

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC INVESTIGATION OF)	
LOUISVILLE GAS AND ELECTRIC)	
COMPANY AND KENTUCKY)	CASE NO. 2023-00422
UTILITIES COMPANY SERVICE)	
RELATED TO WINTER STORM)	
ELLIOTT)	

RESPONSE OF
KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY
TO
THE ATTORNEY GENERAL’S INITIAL DATA REQUESTS

DATED JANUARY 26, 2024

FILED: February 16, 2024

VERIFICATION

COMMONWEALTH OF KENTUCKY)
)
COUNTY OF JEFFERSON)

The undersigned, **Lonnie E. Bellar**, being duly sworn, deposes and says that he is Chief Operating Officer 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.

Lonnie E. Bellar

Lonnie E. Bellar

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 14th day of February 2024.

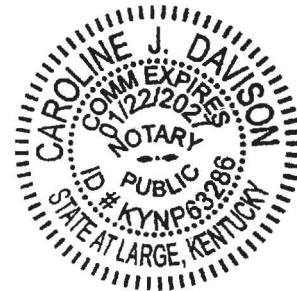
Caroline J. Davison

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
David S. Sinclair

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 14th day of February 2024.

Caroline J. Davison
Notary Public
Notary Public ID No. KYNP63286

My Commission Expires:

January 22, 2027



**KENTUCKY UTILITIES COMPANY
AND
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**Response to Attorney General's Initial Data Requests
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Case No. 2023-00422

Question No. 1

Responding Witness: Lonnie E. Bellar

Q-1. Reference generally the Companies' responses to discovery in Case No. 2022-00402,¹ which has been incorporated by reference into the record of this instant case by virtue of the Commission's December 22, 2023 Order.

- a. Since the date(s) that the Companies provided their discovery responses, explain whether any additional information, facts, and/or data relevant to this investigation have come to light that would modify the Companies' responses to those prior data requests. If so, provide all such updated responses, together with all such information and data as necessary.

A-1.

- a. This request is unreasonable and unduly burdensome in its scope. To the extent the Attorney General has a specific question about a particular discovery response in Case No. 2022-00402 (such as some of the questions propounded below to which the Companies are responding), the Companies will respond.

¹ In Re: *Electronic Joint Application of Kentucky Utilities Company And Louisville Gas And Electric Company For Certificates Of Public Convenience And Necessity And Site Compatibility Certificates And Approval Of A Demand Side Management Plan And Approval Of Fossil Fuel-Fired Generating Unit Retirements.*

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Question No. 2

Responding Witness: Lonnie E. Bellar

- Q-2. In response to AG-DR-1-13 (L) in Case No. 2022-00402, the Companies provided two reports. Explain whether the Companies have made any additions, modifications or updates to these reports. If so, provide marked-up copies together with explanations. Explain also: (i) whether any new reports covering the same subject matters as in the original reports have been prepared, and if so, provide copies; and (ii) whether the Companies have retained any independent contractors / experts to conduct any studies, reports or analyses pertaining to the relevant cold weather outages.
- A-2. The Companies have updated AG-DR-1-13 (L) Attachment 1 from Case No, 2022-00402 to reflect changes in derates associated with Texas Gas and with non-Texas Gas Cold Weather derates. See attachment being provided in a separate file. These derates were not previously accounted for properly due to errors in data transcription and interpretation. Also note that "Generation Alert" status began at 06:10 on December 23, 2022, not 05:10 as indicated in the referenced attachment.

For documents responsive to (i), see the response to PSC 1-85. For (ii), no, there has been no such retention.

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Question No. 3

Responding Witness: Lonnie E. Bellar

- Q-3. Reference the Feb. 2, 2023 LG&E-KU Presentation slides provided to the Kentucky Legislature, incorporated by reference into this docket, at p. 5, which states, "The Companies are working with Texas Gas Transmission to address event and reduce risk of future occurrence." Provide an update on the remedial actions that Texas Gas Transmission, LLC ("Texas Gas") has initiated or undertaken to mitigate the risk of any similar outage from repeating. If Texas Gas has provided any reports or studies to the Companies regarding their remedial actions, please provide copies of same.
- A-3. See the response to PSC 1-19.

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Question No. 4

Responding Witness: Lonnie E. Bellar

- Q-4. Reference the Feb. 2, 2023 LG&E-KU Presentation slides provided to the Kentucky Legislature, p. 5, which states, "Companies are reviewing their own winter operating procedures to reduce risk of equipment failure." Explain whether the Companies have initiated any changes to their winter operating procedures, and if so, provide a detailed explanation of all such changes and how each such change is designed to mitigate the risk of a potential recurrence of similar operating issues.
- A-4. See the responses to PSC 1-24 and 1-25.

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Question No. 5

Responding Witness: Lonnie E. Bellar

- Q-5. Reference the FERC/NERC report incorporated by reference into the docket of the instant case, "Inquiry Into Bulk Power System Operations During December 2022 Winter Storm Elliott" (FERC/NERC Report). Do the Companies agree with the summary, timing and description of the events depicted therein pertaining to issues incurred in the Companies' system? If not, explain in detail.
- A-5. The Companies agree with the summary, timing, and description of the events in the report that specifically describe issues that occurred and impacted Companies' systems; however, for the sake of clarity, the Companies note that portions of the "Analysis and Findings" section of the report are a collective summary and in some instances do not reflect the specific issues that impacted the Companies or their preparations for such events, but instead address issues that impacted other respondents.

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Question No. 6

Responding Witness: Lonnie E. Bellar

- Q-6. Do the Companies agree with one of the premises of the FERC/NERC report, that most issues that occurred in the Eastern Interconnect during Winter Storm Elliott (the Storm) can be broken into these categories: mechanical/electrical issues; fuel issues; and freezing issues?² If not, explain in detail. If so, how do the Companies breakdown the specific issues their system encountered during the Storm?
- A-6. The Companies' major issue during Winter Storm Elliott was low gas delivery pressure from the Texas Gas Transmission interstate pipeline that resulted in significant derates at Cane Run and Trimble County as described in the response to AG 1-13 in Case No. 2022-00402. While the FERC/NERC report may have included this issue with other "fuel issues," it is technically different from the other fuel issues described in the report and, as such, the recommendations of the report are not applicable to this key contributor to the Companies' issues during the event. While the Companies believe the categories described in the FERC/NERC report seem generally reasonable, the Companies have not studied each issue that occurred in the Eastern Interconnect.

² FERC/NERC Report at 91.

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Question No. 7

Responding Witness: Lonnie E. Bellar

- Q-7. Provide a discussion regarding whether the Companies generally believe that any of the cold weather mitigation measures that generation owners and LDCs located in northern states undertake could prove useful to the Companies in the future in meeting their reliability requirements.
- A-7. The Companies have not performed an analysis evaluating the cold weather mitigation measures used by generation owners and LDCs located in the northern United States and therefore cannot state whether such measures as a whole or in specific could be useful to the Companies in the future. Further, the Companies note that the primary contributor to the Companies' issues during the event was low gas delivery pressure from the Texas Gas Transmission interstate pipeline that resulted in significant derates at Cane Run and Trimble County (as described in the response to AG 1-13 in Case No. 2022-00402), and not an issue with the Companies' equipment or facilities. However, there is potential that measures taken by other generation owners and LDCs could prove useful in the Companies' overall reliability goals, which is why the Companies have actively participated in NERC development processes regarding cold weather preparedness requirements and recommendations for generation. The Companies are also actively involved with EPRI and other industry organizations to stay abreast of best practices. Any cold weather mitigation measure would need to be evaluated based on applicability to the Companies' operations, as well as cost, safety, and reliability.

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Question No. 8

Responding Witness: Lonnie E. Bellar

- Q-8. Provide a discussion of whether the Companies have reconsidered adding dual-fuel capability to any of their generating stations (other than the 4 Brown CTs which already have dual-fuel capability). Include in your response whether on-site (or near-site) storage of gas in either gaseous or LNG state can be a cost-effective solution.
- a. Confirm also that LG&E's gas LDC operation already stores significant quantities of gas in caverns.
 - b. Explain whether the Companies are aware of any caverns at or near their generating stations that might be capable of storing gas.
 - c. Explain how the Companies can access the gas stored in caverns.
 - d. Explain if the gas stored in caverns could have been used during Winer Storm Elliott. If not, explain in detail.
 - e. Explain if the gas in caverns could be accessed in the future to mitigate disruption of pipeline service. If not, explain in detail.
- A-8. Texas Gas Transmission ("Texas Gas") uses storage, some of which is located in Kentucky, to support the reliability of its interstate pipeline. Furthermore, the Companies are currently working with Texas Gas to evaluate the potential costs, benefits, and siting considerations of procuring gas storage services on the Texas Gas system and adding dual fuel capability to existing and planned units served by the Texas Gas system.
- a. LG&E's gas LDC operates four natural gas storage fields with a maximum total storage capacity of 20.1 Bcf and a total working gas volume of 11.1 Bcf.
 - b. The Companies have not performed any analysis to evaluate the development of natural gas storage fields at or near their generating stations.

- c. The Companies' generating units at Cane Run, Paddy's Run, Trimble, E. W. Brown, and Ghent do not connect to the LDC's natural gas pipeline system. Mill Creek Units 1-4 startup and stabilization gas is provided by the gas LDC under a special contract with an MDQ of 16,560 Mcf/day.
- d. Mill Creek Units 1-4 startup and stabilization MDQ was available from the LDC.
- e. The Companies have not performed an analysis to evaluate the possibility of future access of the LDC natural gas storage fields for the generating units and therefore cannot state whether such measures could be useful to the Companies in the future. That aside, the paramount purpose of the LG&E LDC's gas acquisition is to serve LDC customers, not generating units. Moreover, the Companies reiterate that the gas-related issue they experienced during Winter Storm Elliott was not an issue of gas *supply*, but rather of *pressure* due to Texas Gas's equipment failures. Thus, even if the LDC had offered additional gas supply for generator usage, it would not have mitigated any load shedding that occurred on December 23, 2022.

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Question No. 9

Responding Witness: Lonnie E. Bellar

- Q-9. Regarding the new natural gas combined cycle (NGCC) unit that the Companies have received permission to construct, explain what measures designers / contractors will undertake to mitigate against cold-weather problems that could affect the unit's operation and performance. Include in your response whether any such measures are required by NERC.
- A-9. The pending contract for Mill Creek 5 requires that design and construction take all necessary measures to ensure full operability of the generating unit at ambient dry-bulb temperature down to -15.5 degrees F. Further, all piping for the unit must be protected against freezing of the pipeline contents at ambient dry-bulb temperature down to -25 degrees F at windspeeds up to 20 miles per hour. -15.5 degrees F represents a 50-year low temperature for the applicable location. These requirements comply with the NERC Standard EOP-012 with an effective date of October 1, 2024. While the contractor's obligation is not limited by the following, the methods by which this design and construction will be achieved generally include ambient shelters, appropriate area heating, insulation, and heat tracing.

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Question No. 10

Responding Witness: Lonnie E. Bellar

- Q-10. Provide an update on the status of the construction of the new NGCC.
- A-10. The Companies have substantively concluded negotiations on an agreement with the best evaluated bidder. With some terms and conditions remaining, the Companies expect to have the agreement signed by February 29, 2024.

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Question No. 11

Responding Witness: Lonnie E. Bellar

- Q-11. Provide an update on the status of the design / construction of the SCR for Ghent Unit 2.
- A-11. The Companies do not currently have plans to construct an SCR for Ghent 2 but will continue to evaluate options for Ghent 2's compliance with potential environmental regulations including constructing an SCR, seasonal operation, or retirement.

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Question No. 12

Responding Witness: Lonnie E. Bellar

Q-12. Referring to the Response to AG-DR-1-13 (L), attachment 1, pp. 1-2, confirm that the derates at Cane Run 7 were caused exclusively by the drop in pressure referenced in this report. If not confirmed, provide a comprehensive explanation regarding all other causes for the Cane Run 7 derates that have been identified.

A-12. Confirmed.

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Question No. 13

Responding Witness: Lonnie E. Bellar

- Q-13. Referring to the Response to AG-DR-1-13 (L), attachment 1, pp. 1-2, confirm that the derates at the Trimble CTs were caused exclusively by the drop in pressure referenced in this report. If not confirmed, provide a comprehensive explanation regarding all other causes for the Trimble CT derates that have been identified.
- A-13. Confirmed.

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Question No. 14

Responding Witness: Lonnie E. Bellar

- Q-14. Provide a discussion regarding how the interruption in energy deliveries from OVEC, and TVA’s withdrawals of its energy contributions to the Contingency Reserve Sharing Group affected the Companies’ ability to prevent load shedding.
- A-14. The Companies expected and received 88 MW hourly from OVEC from hour ending 0800 to hour ending 2400 on December 23, 2023, inclusive of the hours of the load shedding event. This is a reduction of 90 MW from the maximum amount the Companies could expect to receive from OVEC (178 MW). Therefore, if OVEC had performed without derates or outages, it is reasonable to assume that the maximum load shed would have been reduced by 90 MW. The reasons for the OVEC reduction in deliveries are listed below:

Unit	LG&E/KU MW rcvd	Notes
Clifty Creek 2	15	Incremental derate – unknown cause
Clifty Creek 4	15	Incremental derate – unknown cause
Clifty Creek 5	16	Boiler deslag was complete by hour ending 7 on 12/23/22; full 16 MW received beginning HE 8.
Kyger Creek 1	15	Incremental derate - pulverizer capacity
Kyger Creek 2	12	ID fan trip; unit returned derated by hour ending 8
Kyger Creek 5	15	Incremental derate - fuel quality
TOTAL	88	

Five OVEC units (Clifty Creek 1, 3, and 6 and Kyger Creek 3 and 4) were offline on December 22, 2022, prior to the arrival of Winter Storm Elliott. The outage causes are listed below.

- | | |
|----------------|---|
| Clifty Creek 1 | Planned outage – extended on 12/1/22; returned 1/9/23 |
| Clifty Creek 3 | Tube weld issue; header leak; returned 12/26/22 |
| Clifty Creek 6 | Tube leak; returned 12/24/22 |
| Kyger Creek 3 | Boiler plugged - sec. superheat; returned 12/25/22 |
| Kyger Creek 4 | Pump drain valve and tube repair; returned 12/25/22 |

See the response to PSC 1-41 regarding the purpose of the Contingency Reserve Sharing Group.

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Question No. 15

Responding Witness: Lonnie E. Bellar

Q-15. Provide a summary of the events which transpired at the Trimble 1 and 2 coal units that contributed to the loss of generating capacity. Provide also a detailed and comprehensive explanation of all measures the Companies have undertaken, and/or are undertaking, to remediate the issues identified and to reduce the risk of such events occurring again.

A-15. Trimble County Unit 1 came offline Dec 22, 2022, due to a failure of the bottom ash submerged drag chain conveyor hydraulic drive gearbox. This occurred prior to the start of the winter storm event, and repairs were in progress on the unit during the event. The cause of the issue was not related to the winter conditions. The Companies maintain a spare hydraulic drive gearbox onsite, which was subsequently installed.

The Trimble County Unit 2 boiler feed pump suction pressure transmitter that froze and caused a subsequent unit derate was insulated to prevent future occurrence.

Trimble County Unit 2 experienced low cold end temperatures on the air heater, which increases the risk of corrosion and plugging. The water coil air heaters ("WCAH") in the ductwork upstream of the air heater normally provide enough heat to keep the air heater temperatures above their minimum operating level. The extreme low ambient temperatures caused high demand on the WCAH, which led to a drop in deaerator level (supply to the heaters) and a subsequent derate on the unit. This occurred between 12/23/22 and 12/27/22.

The WCAH system is being studied to identify possible causes and solutions to these issues. See the response to PSC 1-26(e) for information on the WCAH study.

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Question No. 16

Responding Witness: Lonnie E. Bellar

Q-16. Reference the Response to AG-DR-1-13 (L), attachment 1, p. 2. Confirm whether the Companies still believe that the derates unrelated to Texas Gas supply ranged from 45 MW – 361 MW. Explain how many customers would have experienced rolling outages if the total derates had been limited solely to those unrelated to the Texas Gas supply issue.

A-16. Regarding the first part of the request, confirmed.

Regarding the second part of the request, none. If the total derates had been limited solely to those unrelated to the Texas Gas low-pressure issue, the Companies would have had sufficient capacity to meet all customers' energy demands and meet reserve requirements.

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Question No. 17

Responding Witness: Lonnie E. Bellar

Q-17. Explain whether any of the Companies' black start units were affected by the Storm, and if so, provide a comprehensive explanation of all measures the Companies have undertaken to mitigate against the risk of any reoccurrence of these issues.

A-17. The Companies' black start units were not impacted by the storm.

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Question No. 18

Responding Witness: Stuart A. Wilson

- Q-18. Explain whether as a result of the Final Order issued in the 2022-00402 docket, the revised generation mix resulting therefrom will in any manner affect the Companies’ projected reliability indices. If so: (i) explain whether the Companies will have to engage in any additional weather-hardening of any of its supply-side resources; and (ii) provide all data to support the Companies’ conclusions.
- A-18. The portfolio resulting from the November 2023 Order in Case No. 2022-00402 is expected to have excellent reliability with a loss of load expectation (“LOLE”) in 2028 well below the industry standard of 1.0 day in ten years, as shown in the table below. LOLE figures are provided for scenarios with and without Ghent 2 in service during the ozone season (May through September). See the response to Question No. 11.

Portfolio	LOLE (days/10 years)		
	Summer (Jun-Aug)	Winter (Jan-Feb, Dec)	Full Year
Without Ghent 2 in-service during ozone season	0.08	0.10	0.19
With Ghent 2 in service during ozone season	0.00	0.10	0.10

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Question No. 19

Responding Witness: Lonnie E. Bellar

- Q-19. Reference the response to AG-DR-1-23 in the 2022-00402 docket. Explain whether the Final Order's requirement to keep Brown Unit 3 running, and the granting of the CPCN to construct the Brown BESS, will affect any arrangements the Companies have made with EKPC.
- A-19. There are no arrangements between the Companies and EKPC that will be affected by the Final Order's requirements described in the request for information.

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Question No. 20

Responding Witness: Stuart A. Wilson

- Q-20. Reference the response to AG-DR-1-33 in the 2022-00402 docket. Can the Companies confirm that the addition of all of the solar projects identified therein will not materially improve their wintertime (December-February) reliability indices? Provide a complete explanation.
- A-20. Confirmed. Attachment 1 to the Companies' response to PSC PH-20 in Case No. 2022-00402 demonstrates that winter reliability metrics improve immaterially when solar resources are added to a portfolio as winter reliability increases marginally only during winter daylight hours.

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Question No. 21

Responding Witness: Lonnie E. Bellar / Charles R. Schram

- Q-21. Explain whether the difficulties TVA encountered in supplying contingency reserves during the Storm have caused the Companies to seek any revisions to the document, "PJM, TVA and LG&E/KU Joint Reliability Coordination Agreement" referenced in AG-DR-2-2 in the 2022-00402 docket. If so, provide a description of those changes. Include in your response whether all parties to this agreement have formally entered into / executed the agreement.
- A-21. Contingency reserve sharing group arrangements are not addressed in the PJM, TVA and LG&E/KU Joint Reliability Coordination Agreement ("JRCA"). See the response to PSC 1-41 regarding the Contingency Reserve Sharing Group. The parties to the JRCA are not currently pursuing any revisions or changes to the JRCA as a result of Winter Storm Elliott.

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Question No. 22

Responding Witness: Lonnie E. Bellar

Q-22. Were any of the coal piles on site at the Companies' coal-fired generating units inaccessible during the Storm? If so, explain why.

A-22. No.

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Question No. 23

Responding Witness: Lonnie E. Bellar

- Q-23. How much supply of coal (tons) was on site at each of the Companies’ coal-fired generating units during the Storm? Equate the amount of coal available at each plant to the number of days each unit was capable of operating.
- A-23. The on-site coal inventory at each of the Companies’ coal-fired generation stations on December 23, 2022, is listed in the table below.

Station	Tons	Days of supply at full load
E. W. Brown	179,177	45
Ghent	607,029	29
Mill Creek	458,336	31
Trimble County	413,652	34
System	1,658,194	32

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Question No. 24

Responding Witness: Lonnie E. Bellar

- Q-24. Provide the operational status for each of the Companies' generating units during the Storm, the fuel source and the production capacity for each hour of the period Dec. 22-25. If a generating unit was not operating for any part of any hour during this period, explain why.
- a. Explain also whether the Companies made any off-system sales to PJM at any point during the period Dec. 22-25.

- A-24. See the response to JI 1-164(b) in Case 2022-00402 for the hourly output of units and the response to JI 1-22(d) in Case 2022-00402 for the operational status of each unit. Except as noted, the fuel sources for units were:

BR3	coal with fuel oil for startup and stabilization
GH1-4	coal with fuel oil for startup and stabilization
MC1-4	coal with natural gas for startup and stabilization
TC1-2	coal with natural gas for startup and stabilization
CR7	natural gas
BR5-11	natural gas (BR8-10 with backup fuel oil – see notes below)
TC5-10	natural gas
PR12-13	natural gas
HF1-2	natural gas
DX1-3	hydro
OF1-8	hydro
BR solar	solar irradiance
Simpsonville Community Solar	solar irradiance

Notes:

BR8 fuel oil from 0702 on 12/23/22 - 1457 on 12/24/22
BR9 fuel oil from 0350 on 12/23/22 - 1504 on 12/24/22
BR11 fuel oil from 0740-1539 on 12/23/22

- a. See the attachment provided in response to PSC 1-36 in the “Sales” worksheet.

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Question No. 25

Responding Witness: Lonnie E. Bellar

Q-25. Per the Commission's order initiating this investigation at p. 2, the Storm affected 54,637 customers. Explain whether all of these customers were affected by rolling black outs due to issues with the Company's generation stations, or whether this total includes any customers who lost power through wires down, trees on wires, transformer issues, or any other causes commonly encountered with storms.

A-25. In total, 54,637 customers were affected by the load shed event. The highest number of customers that were affected at any given point in time was approximately 38,000 customers. The load shed event lasted from 5:59 pm to 10:11 pm and the average length of outage per customer was estimated to be 59 minutes. However, while implementing rotational load shed, the outage time for certain customers increased as a result of the need to dispatch field personnel to manually close the breakers at a few substations where power circuit breakers could not be closed back under supervisory control from the Transmission Control Center. It is estimated that the load shed event would have lasted from 5:59 pm to 8:45 pm and the average length of outage per customer would have been approximately 43 minutes if there had not been any issues closing breakers back under supervisory control during rotational load shed.

62,017 customers experienced outages due to Winter Storm Elliott that are not included in this total. See attachment to the response to PSC 1-12 for additional detail on those outages.

**KENTUCKY UTILITIES COMPANY
AND
LOUISVILLE GAS AND ELECTRIC COMPANY**

**Response to Attorney General's Initial Data Requests
Dated January 26, 2024**

Case No. 2023-00422

Question No. 26

Responding Witness: Lonnie E. Bellar / David S. Sinclair

Q-26. Can the companies confirm that no rolling blackouts occurred during January of 2024?

A-26. Confirmed. No rolling blackouts or rotational load shed occurred during January 2024.

As discussed in response to PSC 1-24, temperatures during the period of January 14 through January 21 were in the single digits in Louisville on several days (Winter Storm Heather). During that time, the Companies did not experience any gas pressure issues on the pipelines serving the Companies' gas-fired generation units and none of the Brown turbines were operated on oil. The Companies had adequate generation to serve load throughout the week.

To put Winter Storm Heather and the Companies' performance in context, as the attached presentation from the American Gas Association points out, the nation set a new natural gas demand record on January 15, 2024, the U.S. power sector a new daily winter record for gas demand on January 16, 2024, and natural gas generation was the single largest source of U.S. electricity generation from January 13 through January 18, 2024. All of this occurred despite natural gas production declines that week because storage withdrawals met the increase in demand and the loss of production. See attachment being provided in a separate file.