KyPSC Case No. 2024-00152
TABLE OF CONTENTS

VERIFICATION

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

The undersigned, Chad Donner, Principal Engineer, 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.

Chad Donner/Affiant

Subscribed and sworn to before me by Chad Donner on this 28th day of August, 2024.

NOTARY PUBLIC

My Commission Expires: July 8, 2027

EMILIE SUNDERMAN
Notary Public
State of Ohio
My Comm. Expires
July 8, 2027

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:

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

VERIFICATION

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

The undersigned, John Verderame, VP Fuels & Systems Optimization, 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.

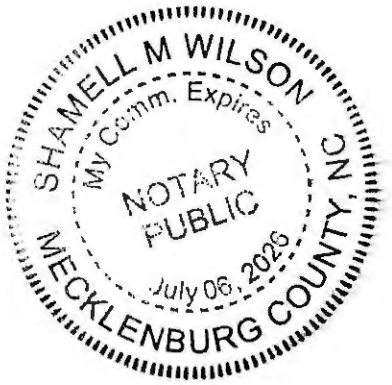
John Verderame

John Verderame, Affiant

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

NOTARY PUBLIC

My Commission Expires:



VERIFICATION

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

The undersigned, Ryan Trogstad, Senior Data Science Consultant, 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.

Ryan Trogstad

Ryan Trogstad, Affiant

Subscribed and sworn to before me by Ryan Trogstad on this 5th day of September, 2024.

S. Jill Hamrick

NOTARY PUBLIC

My Commission Expires: 8/22/28

S Jill Hamrick
NOTARY PUBLIC
Mecklenburg County, NC
My Commission Expires August 22, 2028

VERIFICATION

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

The undersigned, Sarah Lawler, VP Rates & Regulatory Strategy, 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.

Sarah Lawler Affiant

Subscribed and sworn to before me by Sarah Lawler on this 3rd day of September, 2024.

NOTARY PUBLIC

My Commission Expires: July 8, 2027

EMILIE SUNDERMAN
Notary Public
State of Ohio
My Comm. Expires
July 8, 2027

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-001

REQUEST:

Reference the application, paragraph 6. Confirm that the Miami Fort 6 plant is either decommissioned, or otherwise is not used by DEK. Has that plant been demolished?

RESPONSE:

Miami Fort 6 was retired in place in 2016. Since then it has been structurally stabilized, environmentally sterilized, and will be demolished along with neighboring units 7 & 8 once they retire sometime in the future. Duke Energy Kentucky owns unit 6 but none of the other units at Miami Fort Station.

PERSON RESPONSIBLE: Chad Donner

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-002

REQUEST:

Confirm that East Bend's wet flue gas desulfurization ("WFGD") removes an average of 97% of East Bend's sulfur dioxide (SO2) emissions.

RESPONSE:

Confirmed, implementation of the Limestone Conversion Project will not alter the design WFGD removal performance.

PERSON RESPONSIBLE: Chad Donner

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-003

REQUEST:

Confirm that East Bend's WFGD currently utilizes magnesium enhanced lime ("MEL") technology to control SO2 emissions.

RESPONSE:

Confirmed, East Bend currently uses Magnesium Enhanced Lime (MEL) which is also commonly referred to as "Thiosorbic Lime" or "Mag-Lime."

PERSON RESPONSIBLE: Chad Donner

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-004

REQUEST:

Confirm that the costs of using the MEL technology has been increasing for several reasons, including: (i) the production of calcium sulfite solids that are difficult to dewater, which requires the use of additional materials and processing; and (ii) it requires the use of an expensive reagent, quicklime, and stabilization additives.

a. Confirm that these rising costs are affecting the competitiveness of the East Bend plant in power generation markets. If so confirmed, provide any data to support this conclusion.

b. Confirm that from the 1980s when quicklime cost approximately $40 / ton, the cost had risen to $133 / ton, an increase of approximately 232%.

RESPONSE:

a. Confirmed – The magnesium enhanced lime WFGD process relies on a costly MEL commodity that is an order of magnitude more than the comparable limestone reagent for SO2 control. In addition, the WFGD byproduct characteristics produced from MEL has a particle shape that makes it difficult to dewater and therefore requires more quicklime and fly ash for fixation so the product can be placed in the landfill. These factors raise the dispatch cost of East Bend substantially impacting its competitiveness in the generation market.

b. The cost has risen beyond $133/TN, this was the previous contract to the current supply contract of $280/TN for 2023 and $300/TN for 2024. These are commodity only prices and do not include transportation.

PERSON RESPONSIBLE: Chad Donner

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-005

REQUEST:

Reference the Application in this matter, paragraph 11. Provide a more detailed explanation to support the Company's assertion that it expects the cost of the MEL reagent to continue rising at a rate double that of limestone.

RESPONSE:

As shown on the table on page 9, line 2 of Chad Donner's Direct Testimony, when comparing past contract costs of MEL to that of limestone contract costs in the region for other sites, historically the MEL has escalated double that of limestone. Based on history, it is reasonable to expect the escalation rate of the MEL reagent will remain double to that of limestone."

PERSON RESPONSIBLE: Chad Donner

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-006

REQUEST:

Reference the Application, paragraph 12. Explain the additional limitations on MEL supply that DEK has learned about.

RESPONSE:

Please see the Company's response to Confidential STAFF-DR-01-005(a) and (b).

PERSON RESPONSIBLE: John A. Verderame

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

PUBLIC AG-DR-01-007
(As to Attachment only)

REQUEST:

Reference the Application, paragraph 14, referring to East Bend's dispatch costs. Provide East Bend's dispatch costs for the last three years, broken down by month.

RESPONSE:

CONFIDENTIAL PROPRIETARY TRADE SECRET (As to Attachment only)

Please refer to AG-DR-01-007 Confidential Attachment.

PERSON RESPONSIBLE: John Swez

CONFIDENTIAL PROPRIETARY TRADE SECRET

AG-DR-01-007
CONFIDENTIAL ATTACHMENT

FILED UNDER SEAL

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-008

REQUEST:

Confirm that DEK projects that with the proposed Limestone Conversion Project, East Bend's dispatch costs should decrease.

RESPONSE:

Confirmed**.** Please see STAFF-01-021 Confidential Attachment and the response to STAFF-DR-01-002 for additional details.

PERSON RESPONSIBLE: Ryan Trogstad

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-009

REQUEST:

Explain whether the proposed project, if approved, will result in reduced production of poz-o-tec. If so confirmed, explain whether this will also result in less material to be deposited into DEK's landfill.

a. Explain also any impact on DEK's beneficial re-use of CCR materials, and/or sale of poz-o-tec to other utilities.

RESPONSE:

Conversion to the limestone inhibited oxidation (LSIO) WFGD process will create a more crystalline "Platelike" calcium sulfite reaction byproduct that will dewater much better than the MEL "Rosette" shaped calcium sulfite particles. As a result, less quicklime and fly ash will be required to "Fixate" the WFGD reaction byproduct to produce the landfilled Poz-O-Tec product that will result in less material to be landfilled. At this time there is not expected or anticipated to be an impact to beneficial re-use of any CCR materials.

PERSON RESPONSIBLE: Chad Donner

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-010

REQUEST:

Provide the estimated amortization period over which the projected costs for the proposed project would be recovered in the environmental surcharge.

RESPONSE:

Per Attachment SEL-1, page 2 of the Direct Testimony of Sarah E. Lawler, the estimated depreciation period for the projected costs is 13 years based on the estimated retirement date of East Bend in the Company's most current IRP filing, Case No. 2024-00197.

PERSON RESPONSIBLE: Sarah E. Lawler

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-011

REQUEST:

Referring to Application paragraph no. 15, confirm that DEK identified the following potential solutions: 1) a Lime Stone Conversion project; 2) conducting a request for proposals (RFP) to explore alternative sources for the existing MEL product with the correct chemical composition to operate the WFGD system; and 3) system renovations for onsite mixing of magnesium hydroxide with hi-calcium quicklime to create a replacement mag-lime product that possesses similar chemical composition to operate the existing WFGD system. If so confirmed, confirm also that:

a. DEK did not receive any cost-competitive bids in response to the RFP, thus eliminating that potential alternative;
b. Onsite chemical mixing was a more expensive alternative, and thus would further erode the East Bend plant's cost competitiveness; and
c. The conversion of the WFGD to a limestone inhibited oxidation process is the most economic and most reasonable solution.

RESPONSE:

Confirmed.

a. Confirmed.
b. Confirmed.
c. Confirmed.

See also, the Company's response to Confidential STAFF-DR-01-022 for a discussion of the details relating to the cost/benefits analysis of the three considered alternatives.

PERSON RESPONSIBLE: John A. Verderame

Duke Energy Kentucky
Case No. 2024-00152
AG First Set of Data Requests
Date Received: August 23, 2024

AG-DR-01-012

REQUEST:

Provide copies of any cost-benefit analyses / studies the Company conducted in regard to the study of the alternatives outlined in the Application, and as discussed in the question immediately above.

RESPONSE:

Please see STAFF-01-021 Confidential Attachment as well as the Company's confidential response in STAFF-DR-01-022 for a discussion of the details relating to the cost/benefits analysis of the three considered alternatives.

PERSON RESPONSIBLE: John A. Verderame