COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC JOINT APPLICATION OF KENTUCKY UTILITIES COMPANY AND LOUISVILLE GAS AND ELECTRIC COMPANY FOR CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY AND APPROVAL OF A DEMAND SIDE MANAGEMENT PLAN	**)**	**CASE NO. 2022-00402**

RESPONSE OF
KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
THE KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.'S
POST-HEARING DATA REQUEST
DATED SEPTEMBER 1, 2023

FILED: SEPTEMBER 15, 2023

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Philip A. Imber**, being duly sworn, deposes and says that he is Director – Environmental and Federal Regulatory Compliance for LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

Philip A. Imber

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 14 day of September 2023.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **David S. Sinclair**, being duly sworn, deposes and says that he is Vice President, Energy Supply and Analysis for Kentucky Utilities Company and Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, 220 West Main Street, Louisville, KY 40202, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge, and belief.

David S. Sinclair

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 14th day of September 2023.

Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027

CAROLINE J. DAVISON NOTARY PUBLIC ID # KYNP63286 STATE AT LARGE, KENTUCKY COMM EXPIRES 01/22/2027

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Industrial Utility Customers, Inc.'s
Post-Hearing Data Request
Dated September 1, 2023

Case No. 2022-00402

Question No. 1

Responding Witness: David S. Sinclair

Q-1. Do the Companies have a forecast of wholesale market energy prices? If yes, please provide the forecast.

A-1. Yes. See attachment being provided in a separate file. These are forecasted electricity prices being used to develop the Companies' 2024 Business Plan.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Industrial Utility Customers, Inc.'s
Post-Hearing Data Request
Dated September 1, 2023

Case No. 2022-00402

Question No. 2

Responding Witness: Philip A. Imber

Q-2. The Companies' air permit application for the Brown 12 NGCC unit assumes the retirement of Brown 3 and the netting of emission reductions. If Brown 3 is not retired, please describe how the new air permit process would work including timing.

A-2. The current Title V air permit application would need to be withdrawn if E.W. Brown 3 is not retired. In order to implement the proposed E.W. Brown 12 NGCC, the Companies would need to submit a new Title V air permit application under 401 KAR 52:020. This permit would require full New Source Review Potential for Significant Deterioration ("NSR-PSD") permitting which increases the difficulty, complexity, and the timeline of attaining an air permit.

The permit application would have to include a Best Available Control Technology ("BACT") analysis. BACT is an emissions limitation which is based on the maximum degree of control that can be achieved in accordance to the relevant standard. It is a case-by-case decision that considers energy, environmental, and economic impact. BACT can be add-on control equipment or modification of the production processes or methods. This includes fuel cleaning or treatment and innovative fuel combustion techniques. BACT may be a design, equipment, work practice, or operational standard if imposition of an emissions standard is infeasible. The Companies would need to perform an Air Quality Analysis that involves (1) an assessment of existing air quality, which may include ambient monitoring data and air quality dispersion modeling and (2) predictions, using dispersion modeling, of ambient concentrations that will result from the proposed project. The results of the dispersion modeling need to ensure emissions do not contribute to a violation of any applicable National Ambient Air Quality Standard ("NAAQS") or Potential for Significant Deterioration ("PSD") increment and that emissions do not impact Air Quality Related Values for Class 1 areas (national recreational, scenic, or historic sites). If any pollutants result in impacts, the Companies would need to procure emissions offsets from other existing sources in the region.

The E.W. Brown area is currently in attainment for all NAAQS. Proposed revisions to Particulate Matter and Ozone NAAQS could impact attainment status designations and the need to perform non-attainment NSR-PSD permitting, thus increasing the probability that emission offsets could be required. The number of emission offsets (e.g., 1-to-1 ratio, or 1.2-to-1 ratio, or some other higher amount) would depend on the severity of non-attainment. Additionally, the ability to actually obtain the emissions offsets from other existing sources in the region could make completing the permitting process more challenging and lengthy.

The difficult and complex permit application and modeling process would likely take six months. It is likely the Kentucky Division for Air Quality ("KDAQ") permitting process and the public comment process would take over a year. In total, permitting under this scenario is more than an eighteen-month delay. Air permitting may not be successful in this scenario.

KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY

Response to Kentucky Industrial Utility Customers, Inc.'s
Post-Hearing Data Request
Dated September 1, 2023

Case No. 2022-00402

Question No. 3

Responding Witness: Philip A. Imber

Q-3. The Companies' air permit application for the Mill Creek 5 NGCC unit assumes the retirement of Mill Creek 1 and 2 and the netting of emission reductions. If Mill Creek 1 and 2 are not retired, please describe how the new air permit process would work including timing.

A-3. In contrast to the assumption in the request for information, the current air permit process for the Mill Creek 5 NGCC is well underway. On September 11, 2023, Louisville Metro Air Pollution Control District (LMAPCD) released a *Notice of Public Comment Period and Hearing* for an amended site-specific Reasonably Available Control Technology (RACT) plan to address. A public hearing on this matter is set for October 18, 2023 at the LMAPCD board meeting. LMAPCD intends to issue public notice of the permit as soon as the LMAPCD board approves the RACT plan.

The current Title V air permit application would need to be withdrawn if Mill Creek 1 and 2 are not retired. In order to implement the proposed Mill Creek 5 NGCC, the Companies would need to submit a new Title V air permit application under LMAPCD Regulation 2.04. This permit would require full non-attainment New Source Review Potential for Significant Deterioration ("NSR-PSD") permitting which increases the difficulty, increases the complexity, increases the timeline, and requires emissions offsetting for attaining an air permit. Air permitting is unlikely to be successful in this scenario.

The permit application would have to perform a Best Available Control Technology ("BACT") analysis. BACT is an emissions limitation which is based on the maximum degree of control that can be achieved in accordance with the relevant standard. It is a case-by-case decision that considers energy, environmental, and economic impact. BACT can be add-on control equipment or modification of the production processes or methods. This includes fuel cleaning or treatment and innovative fuel combustion techniques. BACT may be a design, equipment, work practice, or operational standard if imposition of an emissions standard is infeasible. The Companies would need to perform an Air

Quality Analysis that involves (1) an assessment of existing air quality, which may include ambient monitoring data and air quality dispersion modeling and (2) predictions, using dispersion modeling, of ambient concentrations that will result from the proposed project. The results of the dispersion modeling need to ensure emissions do not contribute to a violation of any applicable National Ambient Air Quality Standard ("NAAQS") or Potential for Significant Deterioration ("PSD") increment and that emissions do not impact Air Quality Related Values for Class 1 areas (national recreational, scenic, or historic sites).

The Mill Creek area is currently in non-attainment for Ozone and attainment for all other NAAQS. Companies revised Title V permit would be subject to Lowest Achievable Emissions Reduction standards for NOx and VOC under the non-attainment NSR permitting process. Companies would need to procure nitrogen oxides ("NOx") and or Volatile Organic Compound ("VOC") emissions offsets from other existing sources in the region. Given LMAPCD and KDAQ have approached LG&E for offsets to support elimination of reformulated gasoline in Jefferson County, it is unlikely LG&E will find other sources that are able to offset the quantity of emissions offsets necessary to complete NSR-PSD permitting for the proposed generating unit. LG&E possibly could offset NOx by implementing SCR controls on Mill Creek Units 1 and 2.

If any other pollutants result in impacts as determined by the air dispersion modeling, the Companies would need to procure emissions offsets for those pollutants from other existing sources in the region. The proposed revisions to Particulate Matter and Ozone NAAQS could impact attainment status and the need to perform non-attainment NSR-PSD permitting, thus increasing the probability that emission offsets could be required. The number of emission offsets (e.g., 1-to-1 ratio, or 1.2-to-1 ratio, or some other higher amount) would depend on the severity of non-attainment.

The difficult and complex permit application and modeling process would likely take six months. It is likely the Louisville Metro Air Pollution Control District ("LMAPCD") permitting process and the public comment process would take over a year. In total, assuming the unlikely event that adequate emissions offsets can be procured, permitting Mill Creek 5 without retiring Mill Creek 1 and 2 is more than an eighteen-month delay.