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UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

PJM Interconnection, L.L.C.) **Docket No. ER14-2940-000**

MOTION TO INTERVENE, COMMENTS AND LIMITED PROTEST OF THE PJM POWER PROVIDERS GROUP

On September 25, 2014, PJM Interconnection, L.L.C. ("PJM") submitted revisions[1] to the PJM Open Access Transmission Tariff ("Tariff") to revise certain elements of the Reliability Pricing Model ("RPM") following a comprehensive independent review of RPM and an intensive stakeholder process to consider changes to RPM's auction parameters ("PJM Filing").

On September 26, 2014, the Federal Energy Regulatory Commission (the "Commission") issued a Combined Notice of Filings #1 setting October 16, 2014, as the deadline for filing an intervention or protest regarding PJM's 205 Filing. Pursuant to Rules 211 and 214 of the Rules of Practice and Procedure of the Commission, 18 C.F.R. §§ 385.211 and 385.214 (2011), the PJM Power Providers Group ("P3")[2] hereby moves to intervene, and provides these comments and limited protest, in the above-captioned proceeding.

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[1] *PJM Interconnection, L.L.C.,* Docket No. ER14-2940-000 (filed September 25, 2014) ("PJM filing").

[2] The comments contained herein represent the position of P3 as an organization, but not necessarily the views of any particular member with respect to any issue. For more information on P3, visit www.p3powergroup.com.

I. MOTION TO INTERVENE

P3 is a nonprofit corporation dedicated to promoting policies that will allow the PJM region to fulfill the promise of its competitive wholesale electricity markets. P3 strongly believes that properly designed and well-functioning competitive markets are the most effective means of ensuring a reliable supply of power to the PJM region, facilitating investments in alternative energy and demand response technology, and promoting prices that will allow consumers to enjoy the benefits of competitive electricity markets. Combined, P3 members own over 87,000 megawatts ("MWs") of generation assets, own over 51,000 miles of transmission lines, serve nearly 12.2 million customers and employ over 55,000 people in the PJM region – encompassing 13 states and the District of Columbia. Thus, P3 has a substantial interest in this proceeding.

P3 is an interested party, and its intervention and participation will promote the public interest in viable and competitive wholesale markets. P3 is not now, nor will be, adequately represented by any other party in this proceeding, and may be bound or adversely affected by the Commission's action herein.

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II. BACKGROUND

The PJM Tariff requires that for the 2018-2019 Delivery Year and for every fourth Delivery Year thereafter PJM perform a review of the shape of the Variable

Resource Requirement ("VRR") curve used to clear the RPM auctions and key inputs to that curve.[3] In pursuit of that mandate, PJM retained The Brattle Group ("Brattle") as an independent consultant to assist with this triennial review of RPM and to conduct the required performance assessment. Brattle conducted two studies: The Third Triennial Review of the Variable Resource Requirement Curve ("2014 VRR Report")[4] and Cost of New Entry Estimates for Combustion Turbines and Combined Cycle Plants in PJM ("2014 CONE Study").[5] In May 2014, Brattle completed their reports which then led to a PJM-facilitated a stakeholder process that considered tariff changes to support Brattle's findings and recommendations. P3 member companies actively participated in this stakeholder process. On September 25, 2014, PJM filed the tariff changes with the Commission.

III. COMMENTS AND LIMITED PROTEST

As an organization, P3 has consistently supported efforts to improve and enhance PJM's capacity market. PJM procures capacity through RPM to satisfy its responsibility to maintain reliability over its system. Properly structured capacity markets offer enormous value to consumers by ensuring reliability at a just and reasonable cost, and the Commission and PJM should be commended for their commitment to improve them.

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[3] Tariff, Attachment DD, section 5.10(a)(iii).

[4] The Brattle Group, *Third Triennial Review of PJM's Variable Resource Requirement Curve* (May15, 2014) http://www.brattle.com/system/publications/pdfs/000/005/009/original/Third_Triennial_Review_of_PJM's_Variable_Resource_Requirement_Curve.pdf?1400252215("2014 BRATTLE VRR Curve Report") PJM Filing Attachment E.

[5] The Brattle Group, *Cost of New Entry Estimates for Combustion Turbines and Combined Cycle Plants in PJM* (May 15, 2014), http://www.brattle.com/system/publications/pdfs/000/005/010/original/Cost_of_New_Entry_Estimates_for_Combustion_Turbine_and_Combined_Cycle_Plants_in_PJM.pdf?1400252453 ("Brattle 2014 CONE Report"); PJM Filing Attachment D.

P3 supports many of the revisions to the Tariff proposed by PJM in its filing as improving a market construct to ensure that it supports reliability at a just and reasonable cost to consumers. However, while P3 supports many of the tariff changes, it specifically protests others and urges the Commission to make further refinements.

A. THE CHANGES TO THE VRR CURVE ARE APPROPRIATE

In order for capacity markets to work as intended, it is imperative that the foundations of the RPM auction be set appropriately. In particular, the Cost of New Entry ("CONE") must reflect market conditions and the Variable Resource Requirement ("VRR") curve must yield stable investment signals over the long run. If these foundations are established correctly, RPM will perform better over both the short-run and the long-run. As a result, resource adequacy will be met at the lowest possible cost to consumers.

P3 agrees with PJM's proposed changes to the shape of the VRR curve as recommended by the Brattle Group and PJM's recommendation to shift the curve 1% to the right.[6] The proposed shape and the shift of the demand curve will enhance the long-run performance of the curve, ultimately improving auction outcomes, and supporting long-run reliability. As PJM noted, Brattle found that the current VRR Curve will not meet the fundamental reliability objectives. As a result, Brattle recommended and PJM has proposed changes to the VRR Curve

[6] P3 wishes to stress that the 1% shift of the curve should be viewed as a minimum requirement. Even with this 1% shift the Brattle Group modeling predicts that RTO will fail to meet the NERC reliability standard of 1 day in 10 years loss of load expectation ("LOLE"), 16% of the time and that the system will experience a 1 day in 5 years LOLE (twice as unreliable as the NERC standard), 7% of the time. *See* PJM Filing, Attachment C (Sotkievicz Affidavit), P 10, Attachment E (Newell/Spees Affidavit), p. 15, Table 1. It can be even contended that, given the predicted results from the Brattle Study, the PJM recommended curves still fail to meet the NERC requirements and that further adjustments to the Demand Curve to improve reliability are required.

to address these concerns.[7] PJM stated "large price movements, associated with changes in net supply and demand that are reasonably expected for RPM, underscore that the current, relatively steeply sloped VRR Curve can produce considerable price volatility. Brattle concludes from this analysis that "'it may be beneficial to increase the width of the VRR [Curve] to provide some additional volatility mitigation benefit, or to right-shift the curve to protect against very low future reliability outcomes.'"[8] P3 supports PJM's proposal, and encourages the Commission to accept PJM's proposed VRR Curve adjustment.

P3 also supports PJM's retaining the Combustion Turbine ("CT") as the reference resource technology. As Brattle concluded, "maintaining a single reference technology over time can be expected to yield an accurate Net CONE value in expectation over time," and therefore, PJM proposed no change to the current Tariff specification of a CT as the reference resource.[9] A CT represents the marginal resource used to serve load on a peak day in the peak hour in PJM and its use as the reference technology is therefore supported by actual market experience. P3 agrees there is value in maintaining stability of the reference resource and supports the continued use of the CT as the reference resource technology.

Further, P3 supports PJM's retaining the historical Net Energy and Ancillary Services Revenue Offset that is focused on the most recent three years of energy price and fuel cost data.

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[7] PJM Filing, pg. 9.

[8] PJM Filing, pg. 15.

[9] PJM Filing, pg 38.

B. THE ASSUMPTIONS USED TO DEVELOP THE COST OF NEW ENTRY ARE INCORRECT

1. Incorrect Cost of Capital Assumptions

Although P3 supports many of the PJM proposed tariff changes, it specifically protests and disagrees with PJM's proposed cost of capital assumptions, which significantly diverge from the current state of the market in a manner that materially alters the CONE calculation. Specifically, P3 is concerned that the cost of debt, cost of equity and the debt/equity ratio are not reflective of current market conditions. In turn, the unrealistically low cost of capital assumption employed in the CT reference unit CONE calculation results in an understated CONE that is used to set the height of the VRR Curve. Moreover, as the Brattle Study demonstrates, setting the CONE too low can seriously undermine the operation of RPM and can degrade the predicted reliability of the PJM system to levels far below the applicable standard.

According to an analysis prepared by the PA Consulting Group and presented to the PJM stakeholders in July, Brattle's after-tax weighted average cost of capital ("ATWACC") numbers are inappropriately below market. P3 agrees with the well-documented PA Consulting analysis that places the ATWACC number closer to 13% than the 8% proposed by Brattle. The cost of capital values used in the reference unit calculations – especially for the CT reference unit – need to be revised to more accurately reflect real market conditions in order for RPM to operate as designed. In the absence of this change, the PJM Filing, is not just and reasonable.[10]

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[10] As the United States Supreme Court stated "Under the statutory standard of 'just and reasonable,' it is the result reached, not the method employed, which is controlling. *FPC v. Hope Natural Gas Co.*, 320 U.S. 591, 602 (1944) (footnotes omitted).

PA Consulting's review is based on three components of Net CONE: the Debt-to-Equity Ratio ("D/E" Ratio"), Cost of Debt ("COD") and Cost of Equity ("COE") parameters. [11] As stated in the attached Affidavit 1 of Mr. Ryan Hardy and Mr. Mark Repsher ("Affidavit 1"), PJM underestimates ATWACC by 1 to 5.5 percentage points when adjusting the D/E Ratio, COD and COE parameters "to reflect more appropriate and realistic values."[12]

a. **<u>PJM's Proposed Methodology Utilizes Incorrect Metrics</u>**

Mr. Hardy and Mr. Repsher note that PJM's methodology skews PJM's proposed ATWACC and is unreasonable. "[T]he majority of recent and current financings in the PJM market for single asset investment/development have been completed on a project-level basis, which affects achievable D/E Ratios, CODs and COEs."[13] The methodology proposed by Brattle and endorsed by PJM "relies upon a mix of inappropriate corporate financial metrics and circular logic to arrive at the component pieces that build up to its 8.0% ATWACC recommendation." [14] Affidavit 1 highlights that Brattle incorrectly uses corporate-level, publicly-traded, Independent Power Producers ("IPP") financial metrics,[15] which ignore recent and current new build generation development in PJM. As a result, PJM's ATWACC recommendation is largely irrelevant and too low.[16] Mr. Hardy and Mr. Repsher note that "the vast majority of recent and current new build

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[11] Affidavit of Mr. Ryan Hardy and Mr. Mark Repsher in Support of Comments and Limited Protest of PJM Power Providers, , ("Affidavit 1), pg.1.

[12] Affidavit 1, pg. 1. .

[13] Affidavit1 P. 5.

[14] Affidavit 1, P. 6.

[15] Affidavit 1, P. 6a.

[16] Affidavit 1, P 6a.

generation development in PJM (and across the United States) is being driven by private equity and power generation development shops, which finance investments at the project level."[17] Mr. Hardy and Mr. Repsher found that more than 70% of the natural gas-fired projects (by capacity) currently under development in the PJM market are being developed by private equity or power generation development shops, and less than 10% of thermal capacity currently under development in PJM is being pursued by publicly-traded IPPs.[18] The current development environment impacts the underlying D/E Ratio, COD and COE.[19]

b. **<u>The Debt-to-Equity Ratio is Unreasonable</u>**

PJM proposes to utilize a D/E Ratio of 60% debt and 40% equity ratio. As the Affidavit 1 analysis reveals this debt leverage is overstated. Brattle's recommendation of the 60/40 D/E Ratio is based on using an *average* of CC and CT reference technology. PJM proposed, and P3 supports, using CT as the sole reference technology, yet PJM makes no adjustment to the financial parameters for this difference. This is significant because the gross margin profile of a CT "is inherently more risky than that of a CC, . . . and [Mr. Hardy and Mr. Repsher] would expect PJM's debt leverage analysis to yield a lower percentage for CTs (and thus, a lower D/E ratio.)"[20] Furthermore, current actual development projects in PJM have averaged a 56/44 D/E Ratio.[21] As Affidavit 1 points out, FERC has historically used a lower D/E Ratio for the CT reference technology, with

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[17] Affidavit 1, P 6a.

[18] Affidavit 1, P 7a, b.

[19] Affidavit 1, P 9.

[20] Affidavit 1, P 11a.

[21] Affidavit 1, P11b.

Brattle in 2011 and the 2013 NERA Study in New York recommending a 50/50 D/E ratio utilizing CT as the reference technology. [22] In addition, in ISO-NE, the approved 60/40 D/E Ratio is for a CC that allows new build generation to secure capacity payments for up to 7 years, which creates a more stable and secure revenue stream for financing when compared to PJM's capacity market where RPM revenues can be secured for only one year.[23] Mr. Hardy and Mr. Repsher's analysis shows that a more reasonable D/E Ratio is 45/55 to 50/50.[24]

c. **<u>The Cost of Debt is Not Supported</u>**

PJM proposes to utilize a pre-tax rate COD of 7.0%. Mr. Hardy and Mr. Repsher find that a higher COD is more reasonable based on several factors. Affidavit 1 notes that 7.0% CODs could be achievable, but not in PJM at D/E Ratio of 60/40. The D/E Ratio would need to be 50/50 or lower.[25] Further, with the CT reference technology, Mr. Hardy and Mr. Repsher would expect a higher COD and/or lower D/E Ratio based on the higher risk profile of a CT investment,[26] and based on other studies that Mr. Hardy and Mr. Repsher reviewed, Brattle's pre-tax COD is low.[27] Mr. Hardy and Mr. Repsher state that "the majority of recent and current financings in the PJM market are for single asset investment/development, have been completed on a project-level basis, and have

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[22] Affidavit 1, P 11c.

[23] Affidavit 1, P 11d.

[24] Affidavit 1, P 12.

[25]Affidavit 1, P 14b.

[26] Affidavit 1, P 14 c.

[27] Affidavit 1, P 14a, d.

exhibited pre-tax CODs higher than those indicted in the 2014 Brattle Study."[28] Therefore, they believe a reasonable range for CC and CT project-level debt financing of 7 to 9% with the range depending on specific project risk and debt leverage levels, however, they "do not believe the 7% COD assumed by Brattle would be reasonably achievable under Brattle's proposed 60/40 D/E Ratio for a new build CT in PJM ".[29]

d. **<u>The Cost of Equity is Unreasonably Low</u>**

While PJM proposes to utilize a COE rate of 13.8%, P3 argues that this rate is unreasonably low. Mr. Hardy and Mr. Repsher emphasize, that incorrectly setting the COE parameters, as well as the other parameters discussed above, "ignores the fact that publicly traded IPPs have a lower risk profile than merchant new build power generation investors, which include private equity and power generation development shops. The publicly traded IPPs have not, and are not likely to, engage in the majority of new build generation development activity required to ensure reliability in PJM unless the risk profile of the market substantially changes." [30] Mr. Hardy and Mr. Repsher observe that it is unclear how the COE metric has been calculated and this metric is perhaps a figure that has been backed-into.[31] Further, they note that the COE of 13.8% is at the "low end of a reasonable zone for actual (active) project developer and investors in the PJM market."[32] The private equity and power generation development shops, "are in general not as geographically, technologically, and/or contractually diverse as their IPP counterparts,

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[28] Affidavit 1, P 15.

[29] Affidavit 1, P. 16.

[30] Affidavit 1, P. 17.

[31] Affidavit P. 18.

[32] Affidavit 1, P 19.

thus adding incremental risk associated with discrete project development."[33] The proposed 13.8% COE parameter is "likely below the floor" taking into account factors that surround actual project development within the PJM market and corresponding risk profile, and the "inclusion of construction development and merchant operating risk creates incremental risk premiums that push the zone of reasonableness for COE above this floor. . . ."[34] In addition, the CT's greater reliance on capacity revenues presents a risker investment than a CC project, and this was not accounted for in PJM's proposal.[35] Mr. Hardy and Mr. Repsher found based on their observations that the reasonable COE parameter is from 15% to 20%.[36]

2. <u>Recommended Cost of Capital Assumptions</u>

P3 supports as just and reasonable the recommended methodology presented by Mr. James A. Heidell and Mr. Mark Repsher in the attached Affidavit 2 ("Affidavit 2") that the preliminary recalculated ATWACC as 10.80%[37]. Relying on corporate-level financial metrics, as Brattle has done and PJM has proposed, to derive the ATWACC parameters is inappropriate as it ignores the reality of the current market environment in which the vast majority of new build generation development projects in PJM are pursued by private equity and power generation shops.[38] P3 agrees with Mr. Heidell and Mr. Repsher that a methodology must be "market-based, relying on publically-available

[33] Affidavit 1, P 20.

[34] Affidavit 1, P 20a.

[35] Affidavit 1, P 20 c.

[36] Affidavit 1, P 21.

[37] Affidavit of James A. Heidell & Mark Repsher in Support of Comments and Limited Protest of PJM Power Providers, ("Affidaivit 2") P. 14b.

[38] Affdavit 1, P 24.

data of actual financing structures, and, where appropriate, allow for adjustments to be made to properly align the metrics with the actual risk profile of the reference technology and the companies developing those projects."[39]

As Mr. Heidell and Mr. Repsher have shown, the PJM proposed Net CONE values are not just and reasonable. Affidavit 2 outlines appropriate parameters for D/E Ratio, COD, and COE which are just and reasonable. All three parameters should be based upon a proxy group derived from debt and equity requirements and actual financing activity that are revealed in new development projects that cleared Base Residual Auction ("BRA") Delivery Years 2015/2016, 2016/2017, and/or 2017/2018, and which achieved financial close ("Recent PJM Development Activity").[40] As Mr. Heidell and Mr. Repsher conclude, it is inappropriate for PJM to rely on methodologies that exclude most of the active investors in the market.[41] P3 supports the approach offered by Mr. Heidell and Mr. Repsher presenting a 50/50 D/E Ratio,[42] COD of 8.50%,[43] and COE of 16.5%[44] As Affidavit 2 shows inputting these parameters result in recalculated ATWACC of 10.80%.,[45] and a recalculation of Gross CONE of 25% which ultimately effects Net CONE and reliability.[46] Notwithstanding the findings of Mr. Heidell and Mr. Repsher are preliminary, their findings and analysis are much more robust and

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[39]Affidavit 2, P 14d..

[40] Affidavit 2, P 5 (D/E Ratio); P 7 (COD), P 11 (COE); and FN 6. .

[41] Affidavit 2, 14 c.

[42] Affidavit 2, P 6, Table 1.

[43] Affidavit 2, P 8 , Tables2A,, 2B, 2C, 2D, 2E.

[44] Affidavit 2 , P 12, Table 3.

[45] Affidavit 2, P 14 b. and Table 4.

[46] Affidavit 2, P14 b.

compelling than that done by Brattle regarding the cost of funds. P3 believes that Mr. Hardy, Mr. Heidell and Mr. Repsher have demonstrated a disputed issue of material fact as to the appropriate cost of funds.

Therefore, P3 respectfully requests that the Commission set this issue for hearing or settlement procedures to allow for a full consideration of the cost assessment. FERC has broad discretion to manage its proceedings, [47] and relying on this general authority, the Commission has routinely addressed individual issues and left others for consideration in subsequent hearings.[48] The Commission has the authority to set the issue of determining proper cost of capital parameters for hearing or settlement, even if the Commission decides to accept other aspects of PJM's filing.

3. **<u>Importance of Correct Net CONE and Effect of Net CONE Being Too Low</u>**

As Brattle observed getting Net CONE correct is critical:

> Accurate estimates of CONE, E&AS, and ultimately Net CONE are critical to RPM meeting its objectives because they provide the benchmark prices that define the administratively-determined demand curve for capacity (i.e., the variable resource requirements, or VRR, curves). Without accurate Net CONE estimates, the VRR curves cannot be expected to procure the target amounts of capacity needed to satisfy PJM's resource adequacy requirements. Net CONE values are also used to establish offer price

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[47] *See e.g. Florida Municipal Power Agency v. FERC*, 315 F.3d 362, 366 (C.A.D.C. 2003) ("Administrative agencies [such as FERC] enjoy 'broad discretion' to manage their own dockets")(emphasis included); *see also Algonquin Gas Transmission Co. v. FERC*, 948 F.2d 1305, 1315 (C.A.D.C. 1991) citing *Assoc. of Business Advocating Tariff Equity v. Hanzlik*, 779 F.2d 697, 701 (D.C. Cir. 1985) (the Commission has well-established discretion to "order [its] own proceedings and control [its] own docket").

[48] *See Boroughs of Ellwood City, et al. v. FERC,* 701 F.2d 266, 268 (3rd Cir. 1983) ("*Boroughs*") (citing *Pennsylvania Power Company,* 18 FERC ¶ 61,043 (1982) ("*Pennsylvania Power Company*")). In *Pennsylvania Power Company,* the Commission explicitly proclaimed its authority to decide a particular issue, whether a company's rates were "just and reasonable," and address other pending issues in a later hearing. S*ee also Michigan Public Power Agency, et al. v. FERC,* 963 F.2d 1574, 1577 (D.C. Cir. 1992); *Algonquin Gas Transmission Co.*, 49 FERC ¶ 61,029, 61,109, 61,113 (1989) *See also* 138 FERC ¶ 61,062 (2012.

screens for market mitigation purposes under the Minimum Offer Price Rule ("MOPR") for new generation offering capacity into RPM.[49]

Furthermore, it is important for Net CONE to specifically not be too low. According to the PJM Filing, a 20% underestimation in the Net CONE, results in an average Loss Of Load Expectation ("LOLE") of 0.18 or about 1-day-in-5.5-years[50] -- almost twice as unreliable as the NERC 1-day-in-10-years standard. An earlier analysis by the Brattle Group presented to the PJM Markets and Reliability Committee meeting further demonstrates that a 20% underestimate in the Net CONE for the RTO, results in a failure to achieve the reliability standard, 42 % of the time and that reliability falls below a 1-day-in-5-years standard 28 % of the time.[51] This concern is also presented for the Locational Deliverability Areas ("LDAs"). Thus, Brattle found that in the LDAs, "…underestimating Net CONE results in substantially degraded reliability under the current VRR curve as well as all of the alternative curves.[52] Table 20 of the "2014 VRR Report, VRR Curve Performance" with 20% Under-Estimate in Net CONE, vividly demonstrates the general risk to reliability in the LDAs with Net CONE underestimated.[53] As Mr. Heidell and Mr. Repsher note, a more realistic calculation of Gross CONE under their analysis indicates that the

[49] Brattle 2014 CONE Report, page iii; PJM Filing, Affidavit D, pg 38.

[50] PJM Filing, Attachment E, p. 14. , Affidavit of Dr. Samuel A. Newell and Dr. Kathleen Spees on Behalf of PJM Interconnect, L.L.C.

[51] See Brattle Group April 28, 2014 presentation to PJM Markets and Reliability Committee, p. 47 (available at http://www.pjm.com/~/media/committees-groups/committees/mrc/20140429-cone/20140429-triennial-review-of-rpm-brattle-draft-study-results.ashx)

[52] Brattle 2014 VRR Curve Report, pg. 89; PJM Filing Affidavit E pg. 150.

[53] Brattle 2014 VRR Curve Report, Table 20 "pg 90; PJM Filing Affidavit E, pg 151. (The PJM recommended curve is not depicted on this page but it is reasonable to conclude that its operation would also be materially affected by a 20% underestimation on Net CONE.)

PJM proposed Gross CONE value understands the actual cost of new entry by the CT reference unit in the range of 25%, based on the Brattle analyses, presents a significant reliability issue.[54]

C. PJM'S PROPOSED LABOR COST ADJUSTMENT SHOULD BE REJECTED AND THE SARGENT & LUNDY PROPOSED VALUES SHOULD BE ACCEPTED OR, IN THE ALTERNATIVE, SUSPENDED AND SET FOR HEARING

Notwithstanding the significant enhancements associated with certain aspects of the PJM filing, P3 opposes PJM's proposed reductions in labor costs from the Sargent & Lundy calculations for CT gross CONE values used to set the VRR Curves. First, as shown below, PJM's support for the labor costs adjustments is facially inadequate because it relies upon a key input supplied from a consultant's report that is not part of the record in this proceeding and for which PJM's witness has not supplied any independent verification. For this reason alone, the labor cost adjustment should be rejected; instead the values for labor costs from the Sargent & Lundy report, which are supported in the PJM filing, should be used.

Second, even if PJM is deemed to have satisfied its burden of persuasion for the proposed labor cost adjustment, the level of the adjustments raise issues of material fact and, accordingly, have not been shown to be just and reasonable. As demonstrated by the affidavit of Mr. Robert H. Uniszkiewicz (attached hereto as Affidavit 3), the labor cost values proposed by PJM are flawed because they do not reflect the actual experience of companies engaged in construction of generating facilities within the PJM footprint and, in particular, within CONE Area 1. PJM's adjustment understates effective hourly wage rates, overstates reasonably expected productivity levels and understates the basic number of hours required to construct the reference CT unit. The Sargent & Lundy values are more realistic and should be employed.

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[54] Affidavit 2, P 14 b.

1. The Labor Cost Adjustment Proposed by PJM Has Not Been Adequately Supported in the Record and Should be Rejected

As part of the CONE Report, Sargent & Lundy preformed comprehensive "bottoms up" estimates of the construction costs associated with CT and CC reference units. These estimates were incorporated into the Brattle Group calculation of the gross CONE for each of these units. One of the primary consultants at Sargent & Lundy, Mr. Christopher Ungate, supplied an affidavit as part of the PJM Filing in support of the Sargent & Lundy estimates.

As part of the PJM stakeholder process for the Triennial Review, the PJM Independent Market Monitor (IMM) proposed an alternate gross CONE calculation for the reference CT in CONE Area 1. This included several adjustments to the Sargent & Lundy estimates, including a revised value for the cost of construction labor that is substantially below the Sargent & Lundy estimate. According to the affidavit of Dr. Paul Sotkiewicz, one of PJM's witnesses, the IMM also supplied adjustments reducing the labor cost values in the other four CONE Areas, as well.[55] The PJM Board of Managers subsequently adopted the Sargent & Lundy estimates but adjusted them to reduce the estimated labor costs based on the IMM presentations.

Dr. Sotkiewicz's affidavit purports to demonstrate, based on his own analysis, that the labor cost values provided by the IMM for the CT reference unit are "quite close" to values he determined independently.[56] The methodology used by Dr. Sotkiewicz to support his labor costs estimates is based on the product of three components: a labor wage value derived primarily from Bureau of Labor Statistics data, a productivity factor primarily based on "[d]iscussions with Sargent & Lundy" and a base case "required labor hours" of 360,000 labor hours taken from a

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[55] Counsel has been unable to identify a presentation provided to the PJM stakeholders that includes the labor cost adjustments proposed for CONE Areas 2 to 5.

[56] The affidavit supplied by Mr. Uniszkiewicz actually shows that the values calculated by Dr. Sotkiewicz vary in the range of about 1% lower to about 45% lower than the Stantec values depending on the CONE Area and whether the upper or lower bounds of the range in labor wages is used.

report stated to have been prepared by Stantec Consulting Services, Inc, ("Stantec"). The Stantec report, however, is not part of the record in this case and does not appear to have ever been made available to stakeholders.

As shown below, P3 disputes the values used in Dr. Sotkiewicz's calculation for the reasons demonstrated in Mr. Uniszkiewicz's affidavit. However, as an initial matter, P3 also contends that PJM has failed even to carry its initial burden of proof on this issue. While Dr. Sotkiewicz does include some support for the first two components of the calculation he uses to verify the IMM values – the wage rates and the productivity factor -, he fails to include any record support for the third element of that calculation – the "required labor hours" taken from the Stantec report. Dr. Sotkiewicz does not profess to have any independent knowledge of the accuracy of the 360,000 labor hours value nor does any other witness supporting the PJM filing. The 360,000 labor hours value thus is a hard-wired value that the Commission is being asked to accept on trust because a consulting firm that is not participating in the case has said it's so. Indeed, the only other "support" supplied by Dr. Sotkiewicz is the number of construction hours estimated by CH2M Hill in the 2011 CONE proceedings which the Commission set for hearing on various issues including the cost of labor which was also disputed in that case.

P3 thus respectfully submits that the Commission should find that PJM has not carried its burden of proof on the proposed labor cost adjustments. As stated by ALJ H. Peter Young in a recent proceeding:

> It is the responsibility of an expert witness in the first instance, and, ultimately, of reviewing/filing counsel, to ensure that any pre-filed narrative testimony is accompanied by appropriate supporting evidence. Since witnesses and reviewing counsel are expert in their respective fields, the presumption must be that narrative testimony references to materials not included in supporting exhibits are included for illustrative purposes only, and not intended as supporting evidence. Each participant is entitled to determine the appropriate scope of evidence required to support its case. Accordingly,

> each participant also must accept the consequences in the event its supporting evidence proves inadequate. Absent extraordinary circumstances, a presiding judge should not intervene in such matters. The judge should decide the case before him/ her on the record evidence actually presented by the participants, not on the evidentiary record they *should* have developed to adequately support their positions.[57]

Here the lack of any record support for the Stantec value for required labor hours – which amounts to double hearsay[58] -- repudiates any probative force of this portion of Dr. Sotkiewicz's affidavit. As described by ALJ Young, the 360,000 labor hour value should be viewed as "not intended as supporting evidence." Accordingly, the fully supported presentations of Mr. Ungate, from Sargent & Lundy, should be treated as PJM's case in chief.

2. The Labor Cost Values Proposed By PJM/Stantec Are Not Realistic

In support of their protest and request to reject, P3 submits the affidavit of Mr. Uniszkiewicz (the "Uniszkiewicz Affidavit"), an engineer employed by PSEG Services Corporation with extensive experience in preparing estimates and monitoring the construction of power plants. The Uniszkiewicz Affidavit finds that Sargent & Lundy's expert, Mr. Christopher D. Ungate's overall calculation for gross CONE for the reference unit CT in CONE Area 1 as established in the report entitled "Cost of New Entry Estimates for Combustion Turbine and Combined Cycle Plants in PJM with June 1, 2018 Online Date" ("CONE Report") is generally reasonable even though it may be on the low end of the reasonable range. The Uniszkiewicz Affidavit further refutes the proposal by Dr. Sotkiewicz, to adjust Mr. Ungate's estimate and reduce the level of CT labor costs based on valuations performed by Stantec. Specifically, as shown in Mr. Uniszkiewicz affidavit, all three of the components used in the calculation

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[57] BP Pipelines (Alaska) Inc., et al, 146 FERC ¶ 63,009, P 4 (2014).

[58] Dr. Sotkiewicz states that he took the 360,000 labor hour figure from the Pasteris Study that, in turn, relied upon the Stantec study.

performed by Dr. Sotkiewicz for the purpose of verifying the Stantec labor cost values actually understate the true labor construction costs. Mr. Uniszkiewicz's affidavit focuses primarily on CONE Area 1 but he also makes observations regarding the other CONE Areas.

First, Mr. Uniszkiewicz shows that Dr. Sotkiewicz understates the applicable wage rates because he apparently assumes that the work will be performed under a 40 hour work week. In fact, as shown by Mr. Uniszkiewicz, a 50 hour work week is typical for this type of project because the inclusion of overtime is needed to attract high quality workers. Mr. Uniszkiewicz estimates that Dr. Sotkiewicz's labor wage values are understated by 8% to 10% for CONE Area 1. Second, Mr. Uniszkiewicz shows that Dr. Sotkiewicz's productivity values are also understated because of his assumption of a 40 hour work week. In fact, when workers remain on the job beyond a 40 hour work week their productivity deteriorates. Thus, for CONE Area 1, Mr. Uniszkiewicz determined that Dr. Sotkiewicz's value of 1.16 was too low and that, given an assumed 50 hour work week, an appropriate value would be 1.21. Mr. Uniszkiewicz also observes that, while he does not opine on specific wage rates or productivity values other than for CONE Area 1, Dr. Sotkiewicz apparently erred by assuming a 40 hour work week would apply to construction in CONE Areas 2 to 5 which would tend to understate the true labor costs in those areas as well.

Third, Mr. Uniszkiewicz showed that Dr. Sotkiewicz's unsupported adoption of the 360,000 value for base labor hours for construction of the CT reference unit was inconsistent with his experience on other combustion turbine projects in New Jersey and Connecticut. According to Mr. Uniszkiewicz's calculation, based on actual projects completed in 2012, the Stantec number is understated by about 135% for CONE Area 1. Mr. Uniszkiewicz also performs a calculation using the values for labor wages and productivity from Dr. Sotkiewicz's affidavit (and which Dr. Sotkiewicz indicates were vetted with Sargent & Lundy) to reconstruct from the Sargent & Lundy labor cost estimates, the base case for required labor hours to construct the CT reference unit. He shows in this analysis that the implied Sargent & Lundy estimates of unadjusted labor hours required for construction of the reference unit CT appear to be about 76% higher than the Stantec value of 360,000 hours for CONE Area 1. Mr. Uniszkiewicz then also performs this same analysis for the other CONE Areas and calculates that the implied Sargent & Lundy values for required construction hours are between 58% and 119% higher than the 360,000 hour value stated by Stantec.

In sum, the Stantec estimates of construction labor costs are grossly understated for all five CONE areas and have a substantial impact on the overall gross CONE values for those areas.

3. **Alternative Request for Suspension and Hearing**

PJM has not satisfied the burden to support the proposed labor cost adjustment and the level of the adjustments raise issues of material fact and, accordingly, have not been shown to be just and reasonable. The Sargent & Lundy values are more realistic and should be employed. Unless the Commission finds, as requested supra, that the Sargent & Lundy values should be treated as PJM's case in chief, these differences present a material issue of fact and should be set for hearing.

IV. CONCLUSION

For the foregoing reasons, P3 respectfully requests that the Commission grant this motion to intervene, consider its comments, accept certain elements of PJM's filing while rejecting and set a hearing for the cost of capital parameters, and accept the Sargent & Lundy labor values.as detailed above.

Respectfully submitted,

On behalf of the PJM Power Providers Group
By: */s/ Glen Thomas*___________

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October 16, 2014

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 16th day of October, 2014.

On behalf of the PJM Power Providers Group
By: */s/ Glen Thomas* ______________

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