

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**

**CORRECTED REBUTTAL TESTIMONY OF
TOM C. RIETH
VICE PRESIDENT OF GAS OPERATIONS
LOUISVILLE GAS AND ELECTRIC COMPANY**

Filed: August 13, 2024

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Background

Q. Please state your name, position, and business address.

A. My name is Tom C. Rieth. I am the Vice President of Gas Operations for Louisville Gas and Electric Company (“LG&E”) and an employee of LG&E and KU Services Company, which provides services to LG&E and KU (collectively “Companies”). My business address is 6900 Enterprise Drive, Louisville, Kentucky 40214.

Q. Please describe your educational and professional background.

A. A statement of my professional history and education is attached to this testimony as Appendix A.

Q. Have you previously testified before this Commission?

A. I have not filed testimony before this Commission but have provided responses to data requests in numerous proceedings.

Q. What is the purpose of your testimony?

A. I will address issues raised in the testimony of W. James Gellner, P.E., Vice President of Hazen and Sawyer, on behalf of Louisville Metropolitan Sewer District (“MSD”). Specifically, I will explain: (1) the basis for LG&E’s proposed heating values in its Local Gas Delivery Service (“LGDS”) tariff; (2) that based on system modeling MSD’s RNG will likely be delivered to at least 6,500 retail customers; (3) LG&E’s discussions with MSD regarding a potential renewable natural gas (“RNG”) project; and (4) why the alternatives Mr. Gellner has proposed should not be accepted by the Commission.

LG&E’s Proposed Revisions to the LGDS Tariff

Q. Why is LG&E proposing changes to its LGDS tariff?

1 A. LG&E first established a tariff to transport local gas as part of its 2016 rate proceeding.¹
2 As explained in the direct testimony describing the proposed tariff in that rate case, LG&E
3 had begun receiving inquiries from entities potentially interested in using LG&E's system
4 to transport gas for local delivery.² LG&E proposed the LGDS tariff to (1) ensure that
5 other gas customers would not subsidize the service and (2) to establish sufficient gas
6 quality standards to prohibit the delivery of gas that would be harmful to LG&E's system
7 or its customers.³ Since then, LG&E has received additional inquiries regarding use of the
8 LGDS tariff for potential RNG projects, and the burgeoning technology led LG&E to
9 further analyze the impacts of accepting RNG for delivery.

10 RNG differs from traditional natural gas in key respects. First, the RNG process
11 produces methane, which is the primary constituent in LG&E's traditional natural gas
12 supplies; but the RNG process does not produce heavier hydrocarbons (i.e., ethane and
13 propane) that are present in traditional gas supplies. Therefore, RNG has a lower heating
14 value than traditional natural gas. Second, RNG has different constituents than natural gas,
15 which vary based upon the feedstock used to create the RNG, as RNG is produced from
16 organic waste materials. In the case of RNG produced from sewer or wastewater feedstock,
17 the constituents could include any substance that was flushed down a sink or toilet, along
18 with any chemicals that could have been added to mask odor or made their way to the
19 treatment facility. As such, RNG can have contaminants such as metals, siloxanes and
20 halocarbons.

¹ *In the Matter of: Electronic Application of Louisville Gas and Electric Company for an Adjustment of its Electric and Gas Rates and for Certificates of Public Convenience and Necessity* (Case No. 2016-00371).

² *Id.* at Direct Testimony of Robert M. Conroy.

³ *Id.*

1 Given the progression of RNG technologies, LG&E determined it was prudent to
2 propose revisions to its LGDS tariff that would adequately address the unique
3 considerations and hazards associated with transporting RNG. While MSD and its witness
4 Mr. Gellner have focused on the proposed heating value, it is important to note that the
5 heating value is simply one of many revisions LG&E has proposed to ensure that the RNG
6 it receives is safe, compatible with LG&E's pipeline system, and not harmful to customers
7 by increasing service costs or reducing service reliability.

8 **Q. Are there any producers currently injecting RNG onto LG&E's system under the**
9 **LGDS tariff?**

10 A. No. As the technology has progressed, several potential RNG producers have inquired
11 about the possibility of taking service under Rate LGDS to inject RNG. As the number of
12 inquiries increased, LG&E further studied the unique considerations associated with
13 transporting RNG, which included engaging consultants. The result of LG&E's study and
14 analysis are reflected in the proposed tariff revisions in this proceeding.

15 **Q. Why is the minimum heating value in the LGDS tariff important to the natural gas**
16 **that LG&E's retail customers receive?**

17 A. LG&E receives the natural gas it delivers to its retail customers from two interstate
18 pipelines, Texas Gas Transmission, LLC and Tennessee Gas Pipeline Company, LLC. The
19 heating values for the gas received from the two interstate pipelines are very similar.
20 During calendar year 2023, the weighted average heating value for the gas delivered to
21 LG&E was 1,060 Btu/Scf. Also, during 2023 the lowest monthly heating value of gas
22 delivered to LG&E on Texas Gas Transmission, LLC was 1,030 Btu/Scf, and the lowest
23 heating value of gas delivered to LG&E on Tennessee Gas Pipeline Company, LLC was

1 1,052 Btu/Scf. Both the yearly weighted average and the lowest monthly heating values
2 are at least 6% higher than the current minimum heating value of 967 Btu/Scf required by
3 Rate LGDS. Additionally, heating value variability associated with gas received from
4 LG&E's interstate pipeline suppliers is experienced consistently across LG&E's gas
5 system versus in isolated areas.

6 LG&E's gas customers—regardless of where they are located on the system—
7 receive a consistent natural gas product. This is important because if there is significant
8 variability, customers receiving a lower heating value gas would be required to consume
9 additional gas to obtain the same level of heat as customers that receive natural gas with a
10 higher heating value. Given that LG&E's customers are billed based on their volumetric
11 usage, LG&E strives to provide a consistent natural gas product to all customers.

12 **Q. Please explain the basis for LG&E's proposed heating values in the LGDS tariff.**

13 A. LG&E has proposed a minimum heating value of 1,035 Btu/Scf and a maximum of 1,070
14 Btu/Scf for all gas delivered to LG&E under the LGDS tariff. LG&E's proposed minimum
15 value comports with the lowest monthly heating value received from an interstate pipeline
16 during 2023 (and is lower than the weighted average of gas received from interstate
17 pipelines, which was 1,060 Btu/Scf). LG&E's purpose, as explained earlier in my
18 testimony, is to ensure that customers who receive RNG are not adversely affected by
19 having to pay for more gas to reach their required heat level. As an example, assume a
20 customer receives gas with a heating value of 1,035 Btu and uses approximately 58 Ccf. If
21 the same customer receives gas with a heating value of 967 Btu, the customer must
22 consume approximately 62 Ccf (7% more gas) to achieve the same level of heat. The
23 customer would be billed for the increased usage.

1 **Q. Please explain why interstate pipelines, intrastate pipelines and some LDCs can**
2 **accept RNG with a lower heating value than the minimum heating value proposed by**
3 **LG&E.**

4 A. RNG is a small percentage of the gas flowing into an interstate or large intrastate pipeline
5 each day and it blends with other natural gas before consumption by downstream
6 customers, such as LDCs, so customers are receiving consistent heating value even if it is
7 slightly lower. For example, the Atmos Pipeline in Texas, as referenced by MSD,⁴ is an
8 intrastate pipeline serving LDCs, industrial customers, and power generators, with
9 approximately 5,700 miles of transmission lines. The volume of gas flowing through
10 LG&E's gas distribution lines is considerably less than the volume of gas flowing through
11 interstate or intrastate pipeline transmission lines. Absent an increase in the required
12 minimum heating value, RNG received by LG&E with a heating value of about 967 Btu
13 will be delivered in some concentration to retail customers in the vicinity of each RNG
14 injection site and those customers will incur higher costs than if they received no RNG.

15 There are reasons why an LDC may be willing to receive RNG with a lower heating
16 value than the minimum heating value of 1,035 Btu proposed by LG&E. For example,
17 other LDCs charge by the therm (which measures heat content), rather than by Ccf or Mcf
18 (which measures volume) like LG&E, so they are not concerned about the lower heating
19 value of RNG increasing customer costs. For example, in California, where about 25% of
20 planned, under construction, and operational RNG facilities are located, the LDCs charge
21 a price per therm. Additionally, California LDCs, are required by the California Public

⁴ See MSD's Response to Item No. 6 of Louisville Gas and Electric Company's First Request for Information.

1 Utility Commission to collectively procure 72.8 Bcf of biomethane per year by 2030,⁵
2 which represents about 12.2% of their annual gas demand from core customers. So,
3 California LDCs are strongly encouraged to increase deliveries of RNG into their systems.

4 **LG&E's Involvement with the MSD Project**

5 **Q. Is LG&E familiar with MSD's RNG project?**

6 A. LG&E has been in communication with MSD regarding its potential RNG project. LG&E
7 understands MSD's RNG project involves utilizing a biodigester at the Morris Forman
8 Water Quality Treatment Center to produce RNG that it plans to deliver into LG&E's
9 pipeline system. It is LG&E's understanding that MSD must deliver the RNG into LG&E's
10 system in order to receive the tax credits described in Mr. Gellner's testimony. LG&E's
11 revisions to the gas quality specifications in the LGDS tariff supports projects such as this,
12 while preventing other LG&E gas customers from experiencing lower heating values or
13 other negative impacts as a result of the project.

14 **Q. Please explain whether the RNG that MSD plans to inject into LG&E's pipeline**
15 **system would be consumed by LG&E's retail customers.**

16 A. Yes, it would. On paper, the gas would be delivered to a Pool Manager supplying gas to
17 LG&E's gas transportation service customers, but physically the gas would be delivered to
18 LG&E's retail customers near the RNG injection site. For example, MSD has indicated
19 that it would like to deliver its RNG to an entity on LG&E's system that sells compressed
20 natural gas (CNG) to take advantage of RIN credits. There are no CNG stations near
21 MSD's RNG injection site. However, MSD could sell its gas to a Pool Manager for

⁵ Order Instituting Rulemaking to Adopt Biomethane Standards and Requirements, Pipeline Open Access Rules, and Related Enforcement Provisions. Rulemaking 13-02-008, Decision Implementing Senate Bill 1440 Biomethane Procurement Program (Ca. PUC Feb. 24, 2022).

1 delivery “on paper” to a CNG station on LG&E’s system. The CNG station would receive
2 traditional natural gas, and MSD’s RNG would be delivered to LG&E’s retail customers
3 near the RNG injection site.

4 Based upon the injection site where MSD has proposed to introduce RNG into
5 LG&E’s system, MSD will receive some RNG, but so will numerous retail customers.
6 Modeling predicts the “zone of influence” or specific number of customers and percentage
7 of RNG received as compared to natural gas depends upon several variables, including the
8 temperatures, system load, operating conditions, and directional flow.

9 LG&E uses an industry-standard gas hydraulic modeling software called Synergi
10 for all of its gas system modeling activities including evaluating requests for delivery of
11 RNG on its system. LG&E has modeled four scenarios to demonstrate the potential impact
12 of RNG delivered to LG&E’s system at MSD’s Morris Forman site. Maps corresponding
13 to each scenario reflect results from the modeling software and are attached as Exhibit
14 TCR-1. All scenarios assume MSD will always use gas when it is delivering RNG to
15 LG&E’s gas system.

16 The first scenario models gas usage on LG&E’s system on a very cold day with an
17 average temperature of -9°F and is intended to represent very high gas usage on LG&E’s
18 system. In this scenario, MSD delivers RNG at a rate of 60 Mcf per hour to LG&E’s
19 system and uses gas at a rate of 55 Mcf per hour. The modeling results for this scenario
20 predict that approximately 9,000 retail customers, including residential, commercial, and
21 industrial/firm transportation customers, receive RNG in an amount up to 24% of their
22 supply.

1 The second scenario models gas usage on LG&E's system on a more typical cold
2 day with an average temperature of 30°F. This scenario assumes MSD delivers RNG at a
3 rate of 60 Mcf per hour and uses gas at a rate of 40 Mcf per hour. The results for this
4 scenario predict that approximately 4,000 retail customers receive RNG in an amount up
5 to 24% of their gas supply and approximately 2,500 customers receive RNG in an amount
6 up to 49% of their gas supply. A total of approximately 6,500 customers are impacted by
7 this scenario.

8 The third scenario models gas usage on LG&E's system on a warm day with an
9 average temperature of at least 65°F and represents a day when LG&E's customers are not
10 using gas to heat their homes or businesses. This scenario assumes MSD delivers RNG at
11 a rate of 60 Mcf per hour and uses gas at a rate of 40 Mcf per hour. In this scenario
12 approximately 12,600 retail customers receive RNG in an amount up to 24% of their gas
13 supply, and approximately 13,200 retail customers receive RNG in an amount up to 49%
14 of their gas supply. A total of approximately 25,800 customers are impacted by this
15 scenario.

16 Like the third scenario, the last scenario included in the exhibit models usage for a
17 warm day (greater than or equal to 65°F average temperature), but it also assumes that the
18 typically largest gas usage customers in the area (Rate FT customers other than MSD) are
19 not using gas. This scenario assumes MSD delivers RNG at a rate of 60 Mcf per hour and
20 uses gas at a rate of 40 Mcf per hour. In this scenario approximately 26,000 customers
21 receive RNG in an amount up to 24% of their gas supply, approximately 6,000 customers
22 receive RNG in an amount up to 49% of their gas supply, and approximately 7,300

1 customers receive RNG in an amount up to 74% of their gas supply. A total of
2 approximately 39,300 customers are impacted by this scenario.

3 **Q. Does Exhibit TCR-1 represent all of the possible impacts to LG&E’s retail customers**
4 **if MSD delivers RNG to its gas system?**

5 **A.** No. LG&E’s gas system is interconnected in many locations, meaning that the gas travels
6 throughout the system. In addition to being interconnected, LG&E’s pipelines operate
7 bidirectionally allowing LG&E flexibility in operating the system based on variables such
8 as gas load, operating conditions and maintenance activities. The specific number of
9 customers and percentage of RNG received as compared to natural gas depends upon
10 several variables, including the temperatures, system load, operating conditions and
11 directional flow.

12 **Q. Do you agree with Mr. Gellner’s position that MSD did not learn that LG&E was**
13 **proposing revisions to its LGDS tariff until its filing with the Commission?**

14 **A.** No. LG&E kept MSD fully apprised of its need to propose revisions to the LGDS tariff,
15 including the heating values, as it shared this information with MSD in March 2023—an
16 entire year before LG&E’s tariff filing in March 2024.

17 In November 2022, LG&E and MSD representatives first met to discuss this
18 specific project. Later that month, MSD submitted a Rate LGDS Service Request Form
19 (“Form”) to LG&E. While Mr. Gellner characterizes this submission as an “application
20 for approval and acceptance of customer supplied RNG through submittal of a Rate LGDS
21 service request form,”⁶ the cover letter MSD submitted with the Form stated, “Please note
22 that this form has not been officially signed by MSD...A formalized request will be

⁶ Gellner Direct at 5.

1 submitted if the interconnection location identified by LG&E is not cost prohibitive to the
2 RNG project.”⁷ MSD has never submitted a completed Form to LG&E; and there is no
3 request for LGDS service currently pending.

4 The parties continued discussing the RNG project for the remainder of 2022 and
5 early 2023. During a March 17, 2023 meeting, LG&E informed MSD that LG&E had
6 concerns about gas quality, Btu content and heating value for potential RNG injection at
7 the proposed location. LG&E further explained that it had hired a consultant regarding gas
8 quality standards for RNG and that it planned to propose changes to the LGDS tariff.

9 **Q. How do you know that this information was provided to MSD during the March 17,**
10 **2023 meeting?**

11 A. On March 19, 2023, MSD submitted draft minutes of the March 17, 2023 meeting to
12 LG&E. After reviewing the draft minutes, on March 20, 2023, LG&E revised the minutes
13 to include the topics I described in the preceding answer. MSD thanked LG&E for its
14 feedback on the minutes the same day the revisions were provided.

15 **Q. Is there correspondence between LG&E and MSD regarding the RNG project that**
16 **was not provided by MSD in response to Item No. 5 of Commission Staff’s First**
17 **Request for Information?**

18 A. Yes. LG&E and MSD met on August 23, 2023, to discuss MSD’s RNG project and the
19 potential changes to Rate LGDS LG&E planned to propose. LG&E’s slides for the
20 presentation reiterated its intention to increase the minimum heating value to more closely
21 align with its interstate pipeline supplies. A copy of the slides were provided to MSD by

⁷ A copy of the cover letter is attached as Exhibit TCR-2.

1 email on August 29, 2023. MSD acknowledged receipt of the slides in an email response
2 to LG&E on the same date.

3 LG&E and MSD met on December 18, 2023, and discussed the status of the RNG
4 project. On January 3, 2024, MSD submitted draft minutes of the December 18, 2023
5 meeting to LG&E. After reviewing the draft minutes, on January 3, 2024, LG&E
6 responded with edits to the minutes. To ensure a complete record, attached as Exhibit
7 TCR-2 is the correspondence between LG&E and MSD regarding the project that MSD
8 did not provide in response to Item No. 5 of Commission Staff’s First Request for
9 Information. The Exhibit is confidential and submitted pursuant to a petition for
10 confidential protection.

11 **Q. Do you agree with Mr. Gellner’s assertion that MSD (and other RNG project**
12 **developers) cannot comply with the proposed revisions to the LGDS tariff?**

13 A. No. As an initial matter, the only proposed revisions that Mr. Gellner challenges are the
14 minimum heating value and the Wobbe Index, which is a function of the required heating
15 value; his testimony does not take issue with the gas quality standards or the testing process
16 to verify compliance with the quality standards. With respect to the heating value, MSD
17 can comply with the proposed revision by blending the RNG with propane to increase the
18 heating value.

19 While MSD describes propane as “imported,” and suggests it is unduly hazardous,
20 propane is in abundant supply in Kentucky, including Louisville, where the MSD project
21 is located. Of course, there are potential hazards with all forms of combustible and
22 flammable gas—whether it be traditional natural gas, compressed natural gas, RNG, or
23 propane. Given that MSD’s proposed project involves injecting RNG into LG&E’s natural

1 gas pipeline, it is not readily apparent how the blending of propane would materially
2 change the nature of the undertaking, including the associated hazards. Propane injection
3 is safely used for other processes, such as air/propane plants used for natural gas systems.
4 Indeed, the majority of LG&E's proposed revisions to the LGDS tariff are designed to
5 increase the safety of the RNG being introduced into LG&E's system.

6 **Q. Did MSD provide evidence that its project cannot go forward if it must utilize**
7 **propane to increase the heating value to a level that will not adversely affect LG&E's**
8 **other customers?**

9 A. MSD alleges that its operation and maintenance costs will increase by \$700,000 a year, as
10 compared to the \$5.6 million in annual net revenue that MSD expects to generate, meaning
11 that the project will produce approximately 12.5% less net revenue if it must increase its
12 heating value to a level consistent with the natural gas on LG&E's system.⁸ Respectfully,
13 LG&E's interest is ensuring that all of its customers are treated fairly and consistently.
14 Thus, it cannot elevate MSD's financial interests above those of nearby retail customers
15 who could be forced to incur the cost of greater usage.

16 MSD also suggests that the use of propane onsite may result in MSD becoming
17 regulated under both 29 CFR 1910.119 - the OSHA Process Safety Management Standard
18 and 40 CFR Part 68 USEPA Chemical Accident Prevention Provisions as enforced under
19 Regulation 5.15 by the Air Pollution Control District of Jefferson County.⁹ MSD is unclear
20 if such regulation will occur and did not provide the requested financial analyses that would
21 permit the Commission or LG&E to further analyze the feasibility of the project.

⁸ See MSD's Response to Item No. 3 of Louisville Gas and Electric Company's First Request for Information.

⁹ See MSD's Response to Item No. 2 of Louisville Gas and Electric Company's First Request for Information.

MSD's Proposed Alternatives

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Q. Please describe the two alternatives Mr. Gellner proposes in his testimony.

A. Mr. Gellner suggests two alternatives in his testimony that he believes allows MSD to deliver gas to LG&E at a lower heating value. First, he suggests that the heating value “should be left at the original 967-1,110 BTU/SCF range for standard RNG interconnections where the projected flow of RNG injected on the system would be a fraction of the average natural gas flow and, therefore, would have minimal impacts to downstream gas customers.”¹⁰ Second, he suggests that LG&E “add provisions to the LGDS tariff to allow RNG interconnection in circumstances where RNG flow is significant relative to overall gas flow if a more stringent heating value were to be met, such as a minimum 1,000 BTU/SCF.”¹¹

Q. Are either of these reasonable recommendations that LG&E believes should be accepted?

A. No. The first suggestion, which is that LG&E should permit RNG with lower heating values to be injected in areas where “the projected flow of RNG injected on the system would be a fraction of the average gas flow and, therefore, would have minimal impacts to downstream gas customers,” is not accurate for most areas of LG&E’s gas system. In the case of MSD’s proposed RNG project, the system modeling provided in Exhibit 1 predicts that over 6,500 other customers will be impacted by the RNG injection with the number of customers and concentration varying based on factors such as temperature, system loads and operating conditions.

¹⁰ Gellner Direct at 6.
¹¹ Gellner Direct at 6.

1 Mr. Gellner's second suggestion, which is to increase the heating value to 1,000
2 Btu/Scf "in circumstances where RNG flow is significant relative to overall gas flow" is
3 unworkable. Mr. Gellner fails to define "significant" with respect to overall gas flow.
4 Regardless of how "significant" is defined, whether the RNG is "significant relative to
5 overall gas flow" will vary based on the variables such as temperature, system usage and
6 operating conditions. Because system conditions change rapidly, LG&E would have to
7 monitor—in real-time—the percentage of RNG relative to overall flow. Then, LG&E
8 would have to notify the RNG producer of the issue, and the RNG producer would either
9 have to have propane at the ready, or procure propane, in order to increase the heating
10 value. By that point, the downstream customers have already incurred the higher gas usage
11 as a result of receiving a significant amount of RNG.

12 **Q. Would MSD qualify for the minimum heating value exemption alternatives that it has**
13 **proposed?**

14 A. No. As demonstrated in Exhibit TCR-1, MSD's proposed RNG injection will not cause
15 "minimal impacts to downstream gas customers." Instead, the RNG will often cause "RNG
16 flow [that] is significant relative to overall gas flow," which, according to Mr. Gellner's
17 testimony, should require the RNG producer to use propane to produce a higher heating
18 value.

19 **Conclusion**

20 **Q. What is your recommendation to the Commission?**

21 A. I recommend that the Commission approve LG&E's proposed changes to the LGDS tariff
22 so that it can transport RNG safely and consistently with the natural gas delivered to its
23 customers without increasing their cost.

24 **Q. Does this conclude your testimony?**

1 A. Yes.

The entire attachment is
Confidential and
provided separately
under seal.

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Confidential and
provided separately
under seal.

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Tom Rieth**, being duly sworn, deposes and says that he is Vice President – Gas Operations for Louisville Gas and Electric Company and an employee of LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his information, knowledge and belief.



Tom Rieth

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 12th day of August 2024.



Notary Public

Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027



APPENDIX A

Tom Rieth, PE

Vice President, Gas Operations
Louisville Gas and Electric Company
6900 Enterprise Drive
Louisville, Kentucky 40214
Telephone: (502) 627-3386

Previous Positions (all LG&E)

Director, Gas Operations, Construction and Engineering	Jun 2013 – Mar 2024
Manager, Gas Storage Operations	Aug 2008 – Jun 2013
Group Leader, Gas Regulatory	Nov 2007 – Aug 2008
Senior Engineer	Dec 2004 – Nov 2007
Engineer III	Jul 2002 – Dec 2004
Engineer II	Jun 2001 – Jul 2002

Professional/Trade Memberships

American Gas Association
Southern Gas Association
Kentucky Gas Association

Education & Certifications

University of Louisville, Master of Engineering in Chemical Engineering	1997
University of Louisville, Bachelor of Science in Chemical Engineering	1995

Civic Activities

Neighborhood House, Board of Directors	2020 – Present
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