact on other customers is incorrect for several reasons. First, Hess inaccurately states that PSE&G is the only zone in PJM's footprint with PARs. This is not the case. PARs exist in other transmission zones including the transmission systems of Commonwealth Edison, Potomac Electric Power Company, Baltimore Gas and Electric and Dominion Resources. Furthermore, just because PJM had not made a finding to date that adjusting the Linden-Bayway or Essex-Aldene PARs would impact other customers in the queue is not dispositive that (1) such an adjustment would not have an impact; and (2) it would not have an impact on another

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<sup>14</sup> Hess Petition at 16-17, *citing Chesapeake Transmission, L.L.C. v. PJM Interconnection, L.L.C.*, Answer of PJM Interconnection, L.L.C., Docket No. EL06-67-000 at 28 (filed May 12, 2006); *Chesapeake Transmission, L.L.C. v. PJM Interconnection, L.L.C.*, Order on Complaint, 116 FERC ¶ 61,234 at P 55 (2006).

interconnection customer down the road. As discussed below, it is likely that adjustment of PARs for one Interconnection Customer would directly or indirectly impact other Interconnection Customers. And for that reason alone it is not appropriate to adjust the PARs.

Further, if PJM is to begin making PAR adjustments during the interconnection analysis phase in response to Hess' Petition, then, contrary to Hess' claim this would be a simple solution for its specific project, PJM will need to do so for all Interconnection Customers where PARs are present. Not only that, but if PJM begins to adjust PARs during its interconnection studies, this opens the door to suggestion that PJM should take into account other options during the interconnection analysis to determine if an Interconnection Customer can come under a violation, such as adjusting transformer taps, redispatching generation, opening of transmission lines, etc. And if PJM takes into account one of these adjustments for one Interconnection Customer, but cannot do so for another Interconnection Customer due to material impacts on other Interconnection Customers in the queue -- which impacts may not become apparent until later on when, for instance, a previously queued project is withdrawn from the queue -- PJM would be exposed to the very undue discrimination claim that Hess is purportedly asking the Commission to address here.

Perhaps even more troubling than the slippery slope with respect to types of operational adjustments PJM could potentially take in its interconnection analyses is that adjusting PARs for Interconnection Customers could have a ripple effect that jeopardizes the reliability of the system.

- **Reduced Operational Flexibility In Real-Time Jeopardizes Reliability:** If Interconnection Customers are permitted to avoid the need for system upgrades by having PARs adjusted during the interconnection study phase, PJM's ability to plan for a robust transmission system and ensure that its system operators can take actions to maintain reliability to serve the 58 million customers in its footprint will be impeded. PJM's system operators need to know that in the real time they have the operational flexibility to adjust PARs to respond to real-time conditions on the system. PARs have a finite range over which they can be adjusted. Although Hess claims that it is only asking for a minor adjustment<sup>15</sup> another interconnection customer may also seek a similar adjustment, possibly a larger adjustment, in the same direction up to the limit of the capability of the PAR in order to obviate the need for an upgrade. If PAR adjustments are allowed during interconnection studies, it seems likely that similar adjustments would be allowed to obviate the need for transmission upgrades in RTEP baseline analyses. Given the limited number of taps on a PAR, system operators' ability to adjust the flows on the system would be reduced having an adverse impact on overall system reliability.
- **Reduced Assurance Of Reliability:** The adjustments required to obviate the need for an upgrade for one Interconnection Customer may be opposite to the adjustments required to obviate the need for an upgrade for another Interconnection Customer— for instance the first Interconnection Customer may require the PAR to be moved 3 taps higher to obviate the need for an upgrade,

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<sup>15</sup> See n.11, *supra*.

the next Interconnection Customer may require the PAR to be moved 2 taps lower to obviate the need for an upgrade, yet another Interconnection Customer may require the PAR to be moved 4 taps even lower to obviate the need for an upgrade. Under PJM's current interconnection procedures, the impact of queued generators that reduce the flow on constrained facilities is not considered in studies for other generators, until an Interconnection Service Agreement is executed, due to the high drop-out rate among queued generation projects. The interaction among interconnection projects requiring opposite operational actions, such as PAR moves, will be extremely complex and may require significant changes to the interconnection study process. If, in such a series of queued generators, all counter-impacts are considered, multiple operational adjustments could be required rather than any transmission system upgrades. If any of these queued projects were to then drop out, there would be significant disruption of the queue. As interconnection projects drop out of the queue, the combination of available operational adjustments could result in a failure of compliance with planning criteria and standards as well as reduced operational flexibility.

- **Consistent Determination of Cost Responsibility for Required System**

**Upgrades:** Adjustments made to PARs will impact the flow on facilities. Cost responsibility for required upgrades is determined based on an interconnection customer's contribution to the flow on a constrained facility. As a result, while not a reliability issue, a PAR adjustment would have a material impact on cost responsibility for other upgrades required for other interconnection customers. PAR adjustments are prohibited in the PJM tariff with respect to the

determination of cost allocation for baseline transmission upgrades. Specifically, Schedule 12 at section (b)(iii)(C)(8) provides that: “Transmission Provider shall not account for the ability to adjust use of phase angle regulators (“PARs”) in the DFAX analysis described in subsection (b)(iii)(C) of this Schedule 12. In the DFAX analysis, all PAR angles shall be fixed at their base case settings.” If the treatment of PAR moves is to be changed with respect to planning and interconnection analyses, the corresponding impacts on cost allocation procedures will also need to be re-examined.

For all of these reasons, PJM’s ability to ensure the reliability of its transmission system will be compromised if it were to adjust PARs during interconnection studies. Thus, the Commission should decline Hess’ request for the Commission to find that PJM’s Tariff and Manuals permits PJM to adjust PARs during interconnection analyses.

**B. PJM SHOULD NOT BE REQUIRED TO REVISE ITS TARIFF TO ALLOW FOR ADJUSTMENT OF PARS IN CONDUCTING INTERCONNECTION ANALYSES**

Hess argues that if the Commission finds that PJM’s Tariff and Manuals do not currently permit adjustments to PARs during the interconnection study phase of an Interconnection Request, then the Commission should find that PJM’s Tariff results in undue discrimination and preferential treatment and that it should be required to revise its Tariff accordingly. PJM respectfully urges the Commission reject Hess’ alternative complaint. Hess’ claims that existing generators are permitted to benefit from PARs adjustments and thus new generators equally should benefit misses the mark as described in detail above with respect to the discussion of generator deliverability and load deliverability. Thus, Hess has not shown that PJM’s tariff is unjust and

unreasonable or unduly preferential; and as a result it has not met its burden of proof to support its complaint.<sup>16</sup> Simply, PJM's adjustment of PARs when establishing the base case used for interconnection studies does not give existing generators any advantage. And, as shown above, there are very good reasons for not adjusting PARs during the interconnection study process.

Even if, for the sake of argument, the Commission were to find that it may be appropriate to adjust PARs during the interconnection study process, such a process change must be vetted through the PJM stakeholder process rather than in response to one company's complaint. PJM values its stakeholders and stakeholder process as a means for ensuring balanced proposals. FERC also supports active stakeholder processes in matters such as planning for a reliable transmission system.<sup>17</sup>

Analytical details concerning the planning process are consistently vetted through the stakeholder process.<sup>18</sup> In fact, PJM currently has an on-going interconnection process reform stakeholder process - the Interconnection Process Senior Task Force ("IPSTF") (which was initiated in part based on issues raised by Hess). Hess admits it has known about the PARs since August 3, 2011.<sup>19</sup> Between that time and when it filed its Petition, there were five IPSTF meetings at which Hess

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<sup>16</sup> 16 U.S.C. 824e(b). See also *Federal Power Commission v. Sierra Pacific Power Co.*, 350 U.S. 348 (1956) (finding that existing rate for sale of electricity is "unjust, unreasonable, unduly discriminatory or preferential" is condition precedent to Commission's exercise of power under FPA Section 206.)

<sup>17</sup> See *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities*, Order No. 1000, 136 FERC ¶ 61,051 (2011), *reh'g pending*. See also, *PJM Interconnection, L.L.C.*, 117 FERC ¶ 61,179, P 43 (2006) ("The Commission continues to believe that the stakeholder process helps to resolve disputes between parties and is entitled to due weight.").

<sup>18</sup> PJM and its stakeholders engage in robust discussions, typically commencing in its Planning Committee, on all manner of analytical details in the planning, interconnection, and load forecasting processes. For instance, currently the stakeholders are reviewing analytical details regarding the generator deliverability process, as well as clarifications concerning the review of interconnection drawings.

<sup>19</sup>Hess Petition at 8.

was present and could have raised this issue. Hess did not. Instead, Hess has chosen to come to the Commission, seeking expedited consideration no less, for a proposal that will necessarily impact the interconnection study process applied to all interconnection projects entering into PJM's queue. Given the nature of what Hess proposes, stakeholders should have opportunity to weigh in on various aspects such as how many PARs taps per Interconnection Customer will we allow, and whether to impose standards that would look at impacts on other Interconnection Customers in the queue.

PJM also wishes to note that, as Hess informed the Commission in its November 21 Supplemental Filing, due to a restudy analysis conducted pursuant to PJM's Tariff, which restudy was in progress prior to Hess' Petition initiating this proceeding, there is no longer a need for Hess to upgrade the Bayway-Federal Square 138 kV circuit, which results in approximately \$55 million less in upgrade costs attributable to Hess' project. This development, however, does not change PJM's position that PJM appropriately does not adjust PARs during interconnection analyses, nor should it be required to do so, for the reasons stated herein.

#### **IV. CONCLUSION**

For the reasons stated herein, the Commission should decline to rule that PJM's Tariff and Manuals would currently permit PJM to adjust PARs during interconnection analyses. Similarly, the Commission should deny Hess' complaint and not order PJM to revise its Tariff to allow for adjustment of PARs during interconnection analyses.

Respectfully submitted,



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Dated: November 23, 2011

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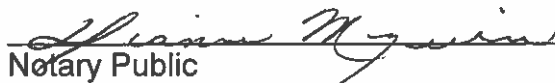
**AFFIDAVIT OF AARON T. BERNER**

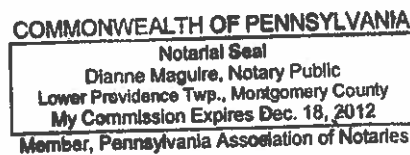
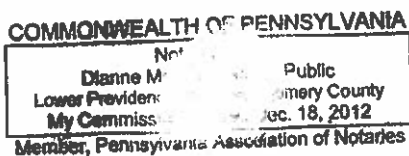
I, Aaron T. Berner, Manager, Interconnection Analysis, at PJM Interconnection, L.L.C. ("PJM") being duly sworn this 23<sup>rd</sup> day of November, 2011, do hereby certify that the information contained in the *Motion to Intervene and Answer* of PJM in the above referenced proceeding is true and accurate to the best of my knowledge, information and belief.



Aaron T. Berner  
Manager, Interconnection Analysis  
PJM Interconnection, L.L.C.

Sworn and subscribed to  
before me on this 23  
Day of November, 2011

 [signature and stamp]  
Notary Public



**CERTIFICATE OF SERVICE**

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

Date at Norristown, PA this 23<sup>rd</sup> day of November, 2011.

/s/ \_\_\_\_\_

Jennifer Tribulski