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November 19, 2010

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
Kentucky State Board on Electric Generation & Transmission Siting
211 Sower Boulevard
P.O. Box 615
Frankfort, KY 40602-0615

RE: Case No. 2010-00203

Dear Mr. Derouen:

Please find enclosed an original and 11 copies of the Post Hearing Brief of PJM Interconnection, LLC, in the Application of Duke Energy Kentucky to transfer control of its transmission assets from the MISO to PJM.

Should you have any questions or concerns, please do not hesitate to contact me.

Sincerely,

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COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF DUKE ENERGY KENTUCKY, INC. FOR APPROVAL TO TRANSFER FUNCTIONAL CONTROL OF ITS TRANSMISSION ASSETS FROM THE MIDWEST INDEPENDENT TRANSMISSION SYSTEM OPERATOR TO THE PJM INTERCONNECTION REGIONAL TRANSMISSION ORGANIZATION AND REQUEST FOR EXPEDITED TREATMENT	)	Case No. 2010-00203

POST-HEARING BRIEF OF
PJM INTERCONNECTION, L.L.C.

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I. INTRODUCTION

PJM Interconnection, L.L.C. (PJM) hereby submits its post-hearing brief for consideration by the Kentucky Public Service Commission (Commission) in the above-referenced matter. PJM appreciates the opportunity to summarize certain points and issues raised during the cross-examination of Duke Energy Kentucky (DukeKY) witnesses, in order to provide the Commission a clearer understanding of the record on which the Commission may base its decision in this proceeding.

The discussion in Section II, *infra,* addresses four specific topics raised on a number of occasions during the cross-examination of Duke's witnesses:

- The manner in which DukeKY's share of PJM Regional Transmission Expansion Plan costs will be determined upon DukeKY's integration with PJM;
- Recognition of regional peak load diversity in the PJM capacity construct: how it provides benefits to DukeKY by lowering the Installed Reserve Margin (IRM) effective for DukeKY when the Duke zone peak is recognized as coincident with the PJM peak;
- The impact of available types of transmission service *(i.e.,* network transmission service and firm point-to-point transmission service) on DukeKY's ability to sell capacity to load in PJM; and
- Aspects of FERC Order 719-A that 1) bear upon the offering by DukeKY or its end-use customers of demand response and energy efficiency resources into PJM's markets, and 2) establish the Commission's discretion as a Relevant Electric Retail Regulatory Authority (RERRA).

PJM's position before the Commission is as a provider of information, and PJM takes no position on any retail rate issues that may be associated with the above-captioned case. PJM urges the Commission to find that DukeKY's application to transfer functional control of its transmission assets to PJM is for a proper purpose and meets the public interest standard established by KRS 278.218.

II. DISCUSSION

A. The manner in which DukeKY's share of PJM Regional Transmission Expansion Plan costs will be determined upon Duke's integration with PJM.

PJM performs regional transmission planning for the transmission facilities within its footprint pursuant to the RTEP Protocol included in Schedule 6 of PJM's Operating Agreement. This Protocol requires PJM to plan transmission expansions "in order to meet the demands for firm transmission service . . . in the PJM Region."[1] PJM "consolidate[s] the transmission needs of the region into a single plan" to maintain reliability and support competition "in the PJM Region."[2] The "PJM Region" is defined as the geographic area encompassing the electrical loads served by PJM.[3] Cost allocation for facilities included in RTEP is governed by Schedule 12 of the PJM Open Access Transmission Tariff (OATT). Schedule 12 contains two allocation methods for owners selecting incremental rate treatment: one for facilities 500 kV and above (collectively, the "Regional Facilities") and one for facilities below 500 kV ("Lower Voltage Facilities").[4] Costs for Regional Facilities are allocated on an "annual load-ratio share basis" to

[1] PJM Operating Agreement Paragraph 1.1.
[2] *Id.* Paragraph 1.4(a).
[3] *Id.* Paragraph 1.35A.
[4] There are several classes of facilities with differing definitions that receive similar allocations, but, for purposes here, it is sufficient to describe the class labeled "Lower Voltage Facilities."

all loads in PJM.[5] The costs of Lower Voltage Facilities are allocated using a "beneficiary pays" approach that employs a computer model to calculate distribution factors representing a measure of the effect of the load of each Zone or Merchant Transmission Facility on the transmission constraint that requires the Lower Voltage Facility. These provisions implement FERC *Opinion No. 494*, which decided cost allocation for the PJM region.

In both the Midwest ISO and PJM, projects allocated to specific beneficiaries or loads continue to bear those costs if they depart the RTO. The costs of historical beneficiary-specific projects are not allocated to new RTO members because those costs were previously allocated to existing members. For Regional Facilities, however, the Midwest ISO and PJM have different approaches to calculating postage-stamp regional transmission rates. The Midwest ISO allocates 20 percent of the costs for projects at 345 kV and above across the entire Midwest ISO region, but it does so on a "one-time" basis at the time the project is approved.[6] The cost responsibility of every transmission owner's zone within the Midwest ISO therefore becomes "fixed" for that project and is not "reset" each year. This means that an existing transmission owner's zone departing the Midwest ISO cannot avoid responsibility for costs previously allocated.

The PJM OATT does not work this way. Instead, its postage-stamp rate allocation for Regional Facilities and Necessary Lower Voltage Facilities[7] is "reset" every year. Specifically, cost responsibility is allocated *annually* to PJM Transmission Owner zones on a load-ratio share

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[5] PJM OATT, Schedule 12 § (b)(i)(A).

[6] Midwest ISO ASM Tariff, Attach. FF § III.A.2.c.ii.

[7] "Necessary Lower Voltage Facilities" are upgrades that operate below 500 kV but that are necessary to support the Regional Facilities. *See* PJM Tariff, Schedule 12 § (b)(i).

basis.[8] Because cost responsibility is (re)allocated annually, new members' zones have to pay for them because their loads are included in those calculations.[9]

B. Recognition of regional peak load diversity in the PJM capacity construct: how it provides benefits to DukeKY by lowering the Installed Reserve Margin (IRM) effective for DukeKY when the Duke zone peak is recognized as coincident with the PJM peak.

Each of the alternatives available to a Load Serving Entity (LSE) to satisfy its capacity obligation in PJM—bidding Capacity Resources into the Reliability Pricing Model (RPM) auctions or supplying Capacity Resources on a Fixed Resource Requirement (FRR) basis—provide reliability benefits to the region and to DukeKY by assuring that enough Capacity Resources are available to satisfy planning reserve margins required to maintain a Loss of Load Expectation (LOLE) in PJM of one day in ten years, the industry standard. RPM is designed to ensure that sufficient Capacity Resources are committed on a three-year forward basis to satisfy installed reserve obligations by providing incentives to ensure ongoing or new investment in electricity resources that will be forthcoming to maintain the future reliability of the regional grid. The alternative approaches available to satisfying a capacity obligation provide an LSE with flexibility to manage its capacity obligation to minimize the risks and costs of meeting regional reliability standards.

The Reliability Pricing Model (RPM) is one of two alternatives available to LSEs participating in PJM's capacity construct. RPM replaced a former capacity market that provided insufficient incentives for investment in Capacity Resources because it was a short term market

[8] PJM OATT, Schedule 12 § (b)(i)(A).
[9] *Duquesne Withdrawal Rehearing Order*, 124 FERC ¶ 61,219 at P 164.

that did not commit capacity on a sufficiently forward basis and did not reflect the locational value of capacity. Additionally, the former market resulted in significant price volatility which created uncertainty and increased costs as the market approached Capacity Resource shortage conditions. Volatility resulted because the availability of one or more MWs above the reliability requirement would drive the price to zero, and one or more MWs below the reliability requirement would drive the price to the deficiency charge. RPM also includes market power mitigation procedures that reduce consumers' risks by reducing the opportunity and incentives to exercise market power. RPM's Variable Resource Requirement mechanism (VRR) more accurately reflects the value of capacity as a function of the quantity of resources available by establishing smoother price transitions, thereby mitigating the price volatility associated with the former capacity market which essentially had a vertical demand curve.

The RPM VRR defines the demand for Capacity Resources in electrically cohesive sub-regions of PJM, and intersects with a capacity supply curve to determine the price that winning suppliers will receive. The VRR is structured around the cost of service for the least expensive capacity to build, and in that respect is designed to limit total ratepayer payments over the long run to what they would have been if the same level of resources were acquired under traditional cost-of-service regulation to meet the industry standard of ensuring that the probability of load loss not exceed one day in ten years.

RPM improved on the design of the former capacity market by redefining the period when capacity must be available. As explained in the direct testimony of DukeKY witness Jennings,[10] RPM's three-year forward auction and incremental auctions allow planned

[10] *See* Direct Testimony of Kenneth J. Jennings at 3.

generation capacity, planned and existing demand response and energy efficiency resources, and merchant transmission facilities to compete with existing generation resources.

RPM also introduced a locational aspect to capacity commitment in PJM to reflect the fact that the value of capacity is a function of limitations on the transmission system's ability to deliver electricity into an area and differences in the need for capacity in various areas of PJM, called Locational Deliverability Areas (LDAs). By prompting the development of new Capacity Resources or maintenance or deferred retirement of existing Capacity Resources on a sub-regional basis, RPM reflects the transmission limits that may prevent distant resources from meeting local resource adequacy requirements. As a result, RPM payments made to Capacity Resources in various LDAs in the PJM footprint differ to reflect the value of capacity in different sub-regions within PJM.

The purpose of the Fixed Resource Requirement (FRR) Alternative is to provide a Load Serving Entity (LSE) with the option to submit an FRR Capacity Plan and meet a fixed Capacity Resource requirement rather than to participate in the RPM. The FRR Alternative allows an LSE to avoid direct participation in the RPM Base Residual Auctions and the Incremental Auctions as the means to satisfy its capacity obligation, as long as it satisfies a number of conditions. The principal conditions are that: 1) an LSE electing the FRR alternative is required to submit an FRR Capacity Plan to satisfy the unforced capacity obligation (UCAP obligation) for all load in an FRR Service Area, including all expected load growth in the FRR Service Area; 2) an LSE electing the FRR alternative is subject to a minimum term of five consecutive Delivery Years in which the FRR alternative is in effect; 3) an LSE electing the FRR alternative with capacity in excess of its reliability requirement is required to set aside a "buffer" of three percent to address

uncertainties associated with future load forecasts and future supply resource availability; and 4) an LSE electing the FRR alternative also is subject to a sales cap on how much of its excess capacity can be offered in RPM auctions, equal to the lesser of 25 percent of each FRR entity's UCAP obligation or 1300 MW.[11]

DukeKY is a vertically integrated company. As Duke Witness Burner[12] explained during the evidentiary hearing, any capacity charges for which DukeKY is responsible as an LSE would be offset by revenues received by DukeKY generation, regardless of whether DukeKY participates as a bidder in the RPM auctions or elects the FRR alternative.

DukeKY customers should not have any exposure to additional capacity costs because DukeKY is "long" from a generation perspective.[13] DukeKY has generating resource capacity that is more than adequate to meet its own requirements. As such, DukeKY will be able to satisfy its capacity obligations under either the RPM or FRR alternative, and have additional Capacity Resources that it can bid into the RPM auctions. According to DukeKY, any revenues received from sales of excess Capacity Resources in the RPM auctions will be shared with customers through the Profit Sharing Mechanism (Rider PSM).

PJM's Installed Reserve Margin (IRM) is used to establish an LSE's capacity obligation for both the RPM and FRR alternatives in PJM.[14] As Duke Witness Jenning explains,[15] PJM's

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[11] PJM Manual 18, Section 11.7, p. 139.
[12] Hearing November 3, 2010, Cross Examination of Bob Burner, Video transcript at 14:48:42 (media file 01:27:12/02:50:17 and 01:42:07/02:50:17).
[13] The record indicates that Duke has approximately 1100 MW of generation resources and that its all-time peak is 912 MW. Hearing November 3, 2010, Cross Examination of Bob Burner, Video transcript at 14:56:00 (media file 1:24:33/02:50:17).
[14] The IRM establishes the capacity requirement in the FRR alternative. It also informs the shape of the Variable Resource Requirement Curve in the RPM alterative, where under certain circumstances more capacity could be procured than is called for by the IRM, but only if the overall quantity obtained results in a lower cost than would result if the amount of capacity procured was equal to the IRM.

capacity framework is structured to commit capacity under RPM or the FRR alternative to meet PJM's IRM, which corresponds to the PJM reliability requirement of one event in ten years loss of load expectation (LOLE) as set by ReliabilityFirst Corporation, the NERC Reliability Entity for PJM.[16] As a result of the scope of the PJM footprint, the PJM practice of reserve sharing across the RTO, the load diversity within PJM, and the concomitant fuel diversity and amount of resources available to satisfy the resource requirements of its member LSEs, the IRM established by PJM is lower than the reserve margin that Duke would require as a stand-alone entity dependent entirely on its own resources to satisfy the industry standard LOLE of one event in ten years. This is so because when taking into account PJM's coincident peak, the Duke zone load to which PJM's IRM requirement will apply is anticipated to be approximately four percent less than Duke's non-coincident, stand-alone zonal load.[17]

C. The impact of available types of transmission service, *i.e.* Network Transmission Service and Firm Point-to-Point Transmission Service, on Duke's ability to offer capacity to load in PJM.

A question was raised during the hearing as to whether DukeKY, cognizant of the publicly available results of RPM auction clearing prices, would be able to sell capacity to load inside PJM if it remained in the Midwest ISO. Duke witness Swez responded[18] that under that circumstance, Duke would be unable to sell capacity into PJM because there is not Available

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[15] *See* Direct Testimony of Kenneth J. Jennings at 5.
[16] *Id.* at 5, line 4 ff.
[17] PJM is currently analyzing the impact of the integration of DukeKY and Duke Energy Ohio on load diversity within PJM. The average zonal diversity for a Transmission Owner in PJM is currently 4.2 percent, rendering the effective IRM in PJM as 10.66 percent for the 2010/2011 delivery year, compared to 11.94 percent for the Midwest ISO for that planning year. *See* 2010 PJM Reserve Requirement Study, Appendix E, p. 95 at http://www.pjm.com/planning/resource-adequacy-planning/~/media/documents/reports/2010-pjm-reserve-requirement-study.ashx.
[18] Hearing November 3, 2010, Cross Examination of John Swez, Video transcript at 16:50:00 (media file 10:55/01:02:34).

Transmission Capacity (ATC) available to deliver DukeKY capacity located within the Midwest ISO to the load in PJM. Witness Swez's response to a question from the attorney representing the Midwest ISO indicated that there would be no physical change of asset configuration if Duke were integrated with PJM, leaving open the question why DukeKY's excess capacity resources would be available for sale in PJM under the PJM integration scenario but not so available if Duke remained in the Midwest ISO.

If DukeKY's generation resources were located inside PJM, they would be designated as Network Resources, and Duke would be in position to offer its capacity into the RPM auctions or otherwise sell capacity to LSEs located in PJM. This is because FERC's *pro forma* transmission tariff, as well as PJM's Open Access Transmission Tariff (OATT), provide for two major kinds of Transmission Service: Point-to-Point Service and Network Integration Service. Point-to-Point Transmission Service uses the PJM system for the transmission of capacity and energy between a point of receipt and a point of delivery, which can be into, out of, or through the PJM Control Area. Network Transmission Service (PJM Network Integration Transmission Service) is used for the transmission of capacity and energy from network generating resources to PJM network loads. Each network customer can integrate its current and planned Network Resources to serve its network load in a manner comparable to that in which Load Serving Entities who are also transmission owners utilize PJM RTO Transmission Service Facilities to serve their native load customers.[19] If DukeKY remained in the Midwest ISO and sought to sell capacity in the RPM

[19] PJM Manual 2: Transmission Service Request, p. 7.

auctions, it would need to rely upon Firm Point-to-Point Service[20] to deliver capacity to load inside PJM; and as Duke witness Swez pointed out, there is not sufficient ATC to do so.[21]

D. Aspects of FERC Order 719-A bearing upon the offering by DukeKY or its end-use customers of demand response and energy efficiency resources into PJM's markets, and establishing the Commission's discretion as a Retail Electric Regulatory Authority (RERRA).

DukeKY witness Jennings explained[22] that PJM's market rules permit end-use customers aggregated by Curtailment Service Providers[23] (CSPs) or LSEs to commit Demand Resources into PJM's Capacity Market, thereby diminishing the capacity obligation such LSEs are required to satisfy. Witness Jennings also explained that it is not DukeKY's intention to have its retail customers participate directly in PJM's Capacity Market with Demand Resource commitments through it as the LSE or through a CSP. Witness Jennings acknowledged that DukeKY, as an LSE, could propose such a program, but that provisions of FERC Orders 719 and 719-A

[20] PJM OA section 1.8 defines Capacity Resources, and section 7.5 establish requirements for their deliverability into PJM: "Each Party electing to provide Capacity Resources to meet its obligations hereunder shall submit to the Office of the Interconnection its plans (or revisions to previously submitted plans), as prescribed by Schedule 7, or, in the case of a Party electing the FRR Alternative, as prescribed by Schedule 8.1, to install or contract for Capacity Resources. As set forth in Schedule 10, each Party must designate its Capacity Resources as Network Resources or Points of Receipt under the PJM Tariff to allow firm delivery of the output of its Capacity Resources to the Party's load within the PJM Region and each Party must obtain any necessary Firm Transmission Service in an amount sufficient to deliver Capacity Resources from outside the PJM Region to the border of the PJM Region to reliably serve the Party's load within the PJM Region.

[21] Hearing November 3, 2010, Cross Examination of John Swez, Video transcript at 16:50:00 (media file 10:55/01:02:34).

[22] Hearing November 3, 2010, Cross Examination of Ken Jennings, Video transcript at 16:07:17 (media file 02:35:52/02:50:34).

[23] PJM OA, section 1.3.1B.02 provides a definition for "CSP".

regarding the exercise of the discretion of a Relevant Electric Retail Regulatory Authority (RERRA) pursuant to those Orders could preclude DukeKY from doing so.[24]

FERC Order 719-A requires that RTOs and ISOs not accept bids from CSPs[25] that aggregate the demand response of the customers of utilities that distributed four million MWh or less in the previous fiscal year, unless the RERRA permits such participation.[26] DukeKY distributed approximately 3.8 million MWh in 2009,[27] and hence neither a CSP nor DukeKY itself would be able to offer Demand Resources into PJM's Markets, unless the Commission expressly authorizes the participation of the end use customers in the Duke Zone for which permission to participate in PJM's markets as a Demand Resource is sought.[28] Even if DukeKY were to distribute over 4 million MWh annually, while it would be able to participate in PJM's

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[24] Hearing November 3, 2010, Cross Examination of Ken Jennings, Video transcript at 16:10:00 (media file 02:38:33/01:02:34).

[25] Rather than "CSP", FERC uses the phrase "aggregator of retail customers" (ARC) to refer to an entity that aggregates demand response bids.

[26] Order 719-A, FERC Stats. & Regs. ¶ 31,292 at P 60. "Therefore, we direct RTOs and ISOs to amend their market rules as necessary to accept bids from ARCs that aggregate the demand response of: (1) the customers of utilities that distributed more than 4 million MWh in the previous fiscal year, and (2) the customers of utilities that distributed 4 million MWh or less in the previous fiscal year, where the relevant electric retail regulatory authority permits such customers' demand response to be bid into organized markets by an ARC. RTOs and ISOs may not accept bids from ARCs that aggregate the demand response of: (1) the customers of utilities that distributed more than 4 million MWh in the previous fiscal year, where the relevant electric retail regulatory authority prohibits such customers' demand response to be into organized markets by an ARC, or (2) the customers of utilities that distributed 4 million MWh or less in the previous fiscal year, unless the relevant electric retail regulatory authority permits such customers' demand response to be bid into organized markets by an ARC."

[27] Duke Energy Kentucky, Inc., FERC Financial Report, FERC Form 1, Year ending 2009, Submittal 20100428-8024, April 15, 2010, at pg. 304.

[28] With respect to "4 million MWh or less" requirement, at the point at which a CSP registers an end-use customer, pursuant to PJM rules, the EDC/LSE must verify whether the load is permitted or conditionally permitted by the RERRA to participate in PJM's DSR programs. If the EDC/LSE asserts that the load is permitted or conditionally permitted (which condition the EDC/LSE asserts has been satisfied) to participate in the DSR program, then either the EDC/LSE must provide to the Office of Interconnection with evidence from the RERRA indicating that the RERRA permits or conditionally permits the end-use customer to participate in the PJM DSR program. Evidence from the RERRA shall be in the form of either: (a) an order, resolution or ordinance of the RERRA permitting or conditionally permitting the end-use customer's participation, (b) an opinion of the RERRA's legal counsel attesting to or (c) an opinion of the state Attorney General, on behalf of the RERRA, attesting to the existence of a regulation or law permitting or conditionally permitting the end-use customer's participation. For exact language quotes, please refer to the Economic and Emergency Load Response Programs provided in Schedule 1 of the OA or OATT, Attachment-K Appendix (Schedule 1 of the Operating Agreement and Attachment K-Appendix of the PJM Tariff are substantively identical).

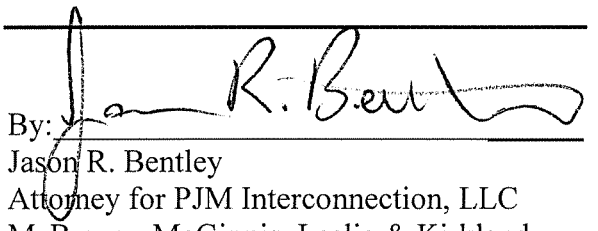
Demand Response Program, the Commission may still "opt out" under the FERC rules by specifically prohibiting the participation of end use customers in the Duke Zone in those programs.

III. CONCLUSION

PJM thanks the Commission for the opportunity to offer the summations provided herein, and urges the Commission to find that DukeKY's application to transfer control of its transmission assets to PJM is for a proper purpose and in the public interest, satisfying the requirements of KRS 278.218.

Dated this 19th day of November, 2010.

Respectfully submitted,



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CERTIFICATE OF SERVICE

It is hereby certified that a copy of the foregoing was served via hand-delivery the 19th day of November, 2010, upon the following:

Kentucky Public Service Commission
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Frankfort, KY 40601

It is hereby certified that a copy of the foregoing was served via U.S. Mail, postage prepaid, this 19th day of November, 2010, upon the following service list:

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