KyPSC Case No. 2024-00285
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VERIFICATION

STATE OF NORTH CAROLINA)
) **SS:**
COUNTY OF MECKLENBURG)

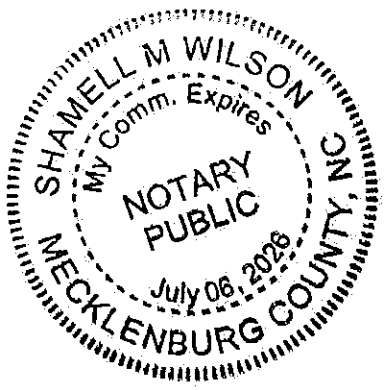
The undersigned, John D. Swez, Managing Director, Trading and Dispatch, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

John D. Swez, Affiant

Subscribed and sworn to before me by John D. Swez on this 28 day of August, 2024.

NOTARY PUBLIC

My Commission Expires:



VERIFICATION

STATE OF NORTH CAROLINA)
) **SS:**
COUNTY OF MECKLENBURG)

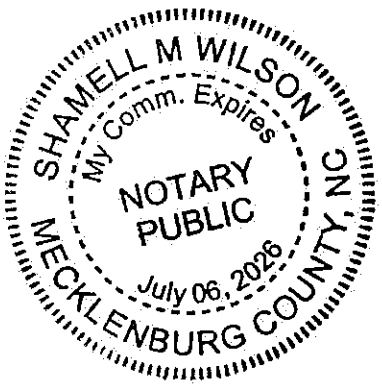
The undersigned, Alan Mok, Financial Market Manager, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Alan Mok, Affiant

Subscribed and sworn to before me by Alan Mok on this 28 day of August, 2024.

NOTARY PUBLIC

My Commission Expires:



VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, Lisa D. Steinkuhl, Director, Rates & Regulatory Planning, being duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of her knowledge, information and belief.

Lisa D. Steinkuhl

Lisa D. Steinkuhl Affiant

Subscribed and sworn to before me by Lisa D. Steinkuhl on this 26th day of September, 2024.

Shelia Janette Rogers

NOTARY PUBLIC

SHELIA JANETTE ROGERS
Notary Public-State at Large
KENTUCKY - Notary ID # KYNP66137
My Commission Expires 01-31-2027

My Commission Expires: 1-31-2027

VERIFICATION

STATE OF OHIO)
) **SS:**
COUNTY OF HAMILTON)

The undersigned, Yanthi Boutwell, General Manager Transmission Resource & Project Management, being duly sworn, deposes and says that she has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of her knowledge, information and belief.

Yanthi Boutwell

Yanthi Boutwell, Affiant

Subscribed and sworn to before me by Yanthi Boutwell on this 24th day of October, 2024.

Shelia Jeanette Rogers

NOTARY PUBLIC

My Commission Expires: 1-31-2027

`VERIFICATION

STATE OF NORTH CAROLINA)
) SS:
COUNTY OF MECKLENBURG)

The undersigned, Bryan Garnett, RTO Policy & Compliance Manager, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Bryan Garnett

Bryan Garnett, Affiant

Subscribed and sworn to before me by Bryan Garnett on this 28 day of August, 2024.

NOTARY PUBLIC

My Commission Expires:

SHAMELL M WILSON
My Comm. Expires
NOTARY PUBLIC
July 06, 2026
MECKLENBURG COUNTY, NC

VERIFICATION

STATE OF NORTH CAROLINA	)	
	)	**SS:**
COUNTY OF ~~MECKLENBURG~~ Lincoln	)	

The undersigned, Matt Kalemba, Vice President Integrated Resource Planning, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing data requests, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.

Matt Kalemba Affiant

Subscribed and sworn to before me by Matt Kalemba on this 2 day of October 2024.

SHEILA LEMOINE
Notary Public, North Carolina
Lincoln County
My Commission Expires
July 21, 2029

Sheila Lemoine
NOTARY PUBLIC

My Commission Expires: July 21, 2029

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-001

REQUEST:

Refer to the Application, page 4. As a Fixed Resource Requirement (FRR) participant in PJM Interconnection LLC (PJM), Duke Kentucky's generation units are required to be available and submitted into the PJM's Duke Energy Ohio Kentucky (DEOK) zonal capacity market to satisfy its load obligations. If Duke Kentucky is long on capacity and its participation in the Reliability Pricing Model (RPM) construct to sell excess capacity is limited, explain how it is compensated for its excess capacity.

RESPONSE:

Under FRR, Duke Energy Kentucky's generation units are not required to be utilized in the Company's FRR plan. The only requirement is that the Company satisfy its FRR Plan with unit specific capacity. However, the Company has historically utilized the Company resources to satisfy its FRR plan.

If Duke Energy Kentucky has a long capacity position, that length can be monetized in much the same way between FRR and RPM participation, with the differences being (1) that FRR entities are required by PJM to hold back, or not monetize their generation capacity in an amount equivalent to the lower of 450 MW or 3 percent of their load in the BRA, and (2) a reserve margin differential between FRR and RPM participation.

For Duke Energy Kentucky, as an FRR participant, it must hold back (cannot offer nor sell) approximately 30 MW of excess capacity in the BRA and first two incremental auctions. In the third incremental auction, this hold back can be sold. However, the price

differential between the BRA and 3rd incremental auction impacts the price received for this excess capacity sold. Please refer to line 8 on page 20, through line 4 on page 21 of the direct testimony of Mr. Swez in this proceeding.

The reserve margin for FRR entities is a constant amount (currently approximately 18%), but for RPM entities, the reserve margin is as high as 22.5% at very low-capacity prices, but as low as 17% at the highest capacity prices. Thus, this reserve margin differential produces different costs and benefits for both the FRR and RPM participant, depending upon the price of capacity. Please refer to line 5 on page 21, through line 11 on page 22 of the direct testimony of Mr. Swez in this proceeding.

Under the assumption that Duke Energy Kentucky has a long capacity position (Portfolio Length greater than 0% on the "Heat Map"), the only financial differences between the FRR and RPM is the (1) hold back of approximately 30 MW of excess capacity in the BRA and 3rd incremental auction, and (2) difference in reserve margin between FRR and RPM. Thus, referring to the example on the "Heat Map" of 9% Duke Energy Kentucky Portfolio Length and a $300/MW-Day BRA clearing price, the difference in the annual net value received under FRR vs. RPM is that $1,644,143 in additional revenue is received under RPM than under FRR each year.

PERSON RESPONSIBLE: John Swez

CONFIDENTIAL STAFF-DR-01-002

REQUEST:

Refer to the Application, page 5. Explain the degree to which Duke Kentucky is allowed to procure bilateral capacity from outside the DEOK zone. Include in the response whether the constraints are related to the availability of uncommitted capacity, excessive costs, or some other factor.

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET

The degree to which Duke Energy Kentucky is allowed to procure bilateral capacity from outside the DEOK zone is dictated by the minimum internal resource requirement in the FRR Capacity Plan. As discussed in AG-DR-01-053, the internal resource zonal requirement is to ensure that internal committed capacity plus imported capability can meet the LDA's reliability requirement. For the Duke Energy Kentucky FRR Plan, the requirement establishes the minimum amount of FRR capacity resources, whether Duke Energy Kentucky's owned resources or bilaterally purchased resources, that must be located within the LDA in which the FRR load is located.

Please see STAFF-DR-01-002 Confidential Attachment. For the 2024/2025 delivery year, Duke Energy Kentucky needs to have at least [redacted] MW of resource inside DEOK zone. In another words, DEOK can contract no more than [redacted] MW from a resource outside DEOK zone ([redacted] MW load obligation in DEOK zone minus [redacted] MW minimum resource requirement).

PERSON RESPONSIBLE: Alan Mok

CONFIDENTIAL PROPRIETARY TRADE SECRET

STAFF-DR-01-002
CONFIDENTIAL ATTACHMENT

FILED UNDER SEAL

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-003

REQUEST:

Refer to the Application, page 5. List the anticipated changes to PJM's FRR construct that would negatively impact Duke Kentucky's participation as an FRR entity.

RESPONSE:

There are four items being described in item 4 of page 9, where the application states "anticipated changes to PJM's FRR construct that would negatively impact the Company's participation as an FRR entity." Two of these changes occur periodically by PJM with each auction update and two of these changes are potential future changes that the Company is monitoring.

These two items are updated in every auction by PJM that can negatively impact FRR participation:

1. PJM minimum internal resource requirement update:

   In meeting the Company's FRR plan, Duke Energy Kentucky must locate a certain, PJM-determined percentage of its unit-specific generation that is included in its FRR plan within the DEOK zone, called the PJM minimum internal resource requirement. This percentage determines how much of a bilateral purchase, if any is needed, must be from within the DEOK Zone to meet this requirement.

2. PJM Effective Load Carrying Capability (ELCC) update:

   Although ELCC updates impact both FRR and RPM participants that own resources, the resulting impact to an FRR entity can be more impactful than that of an RPM entity due to the additional auction purchase option available for RPM participants. Thus, if an ELCC change negatively impacts the amount of capacity from a resource, the change is felt differently depending on if an entity is an FRR or RPM capacity construct participant. If an entity is an RPM

participant, the additional option of PJM capacity purchase in the auction is available that is not available to FRR participants.

These two items are potential future PJM changes that could negatively impact FRR participation:

1. Change in reserve margin differential between FRR and RPM participant.

   The reserve margin for FRR entities is a constant amount (currently approximately 18%), but for RPM entities, the reserve margin is as high as 22.5% at very low-capacity prices, but as low as 17% at the highest capacity prices. Thus, this reserve margin differential produces different costs and benefits for both the FRR and RPM participant, depending upon the price of capacity.

2. Elimination of Physical CP option for FRR entities

   Elimination of the physical option of Capacity Performance Non-Performance Assessment available under FRR is a risk of continued FRR participation. During times of *lower* PJM capacity market prices, the equivalent financial cost of a physical capacity performance penalty is less than the financial capacity performance penalty. Thus, this option has historically benefited Duke Energy Kentucky, as was evidenced during Winter Storm Elliott. However, during times of higher PJM capacity market prices, the equivalent financial cost of a physical capacity performance penalty is approximately equal to the financial capacity performance penalty. Since the Company believes capacity clearing prices will increase in the future, the benefit to the FRR from the physical option will decrease over time.

Finally, please refer to the response to AG-DR-01-045 for additional discussion of risks associated with different PJM capacity construct participation.

PERSON RESPONSIBLE: John Swez

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-004

REQUEST:

Refer to the Application, page 8. Describe the bilateral markets that Duke Kentucky would participate in outside of the PJM RPM auctions.

RESPONSE:

The bilateral markets discussed in paragraph 13 on page 8 of the Company's application refer to bilateral capacity markets. These markets are the same bilateral capacity markets that the Company may either sell bilateral capacity or purchase bilateral capacity today under FRR participation as they could in the future under RPM participation, assuming the Company's request to transition to RPM is approved in this application.

PERSON RESPONSIBLE: Alan Mok

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-005

REQUEST:

Refer to the Application, pages 8–9. Explain why Duke Kentucky proposes to increase the sharing percentage for capacity markets.

RESPONSE:

Please see responses to AG-DR-01-044 and AG-DR-01-057.

PERSON RESPONSIBLE: Lisa Steinkuhl
John Swez

STAFF-DR-01-006

REQUEST:

Refer to the Direct Testimony of John D. Swez (Swez Direct Testimony) page 7, footnote 7. Explain whether the 3 percent collar or hold back on excess capacity is in addition to Duke Kentucky's required reserve margin.

RESPONSE:

The 3% hold back on excess capacity is in addition to Duke Energy Kentucky's required reserve margin only if Duke Energy Kentucky decides to make a capacity sale into an RPM auction or a bilateral capacity sale.

PERSON RESPONSIBLE: Alan Mok

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

CONFIDENTIAL STAFF-DR-01-007

REQUEST:

Explain Duke Kentucky's load, net summer, and winter capacity ratings, required reserve margin and hold back for the present and six upcoming PJM capacity years.

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET

PJM updates the resource accreditation, FRR load obligation, installed reserve margin, and 3% threshold holdback for Duke Energy Kentucky prior to each Base Residual Auction (BRA) and Incremental Auction (IA). The only forward auction data that the Company has received from PJM is for Delivery Year 2026/2027. Please refer to STAFF-DR-01-007 Confidential Attachment. [redacted]

PERSON RESPONSIBLE: Alan Mok

CONFIDENTIAL PROPRIETARY TRADE SECRET

STAFF-DR-01-007
CONFIDENTIAL ATTACHMENT

FILED UNDER SEAL

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-008

REQUEST:

Under the RPM construct, explain whether there is a reliability mechanism analogous to 3 percent collar. If not, explain why there is no need for a similar mechanism.

RESPONSE:

Please refer to PJM Manual 18 Section 11.6 – Conditions on Sales by FRR Entities[1]. As a FRR entity, it may only make sales into the RPM market when the three percent holdback requirement is satisfied (i.e., total committed resources meet 103% of the FRR load obligation in the FRR Plan for the BRA). The only exception is that FRR can sell excess capacity to parties external to PJM or to another FRR Entity. The three percent holdback is not applicable to RPM entities.

PERSON RESPONSIBLE: Alan Mok

[1] https://www.pjm.com/~/media/documents/manuals/m18.ashx

STAFF-DR-01-009

REQUEST:

Refer to the Swez Direct Testimony page 9, lines 20–23 and page 10, lines 1–2.

a. Provide the minimum size and timing of a growth in load that would outpace Duke Kentucky's ability to procure baseload generation.

b. Explain whether Duke Kentucky is aware of any pending large and sudden load growth such as from a data center in the DEOK zone.

c. Explain whether and how the expected location of data centers or other sudden large loads are located within adjacent PJM load zones, but not in the DEOK zone, would affect the capacity market in the DEOK zone.

RESPONSE:

a. Calculating an exact size amount and timing of additional customer load that would outpace Duke Energy Kentucky's ability to procure baseload generation involves a host of assumptions to be made, including the availability of bilaterial capacity inside and outside of the DEOK Zone, the PJM ELCC and Minimum Internal Resource Requirement percentages updated periodically by PJM, future Duke Energy Kentucky generating unit capacity value, load forecast, and sizing and timing of new the new load.

Using the 2024/2025 final FRR Plan as a base starting point, Duke Energy Kentucky had 946.5 MW of UCAP (MW) before bilaterial purchases and a 952.1 MW FRR of Committed Load Obligation, or a shortfall of approximately 5.6 MW

(before bilaterial purchases). Please refer to AG-DR-01-049 for the Company's final FRR plan for delivery year 2024/2025.

Next, referring to the response to STAFF-DR-01-022, due to the PJM minimum internal resource requirement for the 2024/2025 FRR Capacity Plan, DEOK can purchase no more than 657.4 MW of bilaterial capacity from a resource outside the DEOK Zone. Note that this assumes that this bilaterial capacity were available for purchase. Subtracting out the 5.6 MW short position, for the 2024/2025 DEK FRR Capacity Plan, Duke Energy Kentucky could have handled an additional 651.8 MW (equal to 657.4 minus 5.6 MW) of customer demand, again assuming the Company could have found this volume of bilaterial purchases in the market. Any load larger than this amount would force the Company to procure bilaterial capacity inside the DEOK Zone, which for this response bilaterial capacity inside the DEOK Zone was assumed to be not to be available due to the limited sources inside the DEOK Zone. Thus, the Company determined that it could have handled an additional 651.8 MW of customer demand, again if the Company found willing capacity bilaterial sellers, before failing its FRR plan.

Further, a lead time of 8 years for a new CC plant is the currently the estimated time from the start of site selection to when the unit is placed in-service. Thus, all else being equal, the Company can absorb nor more than 651.8 MW of total additional load over the next 8 years before failing to meet the Company's FRR Plan, assuming the parameters outlined above were static.

b. The Company is aware of pending load growth inside the DEOK Zone, however due to confidentiality agreements, is not able to disclose the exact details of this

load growth. However, the Company will file a public document in the October 25, 2024, Load Analysis Subcommittee meeting detailing known load growth in the DEOK Zone.

PJM - Load Analysis Subcommittee

c. Data centers located within adjacent PJM load zones, but not in DEOK Zone, absent addition generation resources constructed to meet this additional load, tend to reduce the amount of potential bilaterial capacity available and increase PJM auction capacity prices, all else being equal.

PERSON RESPONSIBLE: John Swez
Alan Mok

STAFF-DR-01-010

REQUEST:

Refer to the Swez Direct Testimony page 10, lines 2–6.

a. Provide a list of all participants in the DEOK zone with generating assets. Identify which entities have announced unit retirements, and provide the unit names and locations, the respective unit capacity, and the announced or expected retirement dates.

b. Explain whether these entities that announced unit retirements participate as PJM FRR or RPM entities (if known) and are or will be required to find replacement capacity for their respective unit retirements.

c. Since the DEOK zone has been constrained in three of the last six years, explain whether Duke Kentucky's transition to an RPM construct have an effect on future constraints, if at all.

d. Explain whether Duke Kentucky has been purchasing or anticipates purchasing capacity through a bilateral contract at any time this calendar year and for each of the next five years.

e. With respect to the DEOK zone, explain what actions Duke Kentucky has either seen, has taken, are in the process of being implemented, or have been announced over the last six years that would alleviate the capacity constraints in future.

RESPONSE:

a. Please see the response to AG-DR-01-003, part (e). Additionally, please refer to the direct testimony of Mr. Swez, page 27, lines 3-5, where it discusses the announced

retirement of the 1,020 MW Miami Fort generating station within the DEOK zone. The Company is not aware of any additional retirements currently.

b. The Company is not able to determine if the owner of Miami Fort generation station is required to find replacement capacity for their retirement.

c. PJM plans transmission upgrades under the Regional Transmission Expansion Planning (RTEPP) process if the Capacity Emergency Transfer Limit (CETL) value is less than the Capacity Emergency Transfer Objective (CETO) value. The CETO and CETL values for DEOK zone are not impacted by a Duke Energy Kentucky move from the FRR to RPM capacity construct, thus there is no change in the level or amount of transmission constraints, or likelihood that the DEOK Zone is constrained. In addition, please see the responses to AG-DR-01-022, AG-DR-01-034, and AG-DR-01-053.

d. At the present time, due to its slight long position, Duke Energy Kentucky is not forecasting the need to purchase bilaterial capacity in the next 5 years. However, there are many of factors that can change that would impact this determination, including load growth and changes in PJM ELCC values.

e. Please refer to the response to AG-DR-01-007.

PERSON RESPONSIBLE: John Swez – a., b.
Alan Mok – c., d.
Yanthi Boutwell – e.

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-011

REQUEST:

Refer to the Swez Direct Testimony page 7, lines and Attachment JDS-1, Tab Inputs.

a. On page 7, explain how the net summer capacity of 1,076 MW and the 1,300 MW figures were derived.

b. Explain why on page 7, Duke Kentucky discusses its base load requirements in terms of net summer capacity ratings (1,076 MW) and in the cost benefit study, generation capacity appears to be nameplate (1,300 MW).

c. In the Inputs Tab, explain why the RPM reserve margin declines as the BRA price increases and how that is different from the reserve margin requirement for FRR entities.

RESPONSE:

a. The spreadsheet Attachment JDS-1 was designed before the recent PJM ELCC change made for the 2025/2026 Delivery Year. Thus, the generation and load values in the spreadsheet will not tie to generation and load values used by the Company for the FRR Plan. In fact, the values will vary significantly due to the relatively large impacts to both generation and load in capacity auctions that resulted from the PJM ELCC change. However, what is important is the difference (subtraction) between the generation and load values, or the position, not the ultimate values for generation and load.

Cell B14 on the Input tab in Attachment JDS-1, along with dependent cells B25, B31, and B37 on the Input tab as well as other locations in the spreadsheet that reference this value, was set, along with the load value, to result in a long position of approximately 100 MW, a flat position of 0 MW, and a short position of approximately -100 MW. Thus, with these values, a "Heat Map" displays a long position of 9% and a short position of -9% is calculated. Note that a long position of 9% represents approximately the average excess capacity position for Duke Energy Kentucky over the past 5 years. Please refer to AG-DR-01-049 for additional information regarding the average Company position.

Attachment JDS-1 could be rewritten to account for this change in ELCC, but since the ultimate position is unchanged, the "Heat Map" results are not expected to change materially. This can be partially proven by changing the generation capacity in cell B14 on the Input tab of Attachment JDS-1 to 1,076 MW and the load values in cell B19 to 725 MW and cell B21 to 1100 MW (so the net positions represent approximately the same values), the results in the "Heat Map" are similar to those shown in Attachment JDS-1.

b. Please see response to part (a) above.

c. This relationship is determined by the PJM Variable Resource Requirement (VRR) curve, or the downward-sloping demand curve that PJM uses in the auction process. The difference in reserve margin is also a driver to the difference in value between participation as either an FRR or RPM capacity market participant, as discussed in the direct testimony of Witness Swez on pages 17, line 11 through page 19 and

page 21, line 5, through page 22, line 11. Additionally, please see the response to AG-DR-01-001, part (d).

Finally, please refer to the following documents that describe the process used in determining the VRR parameters:

Quadrennial Review of the Variable Resource Requirement (VRR) Curve Parameters
https://www.pjm.com/-/media/committees-groups/committees/mic/2024/20240927-special/item-01a---quadrennial-review-of-the-vrr-curve-parameters---pjm-presentation.ashx

Fifth Review of PJM's Variable Resource Requirement Curve FOR PLANNING YEARS BEGINNING 2026/27
https//www.brattle.com/wp-content/uploads/2022/05/Fifth-Review-of-PJMs-Variable-Resource-Requirement-Curve.pdf

PERSON RESPONSIBLE: John Swez – a., b.
Bryan Garnett – c.

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-012

REQUEST:

Refer to the Swez Direct Testimony Attachment JDS-1, Tab All Outputs. The study appears to ignore any dynamic changes over time and to assume that each result is unchanged over time. Confirm that this is the case. If not confirmed, explain why this conclusion is not accurate.

RESPONSE:

Deny. The Company attempted to create an analysis that displayed the results in the difference between load and generation, or position, at the range of different potential PJM Base Residual Auction (BRA) clearing prices for this reason. As a simple example, if generation capacity was 1,000 MW and the peak load was 900 MW, a length of 100 MW occurs. However, if generation capacity was still 1,000 MW and the peak load was raised to 950 MW, a length of 50 MW occurs. By showing the difference, the user is able to examine the financial impact to the Duke Energy Kentucky customer of being in the FRR capacity construct as opposed to the RPM capacity construct at varying PJM auction prices and different positions. In referring to the "Heat Map" tab, 190 different scenarios are shown to account for this range of dynamic changes over time. Finally, please refer to the response to AG-DR-01-027, part (a) and (i) for additional discussion.

PERSON RESPONSIBLE: John Swez

Duke Energy Kentucky
Case No. 2024-00285
STAFF First Set of Data Requests
Date Received: October 4, 2024

STAFF-DR-01-013

REQUEST:

Refer to the Swez Direct Testimony Attachment JDS-1 generally. Refer also to Case No. 2024-00197, Figure 7.1, page 61. Explain how the cost benefit study results would change if it were to be conducted reflecting Duke Kentucky's estimated generation portfolio changes as derived and presented in the Integrated Resource Plan (IRP).

RESPONSE:

The resource plan identified in Figure 7.1, page 61 of the IRP maintains adequate capacity to meet PJM's reserve requirements. While the Company maintains adequate reserves, those reserves do shrink over time as demand grows in the DEOK region, but the Company is never short reserves over the planning horizon.

Since the current portfolio of Duke Energy Kentucky is the result of the previous IRPs, one way to examine the IRP impact in the short-term would be to take the historical average PJM capacity position and assume that future IRP's will generally result in a similar position as well, at least in the short run, recognizing that there are differences between the IRP planning process and the PJM capacity planning process. Referring to the response to AG-DR-01-049, the average long position has been approximately 9% over the past 5 years. One can then refer to the "9% long" row on the "Heat Map", where it calculates that at capacity prices levels of $200/MW-Day and below, the FRR is a slight benefit to the Duke Energy Kentucky customer, but at capacity prices of $250/MW-Day and above, the RPM results in substantially more benefit to the Duke Energy Kentucky

customer. In fact, the difference is an order of magnitude between value from RPM participation at higher prices as opposed to FRR participation at low-capacity prices. Note that the current value of capacity in the PJM market is bid at $300/MW-Day.

As the IRP forecasts that reserves drop over time as demand grows in the DEOK region, the "Heat Map" can be used to again assess the value of the move from FRR to RPM. As am example, by examining the 3% long position line, the conclusion is still the same; the FRR is a slight benefit to the Duke Energy Kentucky customer at lower capacity prices, but at capacity prices of $250/MW-Day and above, the RPM results in substantially more benefit to the Duke Energy Kentucky customer

PERSON RESPONSIBLE: John Swez
Matthew Kalemba