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December 1, 2016

Ms. Barcy McNeal
Administration/Docketing
Public Utilities Commission of Ohio
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793

Re: *In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan*, Case No. 14-1297-EL-SSO

Dear Ms. McNeal:

Pursuant to Section V.C. 2 of the Third Supplemental Stipulation and Recommendation approved by the Commission on March 31, 2016, Ohio Edison Company, The Cleveland Electric Illuminating Company and The Toledo Edison Company ("Companies") hereby file their quarterly update to the Commission on the state of the wholesale electricity markets from the Companies' perspective.

Very truly yours,

James F. Lang

FirstEnergy's Perspective on PJM's Wholesale Electricity Markets: 2016

ADDENDUM: Q4 2016 ISSUES

This section will be updated on a quarterly basis (December 1, March 1, June 1, and September 1), whereas the main body of the report will be updated annually on September 1. The purpose of this section is to provide an overview of key FERC and PJM initiatives active in each quarter.

Energy Market Initiatives

FERC Price Formation Docket (AD14-14): FERC initiated this proceeding in June 2014 to evaluate issues regarding price formation in the energy and ancillary services markets operated by RTOs and ISOs. Two rulemakings have come out of this effort to date - settlement intervals and shortage pricing (RM15-24) and offer caps (RM16-5). FERC has focused on the following issues:

- Uplift: Use of uplift payments can undermine the market's ability to send accurate price signals. Actions to reduce the amount of uplift and to ensure that remaining uplift is properly allocated need to be considered.
- Offer price mitigation and price caps: Protocols to identify resources with market power and ensure that resources are bidding consistent with their marginal cost must be accurate, and offer caps must be high enough to allow resources to fully reflect marginal costs in offers.
- Settlement intervals and shortage pricing: Final rule requires RTOs and ISOs to align settlement intervals with dispatch in real-time energy and ancillary services markets, and will require RTOs and ISOs to trigger scarcity pricing in any interval in which there is a shortage of reserves.
- Operator actions: RTO/ISO operators regularly commit resources that are not economic to address reliability issues or un-modeled system constraints, which may artificially suppress prices.
- Fast Start Resources: Block loaded resources typically do not set LMP, even if they can come online quickly.
- Managing Multiple Contingencies: Solutions to address N-1-1 and N-2 contingencies may result in committing a resource at its operating minimum for an extended period of time, resulting insignificant uplift payments.
- Look-Ahead Modeling: Using look-ahead modeling to make actual commitment and dispatch decisions rather than solely as an advisory tool for operators could reduce out-of-market actions and uplift.
- Transparency: There are numerous causes of uplift and operator actions that affect market outcomes, some of which may not be apparent to the market.

Energy Market Offer Cap NOPR (RM16-5): On November 17, FERC issued a draft final order relating to offer caps in regional wholesale markets. The final rule requires that market operators cap each resource's incremental energy offer at the higher of $1,000/MWh or that resource's verified cost-based incremental energy offer and to cap the verified cost-based incremental energy offers used to calculate LMP at $2,000/MWh. The new rule takes effect 75 days after publication in the *Federal Register.*

Settlement Intervals and Shortage Pricing (RM15-24): On June 16, 2016, FERC issued a final rule on settlement interval and shortage pricing (Order No. 825). The rule will require RTOs and ISOs to align settlement intervals with dispatch in real-time energy and ancillary services markets, and will require RTOs and ISOs to trigger scarcity pricing in any interval in which there is a shortage of reserves. PJM's compliance filing is due January 11, 2017. Under FERC Order 825, shortage pricing changes should be implemented May 11, 2017, and settlement interval changes should be implemented January 11, 2018. After several discussions with stakeholders, PJM plans to implement both shortage pricing and settlement interval changes by February 1, 2018.

Shortage Pricing Operating Reserve Demand Curve (MIC): During discussions on the Order 825 compliance filing, PJM indicated that it is considering filing changes to its shortage pricing Operating Reserve Demand Curves (ORDCs) in a separate docket. PJM is concerned that implementing the shortage pricing changes using the current ORDCs will result in peak reserve prices during transient shortages, overstating the severity of system conditions. PJM proposes to change the current reserve requirement from the economic maximum output of the single largest contingency to the highest actual output of a single unit, and to create an additional step at a price lower than the current $850/MWh penalty factor.

Uplift / Virtual Trading (EMUSTF): PJM stakeholders met several times from September to November 2016 to further discuss the allocation of uplift charges to virtual transactions. PJM recommends changing the eligible trading points and biddable locations for these transactions to better align the use of virtual transactions with the physical nature of the real time market, and to allocate uplift to Up-To-Congestion transactions (UTCs). This is consistent with the recommendations in its October 12, 2015 whitepaper on virtual transactions.

Generator Offer Flexibility / Fuel Cost Policy (ER16-372): On June 17, 2016, FERC issued an Order rejecting PJM's November 20, 2015 compliance filing to the Commission's June 9, 2015 Order requiring PJM to allow generators to update offers in real time. FERC stated concerns that PJM does not have provisions for a sufficient review of cost-based offers, and ordered PJM to require that generators have PJM-approved fuel cost policies in place before submitting an offer. PJM submitted a compliance filing on this issue on August 16, which is pending before FERC. PJM has also repeatedly discussed proposed manual changes related to its proposal with stakeholders, which will be discussed again in December.

Energy Storage Participation in Energy Markets (RM16-23): On November 17, FERC issued a Notice of Proposed Rulemaking (NOPR) related to electricity storage in organized energy markets. The NOPR would require each ISO/RTO to establish market rules that accommodates electric storage participation in the organized wholesale electric markets and define distributed energy resource aggregators as a type of market participant. Comments on the NOPR are due 60 days after publication in the *Federal Register*.

Capacity Market Initiatives

Seasonal Capacity (SCRSTF): The Seasonal Capacity Resources Senior Task Force (SCRSTF) met on September 8 and September 23, 2016. The SCRSTF was created to address the concern that certain resource types with different seasonal availabilities, such as but not limited to demand response, energy efficiency, and renewables, are unable to meaningfully participate as capacity resources in PJM's reliability pricing model (capacity market). Members voted to sunset the SCRSTF, as stakeholders were not able to achieve consensus or a simple majority on any proposal. On November 16, PJM submitted a filing at FERC to aggregate seasonal resources for participation in PJM's capacity market. PJM is proposing to independently aggregate resources, regardless of location, to provide for more flexibility for DR/renewable qualification.

Underperformance Risk Management (URMSTF): The Underperformance Risk Management Senior Task Force (URMSTF) met several times from September to November 2016 to addresses two problems: (i) the fact that current capacity rules may not provide adequate options to manage the risk of underperformance during capacity performance compliance hour(s); and (ii) any operational, markets, planning and seams coordination challenges associated with the integration of external Capacity Performance resources into PJM.

Ancillary Services Market Initiatives

Primary Frequency Response (RM16-6): On November 17, FERC issued a Notice of Proposed Rulemaking (NOPR) that proposed to amend interconnection agreements to require that all new generating facilities install, maintain, and operate a functioning governor or equivalent controls and to operate these controls at certain parameters. Comments on the NOPR are due 60 days after publication in the *Federal Register*.

Reactive (No docket): On June 30, 2016, FERC hosted a technical conference on reactive and voltage control compensation. Panelists discussed current compensation mechanisms for synchronous and non-synchronous generators, and whether changes are needed. FERC Staff was especially interested in whether it would be appropriate to change the level of compensation if it was determined that there was a degradation in capability. There was no activity on this issue in Q4 2016.

Regulation (RMISTF): PJM's Regulation Market Issues Senior Task Force (RMISTF) met on September 27, October 25, and November 16, 2016. The RMISTF was formed to evaluate the application of the marginal benefit factor in pricing and settlement in the Regulation Market. PJM is considering an increase in the performance participation threshold from 40% to 75%.

Financial Transmission Rights Market Initiatives

FTR/ARRs (EL16-6): On September 15, FERC issued an order on ARRs and portfolio netting. In the Order, FERC ordered PJM to submit a compliance filing within 60 days to: (1) remove the use of historical generation resources for requested ARRs in Stage 1A of the allocation process if those resources are no longer in service and develop a just and reasonable method of allocating Stage 1A ARRs based on source points that reflect actual system usage and (2) allocate the cost of balancing congestion to real-time load. On November 14, 2016, PJM submitted a compliance filing pursuant to FERC's September 15^{th} order. PJM requested that FERC approve an effective date of February 1, 2017 for ARR modifications, and an effective date of June 1, 2017 for the modifications to the Balancing Congestion Charge allocation.

Anticipated Future Initiatives

- PJM has indicated it will share a fuel diversity study with stakeholders in first quarter 2017
- PJM will implement a new Security and Resilience Committee, which will meet quarterly beginning in 2017 and participate in other committee meetings as requested