COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC TARIFF FILING OF LOUISVILLE GAS AND ELECTRIC COMPANY TO REVISE ITS LOCAL GAS DELIVERY SERVICE TARIFF	)))	**CASE NO. 2024-00125**

LOUISVILLE GAS AND ELECTRIC COMPANY'S
OPENING BRIEF

Louisville Gas and Electric Company ("LG&E"), by counsel, submits its Opening Brief in support of its proposed revisions to the Local Gas Delivery Service ("LGDS") tariff.

Introduction

LG&E's proposed LGDS tariff allows the utility to support the transportation of renewable natural gas ("RNG") without harming other customers from a safety or financial perspective. The tariff accomplishes these goals by requiring local producers to ensure their gas has safe levels of chemical constituents and heating values comparable to the gas that LG&E has purchased to deliver to customers.

It is undisputed that the RNG that Louisville/Jefferson County Metropolitan Sewer District ("MSD") plans to inject is not comparable to the heating value of the gas on LG&E's system. It is likewise undisputed that unless MSD increases the heating value of its RNG to the proposed minimum in the LGDS tariff, nearby customers will incur additional gas costs of about $200,000 based on retail rates—an amount that grows if other RNG producers are permitted to do the same. The subsidization of RNG producers contravenes KRS 278.170, which prohibits customers from being subjected to an unreasonable disadvantage, because customers around the injection site will experience lower heating values than other LG&E customers for no reason other than their proximity to MSD's plant.

The record establishes that MSD has at least four options for its biogas: (1) take service under LG&E's proposed LGDS tariff; (2) provide heat and power to MSD's facilities; (3) use the gas in MSD's thermal drying facility; or (4) sell it at MSD's site. MSD's position is that unless it can realize the "greatest financial benefit" from the biogas, then the project is unfeasible.[1] While MSD will decide what, if any, option(s) it pursues, LG&E objects to shifting costs from MSD to other LG&E customers. A central tenet of utility regulation is the cost causation principle: those who cause the costs should pay the costs. With respect to the LGDS tariff, the producers should pay the costs to increase or decrease the heating value to a comparable level to LG&E's gas supply.

Argument

I. Summary of the LGDS Tariff Revisions and Proceeding

LG&E's proposed revisions to the LGDS tariff ensure that the gas it transports for local producers is comparable to the gas that LG&E receives from interstate pipeline suppliers and delivers to customers. "Local gas," for purposes of the LGDS tariff, refers not only to natural gas produced conventionally from wells, but also RNG.[2] The biogas used to produce RNG comes from a variety of sources, including solid waste landfills and wastewater treatment plants.[3]

RNG differs from conventional natural gas in two key aspects: (1) the heating value of RNG is lower due to the lack of certain hydrocarbons present in natural gas and (2) the constituents in RNG may vary from natural gas depending on the feedstock used to create it, and may include contaminants.[4] LG&E's proposed tariff revisions require the local gas producer, prior to injection,

[1] MSD's Response to Question No. 7 of Commission Staff's First Request for Information; July 3, 2024 Testimony of W. James Gellner, P.E. on behalf of Louisville Metropolitan Sewer District ("Gellner Testimony") at 3.
[2] P.S.C. Gas No. 13, First Revision of Original Sheet No. 36 (March 29, 2024 Proposed Revision).
[3] August 13, 2024 Corrected Rebuttal Testimony of Tom C. Rieth in Case No. 2024-00125 ("Rieth Rebuttal") at p. 3.
[4] Rieth Rebuttal at p. 3.

to process the gas such that (1) it is comparable to the gas on LG&E's system with respect to the heating value and (2) it safely manages constituents found in the RNG.[5]

While LG&E has had an LGDS tariff since 2016, it has not had a customer take the service.[6] As the RNG industry has continued to develop, however, LG&E has received several inquiries from companies that are interested in potentially injecting RNG into LG&E's system for transportation.[7] As the inquiries grew, LG&E determined it was prudent to reexamine its LGDS tariff to ensure that the injection of RNG would be safe, reliable, and not harmful to LG&E's other customers.[8] This is consistent with the limitations of the LGDS tariff, which states that the service is available only if it does not "interfere with the operation of Company's storage or other facilities, or the delivery of gas to Company's retail sales or end-use gas transportation customers."[9]

LG&E engaged ReeThink, a consulting and collaborative research company, to provide recommendations regarding the specifications for RNG introduced onto LG&E's system, along with a verification and monitoring program that ensures compliance with the quality specifications.[10] LG&E reviewed each recommendation and prepared revisions to the LGDS tariff to reflect the recommendations it deemed prudent.[11]

In addition to the gas quality specifications and verification process, LG&E analyzed the minimum and maximum heating values in the LGDS tariff. The current range in the tariff is 967 to 1,110 Btu per scf.[12] LG&E purchases the gas it delivers to customers from two interstate pipelines: Texas Gas Transmission, LLC and Tennessee Gas Pipeline Company, LLC.[13] Like

[5] P.S.C. Gas No. 13, First Revision of Original Sheet Nos. 36 to 36.14 (March 29, 2024 Proposed Revision).
[6] Rieth Rebuttal at 3-4.
[7] Rieth Rebuttal at 3.
[8] Rieth Rebuttal at 4.
[9] P.S.C. Gas No. 13, Original Sheet No. 36.
[10] LG&E's Response to Question No. 7 of Commission Staff's First Request for Information.
[11] LG&E's Response to Question No. 7 of Commission Staff's First Request for Information.
[12] P.S.C. Gas No. 13, Original Sheet No. 36.11.
[13] Rieth Rebuttal at 4.

LG&E, the interstate pipelines have tariffs that govern their service. While the interstate tariffs contain a minimum heating value of 967 Btu per scf for the gas they deliver,[14] the interstate pipeline deliveries to LG&E have averaged 1,030 Btu per scf or greater on a monthly basis for nearly a decade.[15] During calendar year 2023, the weighted average monthly heating value for the gas delivered to LG&E was 1,060 Btu per scf.[16] Also, during 2023 the lowest monthly heating value of gas delivered to LG&E on Texas Gas Transmission, LLC was 1,030 Btu per scf, and the lowest heating value of gas delivered to LG&E on Tennessee Gas Pipeline Company, LLC was 1,052 Btu per scf.[17] In addition and importantly, LG&E's tariff states that it will "supply natural gas having an average heating value of approximately 1,050 Btu per cubic foot."[18] Given the heating values of the interstate pipeline deliveries and LG&E's commitment to supply 1,050 Btu to customers, LG&E proposes to revise the total heating value in the LGDS tariff to a range of 1,035 to 1,070 Btu per scf.

On March 29, 2024, LG&E submitted the proposed tariff revisions to the Commission for approval. On April 30, 2024, the Commission issued an order suspending the proposed effective date of the tariff revisions and establishing a procedural schedule. MSD was the only party that intervened. MSD has been in discussions to take service under LGDS to inject RNG produced at the Morris Forman Water Quality Treatment Center ("Morris Forman"), which is a wastewater treatment plant in western Louisville that is surrounded by residential neighborhoods, and industrial and commercial entities.[19] MSD objects to the revision to the heating value in the LGDS tariff but has not objected to the other gas quality specifications or verification process.[20]

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[14] LG&E's Response to Question No. 2 of Commission Staff's Third Request for Information.
[15] November 6, 2024 Hearing Transcript at 10:55:00-10:56:00 am.
[16] Rieth Rebuttal at p. 4.
[17] Rieth Rebuttal at p. 4-5.
[18] P.S.C. Gas No. 13, Original Sheet No. 99.
[19] Rieth Rebuttal generally and at Exhibit TCR-1.
[20] Gellner Testimony.

LG&E responded to four sets of data requests from the Commission, along with two rounds of discovery from MSD. MSD submitted testimony from W. James Gellner, P.E. and LG&E submitted rebuttal testimony from Tom C. Rieth, Vice President of Gas Operations. The Commission conducted an evidentiary hearing on November 6, 2024 regarding LG&E's proposed tariff revisions, during which Mr. Rieth and Mr. Gellner were subject to examination. On November 27, 2024, LG&E filed responses to post-hearing data requests from the Commission and from MSD. LG&E tenders this Opening Brief pursuant to the procedural schedule the Commission entered on November 13, 2024.

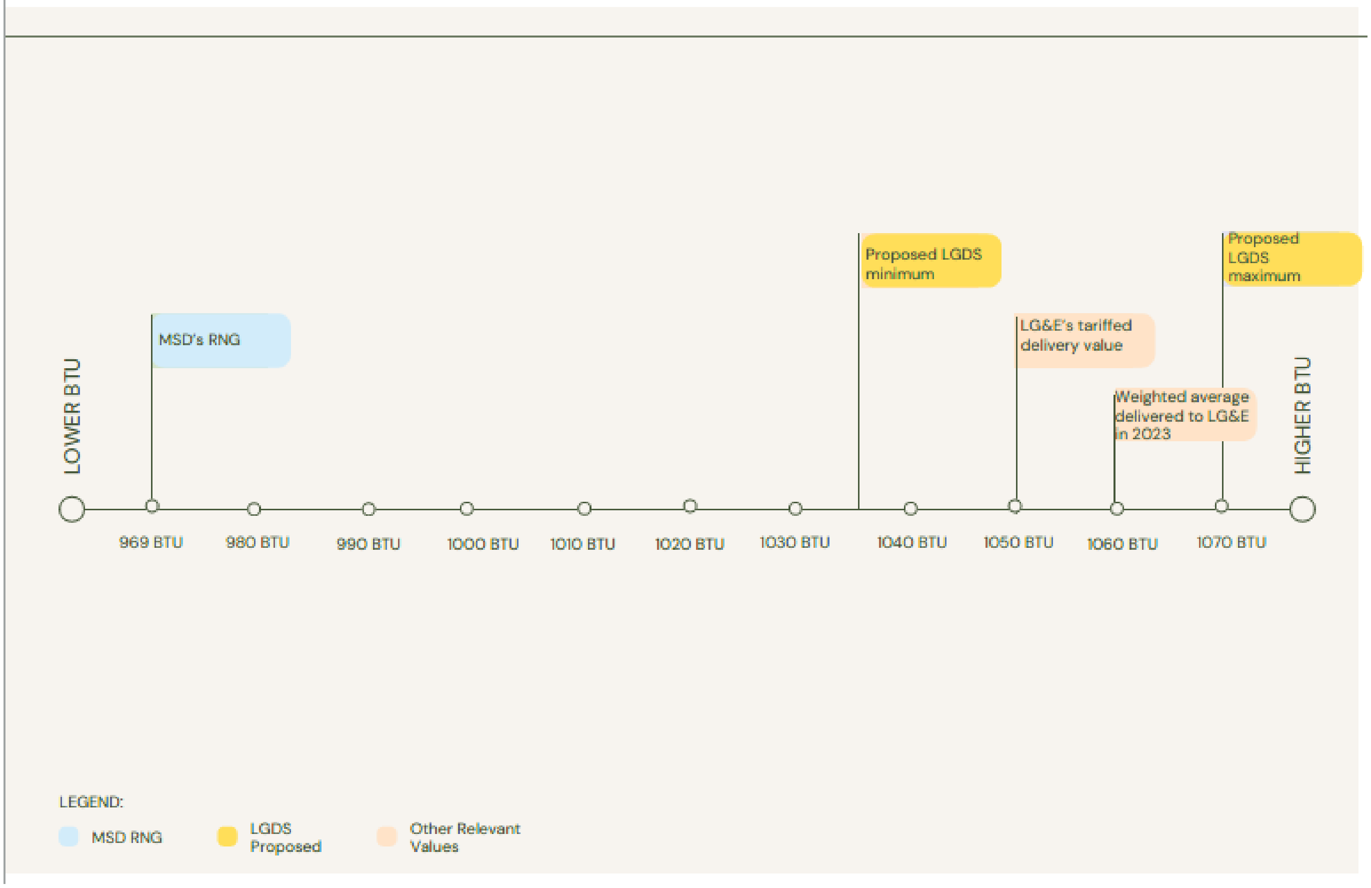
II. LG&E's Tariff Revisions are Fair, Just, and Reasonable

KRS 278.030 provides that a utility may collect fair, just and reasonable rates and that the service it provides must be adequate, efficient and reasonable. Moreover, KRS 278.170 states that no utility shall "subject any person to any unreasonable prejudice or disadvantage, or establish or maintain any unreasonable difference between localities or between classes of service for doing a like and contemporaneous service under the same or substantially the same conditions." Unless the heating value of the RNG injected into LG&E's system is comparable to the heating value of the gas received from the interstate pipelines, LG&E's other customers will be unreasonably prejudiced, as they will be required to consume more gas in order to obtain the same heating content as customers that are not located near the injection site.[21] This is true for the MSD project, as well as other potential RNG projects.

LG&E's Hearing Exhibit 1 demonstrates two key points: (1) the proposed LGDS heating value range aligns closely with the gas historically and currently delivered to customers and (2) the heating content of MSD's RNG is materially less than all other relevant heating values:

[21] Rieth Rebuttal at p. 15.

HEATING VALUES



LG&E modeled the impact to customers if MSD injects its planned amount of RNG into LG&E's main near the Morris Forman site. If MSD injects RNG with the minimum heating value currently required by Rate LGDS of 967 Btu per scf, other nearby customers will incur an additional **$200,000 per year** in heating costs based on MSD's projected annual RNG production of 320,000 MMBTU.[22] If additional producers begin injecting RNG with a similar heating value as MSD's, the costs to other customers will continue to increase. Quite simply, the significantly

[22] November 6, 2024 Hearing Transcript at 10:09-10:10 am. The $200,000 per year estimate assumes LG&E's current retail rates including the Gas Supply Cost Component. If the market price of natural gas increases in the future, the actual cost increase experienced by customers may be higher. For example, the Energy Information Administration's November 2024 *Short-Term Energy Outlook* indicates that natural gas prices are expected to be higher on average in 2025 compared to 2023 and 2024.

lower heating value of the RNG will cause nearby customers to consume more gas than other LG&E customers, in violation of KRS 278.170.

LG&E modeled, based upon the injection and pressure details that MSD provided, four operating scenarios that demonstrate how MSD's RNG will be distributed throughout LG&E's system, and the number of nearby customers that may receive RNG in varying amounts:[23]

Weather Condition	**0% to 24% RNG**	**25% to 49% RNG**	**50% to 74% RNG**	**75% and greater RNG**
Very Cold Day	9,015 customers			2 customers
Average Cold Day	4,075 customers	2,502 customers		2 customers
Average Warm Day	12,600 customers	13,173 customers		2 customers
Average Warm Day with low FT Demand	25,935 customers	5,925 customers	7,294 customers	2 customers

MSD did not dispute these results at the hearing, other than attempting to qualify their relevance by stating that the models only show one point in time.[24] LG&E agrees, as that is the purpose of such modeling, which is why LG&E modeled the flow of RNG throughout the system in a variety of temperature conditions. Again, the other model inputs were provided by MSD regarding its planned injection.[25] MSD's post-hearing data response states that if it produces less RNG than LG&E modeled, the financial impact to other customers will decrease.[26] The $200,000 estimated cost to other customers assumes that MSD will produce 320,000 MMBTU/year. Mr. Gellner's testimony states that MSD's "RNG production is anticipated to be 320,000

[23] Rieth Rebuttal Testimony at TCR-1.
[24] November 6, 2024 Hearing Transcript at 12:22:00-12:24.00 pm.
[25] MSD's Response to Question No. 12 of LG&E's First Request for Information.
[26] MSD's Response to Question No. 1 of Commission Staff's Post-Hearing Data Requests.

MMBTU/year initially, which may grow slowly as wastewater flows to Morris Forman increase."[27] Thus, LG&E based its calculation entirely on MSD's testimony.

There is a straightforward solution for producers like MSD to increase the heating content of the RNG to the 1,035 Btu per scf proposed minimum in the LGDS tariff. Producers can blend a small amount of propane into the RNG to increase the heating content; indeed, based on MSD's projected RNG heating value, blending approximately 4% of propane would sufficiently increase the RNG to 1,035 Btu per scf.[28] Mr. Gellner testified that blending propane into the RNG has no adverse impact on the status of the biogas as a renewable fuel or the ability to obtain tax credits for the RNG.[29]

III. MSD Has at Least Four Options for its RNG, Including Taking Service Under LGDS

MSD has planned $280 million in capital expenditures at Morris Forman. Nearly all of the expenditures, or approximately $250 million, involve upgrades to existing anaerobic digesters and other equipment.[30] At present, MSD creates pellets from the solids in the wastewater treatment process that are sold as Louisville Green fertilizer.[31] The planned upgrades will allow MSD to market the fertilizer as Class A biosolids.[32] These expenditures are unrelated to the LGDS tariff and do not involve RNG.

With respect to RNG, currently the biogas generated from MSD's treatment process is flared and burned off into the atmosphere.[33] MSD plans to invest $30 million to condition the biogas produced in the anaerobic digesters into RNG and sell the gas to generate Renewable

[27] Gellner Testimony at 4.
[28] LG&E's Response to Question No. 7 of Commission Staff's First Request for Information at Exhibit 3, p. 5
[29] November 6, 2024 Hearing Transcript at 12:05:00-12:06:10 PM.
[30] Gellner Testimony at p. 2-3.
[31] November 6, 2024 Hearing Transcript at 11:23:00-11:26:00.
[32] Gellner Testimony at p. 2-3.
[33] MSD's Response to Question No. 1 of Commission Staff's First Request for Information.

Identification Number (RIN) credits.[34] This will be a new, additional revenue stream for MSD.[35] MSD considered several uses for the biogas, including: (1) providing combined heat and power to MSD's facilities; (2) using the gas in MSD's thermal drying facility; and (3) producing RNG. MSD elected to pursue the RNG option because "RNG was determined to have the greatest financial benefit by ~ $39M over the 20-year project horizon."[36] In addition to the three potential biogas uses that Mr. Gellner acknowledged that MSD considered, it was clear on cross examination that MSD had not seriously studied whether it could sell the RNG at MSD's facilities, which is a fourth potential option.[37]

Mr. Gellner alleged in his testimony that if MSD is required to blend its RNG with propane to increase the heating value, it would "increase operating costs beyond cost feasibility for the project."[38] When LG&E requested the financial analyses that support his claim that the addition of propane would cause the project to be infeasible, MSD estimated "that compliance with the proposed lower limit of 1,035 BTU/SCF would increase O&M costs by $0.7M/yr," as compared to the $5.6M/year in projected net revenues.[39] Thus, MSD demonstrated that adding propane to increase the heating value will reduce MSD's yearly net revenues by merely **12.5%**. MSD certainly did not demonstrate that the operating costs associated with adding propane renders the project economically infeasible.

MSD also alleged it lacked sufficient space to inject the propane.[40] When pressed on cross examination, however, MSD conceded that it owned nearby property that could be potentially used for propane storage and also admitted it had not investigated purchasing additional property if the

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[34] Gellner Testimony at 3-4.
[35] Gellner Testimony at 4.
[36] MSD's Response to Question No. 7 of Commission Staff's First Request for Information.
[37] November 6, 2024 Hearing Transcript at 12:33:00-12:36:30 pm.
[38] Gellner Testimony at 3.
[39] MSD's Response to Question No. 3 of LG&E's First Request for Information.
[40] MSD's Response to Question No. 2 of LG&E's First Request for Information.

existing land that it owns is insufficient.[41] In short, there is no evidence that blending approximately 4% propane into the RNG renders the project infeasible from a cost or operational perspective.

There was also discussion at the hearing regarding whether the RNG could be injected into MSD's service line and routed back to MSD, instead of onto LG&E's distribution main. Mr. Gellner admitted that in this scenario, MSD could only inject as much RNG as it was consuming; otherwise, the service line would be over-pressured.[42] When questioned as to why MSD would not pursue this option and flare any excess RNG that exceeded its consumption needs, Mr. Gellner responded that MSD was not interested because it would "reduce the financial advantage," to MSD even though MSD currently flares all of its excess biogas.[43]

Conclusion

LG&E's proposed LGDS tariff revisions are fair, just, and reasonable. MSD's intervention in the proceeding highlights the necessity of the changes. Unless the minimum heating value is increased to a level comparable to the gas that LG&E purchases to deliver to customers, nearby customers will be unreasonably prejudiced by the lower heating values they will experience. For these reasons, LG&E respectfully requests the Commission to approve the LGDS tariff.

Dated: December 4, 2024 Respectfully submitted,

[41] November 6, 2024 Hearing Transcript at 12:31:00-12:33:00 PM.
[42] November 6, 2024 Hearing Transcript at 1:00:00-1:03:00 PM.
[43] November 6, 2024 Hearing Transcript at 1:01:45-1:03:00 PM.

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CERTIFICATE OF COMPLIANCE

In accordance with the Commission's Order of July 22, 2021 in Case No. 2020-00085 (Electronic Emergency Docket Related to the Novel Coronavirus COVID-19), this is to certify that the electronic filing has been transmitted to the Commission on December 4, 2024; and that there are currently no parties in this proceeding that the Commission has excused from participation by electronic means.

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Counsel for Louisville Gas and Electric Company