

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**In the Matter of:**

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

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**POST-HEARING BRIEF OF**  
**LOUISVILLE GAS AND ELECTRIC COMPANY**  
**AND KENTUCKY UTILITIES COMPANY**

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**Filed: August 9, 2024**

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TABLE OF ACRONYMS

AG	Attorney General
ATC	Available Transmission Capacity
BA	Balancing Authority
CSR	Curtable Service Rider
EEA	Energy Emergency Alert
FERC	Federal Energy Regulatory Commission
JI	Joint Intervenors
KCA	Kentucky Coal Association
KU	Kentucky Utilities Company
LG&E	Louisville Gas and Electric Company
LOLE	Loss of Load Expectation
MISO	Midcontinent Independent System Operator
MW	Megawatt
NERC	North American Electric Reliability Corporation
SC	Sierra Club
TGT	Texas Gas Transmission
TVA	Tennessee Valley Authority
WSE	Winter Storm Elliott

**I. While Winter Storm Elliott challenged utility systems across the Eastern Interconnection, the Companies took all reasonable steps to adequately serve their customers before, during, and after the Storm, even in the face of an unprecedented gas pressure collapse.**

The extensive record in this case demonstrates that Louisville Gas and Electric Company (“LG&E”) and Kentucky Utilities Company (“KU”) (collectively, “Companies”) met all of their service obligations—both to customers and to the entire Eastern Interconnection—under the extremely challenging circumstances that Winter Storm Elliott (“WSE” or the “Storm”) presented, including a historically unprecedented gas pressure collapse on a Texas Gas Transmission (“TGT”) pipeline.

WSE was a storm of exceptional magnitude, extending approximately 2,000 miles across the entire width of the Eastern Interconnection from December 21 to December 26 in 2022.<sup>1</sup> The Storm’s unique features created severe operating challenges for load serving entities across the interconnection, requiring several to declare energy emergencies and necessitating load shedding from at least six Balancing Authorities (“BAs”) to maintain reliability of the bulk electric system.<sup>2</sup> The Storm resulted in 5,400 MW of firm load shedding across the entire Eastern Interconnection—the largest controlled load shedding event in the interconnection’s history.<sup>3</sup>

The Companies saw the Storm coming and fully prepared for it.<sup>4</sup> The Companies anticipate and plan for severe weather events as a necessary reality of providing utility service,

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<sup>1</sup> FERC, NERC, & Regional Entity Staff, *Inquiry into Bulk-Power System Operations During December 2022 Winter Storm Elliott* at 7-9 (Oct. 2023) [hereinafter “NERC/FERC Oct. 2023 Report”].

<sup>2</sup> NERC/FERC Oct. 2023 Report at 7-11; see also *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*, Case No. 2022-00402, Companies’ Response to Commission Staff’s (“PSC”) 1-58(b) (filed Mar. 10, 2023).

<sup>3</sup> NERC/FERC Oct. 2023 Report at 6.

<sup>4</sup> *Joint Meeting of House and Senate Committees on Natural Resources and Energy*, 2023 Leg. (Ky. Feb. 2, 2023) (statement of Lonnie E. Bellar), available at <https://www.youtube.com/watch?v=cgSugxzwohY> at 1:49:00-1:49:34.

and they take all reasonable and prudent steps to prepare for such events.<sup>5</sup> Entering the operating day on December 23, 2022—when the Storm entered the Companies’ service territories—the Companies had what historically would have been ample resources to meet peak load demand, even assuming an above-average amount of outages or derates.<sup>6</sup>

But despite the reasonable efforts that the Companies undertook both before and during the Storm, an unprecedented failure and unavailability of multiple redundant systems on a TGT pipeline on December 23, 2022 caused TGT’s delivery pressure to two of the Companies’ generating stations to fall precipitously, well below contractually required levels and well below any pressures the Companies had previously experienced using TGT’s pipeline.<sup>7</sup> This unprecedented gas pressure collapse eventually required the Companies to conduct their first-ever customer curtailments due to an energy shortfall in more than one hundred years of supplying safe, adequate, and reliable utility service to their Kentucky customers.<sup>8</sup> Of the 5,400 MW of firm load shed across the Eastern Interconnection, only 317 MW was attributable to the Companies’ service territories at the peak of the event, with levels decreasing over the duration of the evening on December 23.<sup>9</sup>

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<sup>5</sup> *Electronic Investigation of Louisville Gas and Electric Company and Kentucky Utilities Company Service Related to Winter Storm Elliott*, Case No. 2023-00422, Companies’ Response to PSC 1-23 at 2 (filed Feb. 16, 2024); Case No. 2023-00422, Companies’ Response to Joint Intervenors’ (“JI”) 1-21 (filed Feb. 16, 2024); Case No. 2023-00422, Companies’ Response to Kentucky Coal Association’s (“KCA”) 1-2 (filed Feb. 16, 2024); Case No. 2022-00402, Companies’ Response to JI 1-22(c)(ii) (filed Mar. 10, 2023); *Joint Meeting of House and Senate Committees on Natural Resources and Energy*, 2023 Leg. (Ky. Feb. 2, 2023) (statement of Lonnie E. Bellar), available at <https://www.youtube.com/watch?v=cgSugxzwohY> at 1:49:00-1:49:34.

<sup>6</sup> Case No. 2022-00402, Attachment 1 to Companies’ Response to Attorney General’s (“AG”) 1-13(l) at 1 (filed Mar. 10, 2023); Case No. 2023-00422, Companies’ Response to PSC 2-1 at 2 (filed Mar. 15, 2024); *Joint Meeting of House and Senate Committees on Natural Resources and Energy*, 2023 Leg. (Ky. Feb. 2, 2023) (statement of Lonnie E. Bellar), available at <https://www.youtube.com/watch?v=cgSugxzwohY> at 1:49:35-1:49:51.

<sup>7</sup> *Joint Meeting of House and Senate Committees on Natural Resources and Energy*, 2023 Leg. (Ky. Feb. 2, 2023) (statement of Jeffrey Sanderson, TGT), available at <https://www.youtube.com/watch?v=cgSugxzwohY> at 18:10-19:20, 31:00-31:36.

<sup>8</sup> 5/23/2024 Hearing, VR 7:45:17 p.m. – 7:45:31 p.m. (Wilson).

<sup>9</sup> NERC/FERC Oct. 2023 Report at 14.

The Companies sought to minimize impacts on customers when conducting these necessary and prudent curtailments, which impacted around five percent of the Companies' total customer base (less than four percent at peak shedding), lasted just over four hours in total, and resulted in average curtailments of less than an hour for affected customers. Under extremely challenging circumstances, the Companies balanced their obligations to both customers and the entire Eastern Interconnection to help avoid possible uncontrolled cascading outages.<sup>10</sup> As soon as the Companies knew that system conditions required customer curtailments, they endeavored to reestablish service to all impacted customers with the shortest possible delay.<sup>11</sup>

The Companies took reasonable, prudent, and deliberate steps to learn from the lessons that WSE presented regarding how the Companies could improve system and operational performance in future severe weather events and guard against a reoccurrence of curtailments under similar and reasonably foreseeable circumstances.<sup>12</sup> Among these steps, the Companies worked in conjunction with TGT to ensure that improvements are in place to reduce the likelihood of future natural gas delivery pressure issues to the Companies' generating stations.<sup>13</sup>

Before, during, and after the Storm, the Companies supplied and continued to provide adequate electric service to their customers. Perfection is not the legal or industry standard to measure adequate service; rather, reasonable and prudent operation is.<sup>14</sup> Because the Companies

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<sup>10</sup> Case No. 2023-00422, Companies' Response to PSC 1-51 (filed Feb. 16, 2024); Case No. 2022-00402, Companies' Responses to PSC 1-58(b) and PSC 1-73 (filed Mar. 10, 2023); *Joint Meeting of House and Senate Committees on Natural Resources and Energy*, 2023 Leg. (Ky. Feb. 2, 2023) (statement of Lonnie E. Bellar), available at <https://www.youtube.com/watch?v=cgSugxzwohY> at 1:49:52-1:50:11, 1:51:41-1:52:13.

<sup>11</sup> 5/23/2024 Hearing, VR 4:36:00 p.m. – 4:36:37 p.m., 4:45:50 p.m. – 4:46:10 p.m. (Bellar); VR 7:26:45 p.m. – 7:27:18 p.m. (Schram).

<sup>12</sup> *See, e.g.*, Case No. 2022-00402, Companies' Response to PSC PHDR-13 (filed Sept. 15, 2023).

<sup>13</sup> *See* Case No. 2023-00422, Companies' Response to PSC 1-19 (filed Feb. 16, 2024); Case No. 2022-00402, Companies' Response to PSC 1-58(a) (filed Mar. 10, 2023); Case No. 2022-00402, Companies' Response to PSC 2-67 (filed May 4, 2023); Case No. 2022-00402, Companies' Response to PSC 4-8 (filed June 9, 2023).

<sup>14</sup> *See infra* Section II.

have not failed to render adequate service under Kentucky law, the Commission should close this proceeding without requiring further action.

**II. Kentucky law requires utilities to operate reasonably—not perfectly—when providing adequate utility service to customers, and the Companies operated reasonably throughout the Storm.**

The applicable legal standard for the operation and provision of electric utility service under Kentucky law is reasonableness, not perfection. KRS 278.030(2) states, “Every utility shall furnish adequate, efficient and reasonable service,” not perfect, uninterrupted service.<sup>15</sup> KRS 278.018(3) empowers the Commission to make findings as to whether a retail electric supplier is rendering adequate service within its certified territory.<sup>16</sup> If a retail electric supplier is not providing adequate service, the Commission may order the utility to provide adequate service within a reasonable time.<sup>17</sup>

Adequate service is defined in KRS 278.010(14) to mean “having sufficient capacity to meet the maximum estimated requirements of the customer ... and ... of other actual customers to be supplied from the same lines or facilities ... and to assure such customers of reasonable continuity of service.”<sup>18</sup> Underpinning this definition is the idea that utilities must perform reasonably to provide adequate service. The utility must assure *reasonable continuity* of service, but the utility is not held to a standard of perpetually uninterrupted service.

In fact, the Commission’s rules for electric utilities explicitly anticipate that service interruptions *will* occur. 807 KAR 5:041, Section 5, Maintenance and Continuity of Service, states in Subsection (1): “Each utility shall make all reasonable efforts to prevent interruptions of service,

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<sup>15</sup> See KRS 278.030(2).

<sup>16</sup> KRS 278.018(3).

<sup>17</sup> KRS 278.018(3) (“[I]n the event the commission finds that such retail electric supplier is not rendering or does not propose to render adequate service, the commission may enter an order specifying in what particulars such retail electric supplier has failed to render or propose to render adequate service and order that such failure be corrected within a reasonable time, such time to be fixed in such order.”).

<sup>18</sup> KRS 278.010(14).

and *when* such interruptions occur shall endeavor to reestablish service with the shortest possible delay.”<sup>19</sup> Not if, but *when* service interruptions become necessary, despite a utility’s reasonable prevention efforts, the utility must act reasonably to restore customers’ service as quickly as feasible. The coexistence of an adequate service standard and a service interruption regulation necessarily means that service interruptions and reasonable, adequate utility service are not mutually exclusive.

Perfection is neither the standard for operating a utility, nor for planning future utility operations. Instead, utility system planning anticipates a loss of system load due to a generation capacity shortfall one day out of every ten-year period through the Loss of Load Expectation (“LOLE”) metric. Historically, this Commission, NERC, and the industry as a whole has accepted a 1-in-10 LOLE as a reasonable planning standard.<sup>20</sup> If perfection were the standard, then a 0-in-10 LOLE would be the only acceptable planning metric.

Indeed, the Commission’s November 6, 2023 Order in Case No. 2022-00402 proves this point. In that Order, the Commission approved a generation portfolio for the Companies—well after Winter Storm Elliott—that would not result in a zero loss-of-load expectation.<sup>21</sup> Thus, perfection is not even the planning standard, much less the operating standard.

While the Companies certainly strive for excellence, Kentucky law does not require utilities to be perfect to provide adequate service to customers as the term is defined in KRS 278.010(14). The expansive record in this case—incorporating also the record of Case No. 2022-00402, the NERC/FERC October 2023 Report on the Storm, and a February 2023 legislative

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<sup>19</sup> 807 KAR 5:041, Section 5(1). Similar regulations contemplating the reality of service interruptions exist for other types of regulated utilities. See 807 KAR 5:022, Section 2(2) (gas utilities); 807 KAR 5:066, Section 4(1) (water utilities); and 807 KAR 5:071, Section 6(1) (sewage utilities).

<sup>20</sup> Case No. 2022-00402, Order at 80, 80 n.291 (Ky. PSC Nov. 6, 2023).

<sup>21</sup> See Case No. 2023-00422, Companies’ Response to AG 1-18 (filed Feb. 16, 2024). Notably, the Companies’ approved portfolio is expected to have an LOLE well below the industry standard.

committee meeting—demonstrates that the Companies acted reasonably and prudently at all times before and during WSE to estimate customer load forecasts, identify available and sufficient capacity to meet customer needs, and ensure that any interruptions to service were addressed as quickly as possible. Therefore, the Commission should find that the Companies rendered adequate service within their service territories before, during, and after the Storm.

**III. Before Winter Storm Elliott, the Companies prudently and proactively prepared their equipment and personnel to brace for the Storm to provide adequate service to their customers.**

The Companies took all reasonable and prudent steps to prepare for WSE. Each year, the Companies brace for the winter season by proactively evaluating and preparing for potential severe or freezing weather.<sup>22</sup> This includes evaluating and developing any necessary plans to address potential impacts to the transmission system, conducting periodic capacity and energy emergency drills for system operators, undertaking weatherization projects to improve generators' resiliency to frigid temperatures, and performing preventative maintenance on transmission and generation equipment to prevent potential operational issues.<sup>23</sup>

In addition to evaluating their own systems, the Companies communicate with TGT each year prior to the winter heating season to ensure that TGT's infrastructure is prepared to transport gas to the Companies throughout the winter.<sup>24</sup> The Companies and TGT have had a strong working relationship for decades,<sup>25</sup> including a long-established practice of having winter preparedness communications with TGT coming into winter, which they did coming into 2022-

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<sup>22</sup> Case No. 2023-00422, Companies' Response to KCA 1- 2 (filed Feb. 16, 2024).

<sup>23</sup> Case No. 2023-00422, Companies' Response to KCA 1- 2 (filed Feb. 16, 2024); *see also* Case No. 2023-00422, Attachment to Companies' Response to Sierra Club's ("SC") 1-41 (filed Feb. 16, 2024).

<sup>24</sup> 5/23/2024 Hearing, VR 5:08:35 p.m. – 5:08:55 p.m. (Schram).

<sup>25</sup> Case No. 2023-00422, Companies' Response to KCA 2-1 (filed Mar. 15, 2024).



2023 winter season.<sup>26</sup> Prior to the Storm, the Companies had no reason to expect or anticipate that TGT would be unable to deliver gas at or near the contractually specified pressures over the course of the winter because a severe low-pressure issue had never occurred.<sup>27</sup>

When the Companies became aware that the Storm was approaching in the days leading up to WSE, they took additional measures to prepare. Several days prior to WSE, the Companies forecasted higher loads during the morning of December 23, 2022.<sup>28</sup> Accordingly, they began preparing to bring natural gas generators online prior to the extreme cold.<sup>29</sup> The Companies purchased natural gas and scheduled it for transportation on the interstate transmission pipeline for use by natural gas simple cycle combustion turbines.<sup>30</sup>

On December 20, the Companies issued a “Cold Weather Alert” for their service territories effective December 22.<sup>31</sup> The Companies brought online all significant bulk electric system transmission facilities that had been in planned outages before December 22, and they rescheduled any planned maintenance that had been expected to occur during WSE.<sup>32</sup> In anticipation of the Storm, LG&E and KU had transmission line and substation crews stationed across their service territories to proactively prepare for potential infrastructure issues or service outages.<sup>33</sup>

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<sup>26</sup> See 5/23/2024 Hearing, VR 5:08:35 p.m. – 5:09:36 p.m. (Schram); *Joint Meeting of House and Senate Committees on Natural Resources and Energy*, 2023 Leg. (Ky. Feb. 2, 2023) (statement of Jeffrey Sanderson, TGT), available at <https://www.youtube.com/watch?v=cgSugxzwohY> at 16:35-17:00.

<sup>27</sup> Case No. 2023-00422, Companies’ Response to KCA 2-1 (filed Mar. 15, 2024); Case No. 2023-00422, Companies’ Response to PSC 1-21(b) at 2 (filed Feb. 16, 2024).

<sup>28</sup> Case No. 2022-00402, Companies’ Response to JI 1-22(c)(ii) at 3 (filed Mar. 10, 2023); *see also* Case No. 2023-00422, Attachment to Companies’ Response to AG 1-2 at 1 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies’ Response to AG 1-13(l) at 1 (filed Mar. 10, 2023) (noting the 14-day projected net peak was forecasted to be 5,899 MW on December 23 at 20:00).

<sup>29</sup> Case No. 2022-00402, Companies’ Response to JI 1-22(c)(ii) at 3 (filed Mar. 10, 2023).

<sup>30</sup> Case No. 2022-00402, Companies’ Response to JI 1-22(c)(ii) at 3 (filed Mar. 10, 2023); Case No. 2023-00422, Companies’ Response to KCA 1-14 (filed Feb. 16, 2024); Case No. 2022-00402, Companies’ Response to JI 4-22 at 2 (filed July 7, 2023).

<sup>31</sup> Case No. 2023-00422, Companies’ Response to KCA 1-2 at 1 (filed Feb. 16, 2024).

<sup>32</sup> Case No. 2023-00422, Companies’ Response to KCA 1-2 at 1-2 (filed Feb. 16, 2024).

<sup>33</sup> Case No. 2023-00422, Companies’ Response to KCA 1-2 at 2 (filed Feb. 16, 2024).

On the generation side, each plant prepared its generating facilities for potential extreme cold weather in accordance with individualized cold weather operating plans and consistent with NERC and FERC recommendations, including having units on and running prior to onset of extreme cold weather.<sup>34</sup>

Crucially, the Companies had ample capacity resources available coming into WSE. Going into December 23, LG&E and KU had 7,239 MW of available capacity, not including contingency reserves.<sup>35</sup> The actual peak that day was 6,559 MW, which was well within the available capacity the Companies had at the beginning of the operating day.<sup>36</sup>

In short, with annual proactive winter preparations complete, and after taking specific steps to anticipate the incoming Storm in the days before December 23, the Companies prudently and reasonably prepared to adequately serve customers throughout Winter Storm Elliott.

**IV. During Winter Storm Elliott, the Companies operated reasonably to minimize customer impacts and ensure system stability despite numerous simultaneous challenges experienced throughout the Eastern Interconnection.**

The Companies took all reasonable and prudent steps to minimize both the number of customers curtailed and the duration of curtailments during WSE. While the Companies had planned for and anticipated possible derates and outages, an unforeseen, first-time issue with low pressure on a natural gas transportation pipeline led to an energy emergency event on December 23 that persisted through December 24.<sup>37</sup> In the face of several operational challenges—some expected, and some unprecedented—the Companies performed reasonably at every step to ensure

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<sup>34</sup> See Case No. 2023-00422, Attachment to Companies' Response to KCA 1-2 (filed Feb. 16, 2024).

<sup>35</sup> Case No. 2023-00422, Companies' Response to PSC 2-1 (filed Mar. 15, 2024); Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 1 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies' Response to AG 1-13(l) at 1 (filed Mar. 10, 2023).

<sup>36</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 1 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies' Response to AG 1-13(l) at 1 (filed Mar. 10, 2023).

<sup>37</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 (filed Feb. 16, 2024).

that their systems remained stable and balanced and that their customers could be served safely and adequately.

### ***A. The Companies' System Prior to Customer Curtailments***

On the evening of December 22, 2022, temperatures began to drop rapidly across Kentucky.<sup>38</sup> Conditions continued to deteriorate overnight and into the morning of December 23.<sup>39</sup> As temperatures fell, customer demand increased, likely driven primarily by electric heating.<sup>40</sup> After certain of the Companies' generating units experienced derates or outages in the early hours of December 23,<sup>41</sup> the Companies' generation dispatch went into "Alert Status" at 6:10 a.m., an internal status requesting that plant personnel avoid any unnecessary risks with generating units.<sup>42</sup> At 9:00 a.m., the Companies issued curtailment orders to Curtailable Service Rider ("CSR") customers, directing their ten CSR customers to reduce load consistent with their contractual agreements with the Companies.<sup>43</sup>

### ***B. Impacts on Companies' System Resulting from Neighboring System Challenges***

Beginning shortly after 11:00 a.m., the gas pressure on the TGT pipeline supplying gas to the Companies' Cane Run and Trimble County generating stations began to drop below contract limits.<sup>44</sup> TGT immediately began efforts to restore the pressure and informed the Companies that

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<sup>38</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 1 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies' Response to AG 1-13(l) at 1 (filed Mar. 10, 2023).

<sup>39</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 2 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies' Response to AG 1-13(l) at 2 (filed Mar. 10, 2023).

<sup>40</sup> Case No. 2022-00402, Companies' Response to JI 1-22(c)(i) (filed Mar. 10, 2023).

<sup>41</sup> 5/23/2024 Hearing, VR 9:29:16 a.m. – 9:30:27 a.m. (Bellar).

<sup>42</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 4 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies' Response to AG 1-13(l) at 4 (filed Mar. 10, 2023); 5/23/2024 Hearing, VR 9:30:40 a.m. – 9:31:03 a.m. (Bellar).

<sup>43</sup> See Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 5 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies' Response to AG 1-13(l) at 5 (filed Mar. 10, 2023); see also Case No. 2023-00422, Companies' Responses to PSC 1-48 and PSC 1-49 (filed Feb. 16, 2024); Case No. 2022-00402, Companies' Response to PSC 2-59(b) (filed May 4, 2023).

<sup>44</sup> Case No. 2023-00422, Companies' Response to SC 2-14 (filed Mar. 15, 2024); Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 4-5 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to JI 1-4(a) (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to KCA 1-4 (filed Feb. 16, 2024); Case No.

the gas pressure situation might be resolved at any time.<sup>45</sup> But despite TGT’s best efforts and the existence of two redundant back-up systems,<sup>46</sup> the drop in pressure on the TGT pipeline began affecting the Companies’ generating units between 1:00 p.m. and 2:00 p.m., resulting in significant derates that varied as the pressure changed.<sup>47</sup> The low gas pressure issue persisted until the afternoon of December 25.<sup>48</sup>

Meanwhile on December 23, other load serving entities experienced operational challenges as the Storm swept across the region, amplifying the impact of the derates caused by the TGT low pressure issue on the Companies’ system.<sup>49</sup> For example, the Companies were required to provide an additional 450 MW of contingency reserves when on the morning of December 23 the Tennessee Valley Authority (“TVA”) withdrew its reserve requirement contribution to the joint contingency reserves shared by the Companies and TVA, which TVA withdrew due to its own capacity shortfall.<sup>50</sup>

As a result of the unanticipated and significant derates at the Cane Run and Trimble County generating stations—worsened by the challenges being faced by neighboring systems—the LG&E

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2022-00402, Attachment 1 to Companies’ Response to AG 1-13(l) at 4-5 (filed Mar. 10, 2023); Case No. 2022-00402, Companies’ Response to JI 1-27 (filed Mar. 10, 2023); Case No. 2022-00402, Companies’ Response to SC 2-1(f) at 2 (filed May 4, 2023).

<sup>45</sup> 5/23/2024 Hearing, VR 9:32:00 a.m. – 9:32:47 a.m. (Bellar).

<sup>46</sup> 5/23/2024 Hearing, VR 5:05:28 p.m. – 5:06:58 p.m. (Schram).

<sup>47</sup> Case No. 2023-00422, Attachment to Companies’ Response to AG 1-2 at 4-5 (filed Feb. 16, 2024); Case No. 2023-00422, Companies’ Response to KCA 2-4 (filed Mar. 15, 2024); Case No. 2022-00402, Attachment 1 to Companies’ Response to AG 1-13(l) at 4-5 (filed Mar. 10, 2023).

<sup>48</sup> Case No. 2023-00422, Attachment to Companies’ Response to AG 1-2 at 2 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies’ Response to AG 1-13(l) at 2 (filed Mar. 10, 2023).

<sup>49</sup> Case No. 2023-00422, Attachment to Companies’ Response to AG 1-2 at 2 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies’ Response to AG 1-13(l) at 2 (filed Mar. 10, 2023); NERC/FERC Oct. 2023 Report at 60-69.

<sup>50</sup> See Case No. 2023-00422, Attachment to Companies’ Response to AG 1-2 at 2 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies’ Response to AG 1-13(l) at 2 (filed Mar. 10, 2023); Case No. 2022-00402, Companies’ Response to PSC PHDR-14 (filed Sept. 15, 2023); 5/23/2024 Hearing, VR 9:31:04 a.m. – 9:31:39 a.m. (Bellar). For reference, the Companies’ own contingency reserve requirement was 243 MW per the agreement, but in the absence of a contribution from TVA, the Companies contributed about 710 MW on the morning of December 23 so that the reserves held an amount equal to cover the loss of the Companies’ largest unit. See *id.*

and KU Balancing Authority requested its Reliability Coordinator, TVA,<sup>51</sup> to declare a level three Energy Emergency Alert (“EEA-3”) on behalf of the LG&E/KU BA at 1:36 p.m. on December 23.<sup>52</sup> By 2:52 p.m., the BA’s status improved to EEA-2.<sup>53</sup> However, less than an hour later, the Companies experienced derates at two generating units: a boiler feed pump tripped, resulting in a 269 MW derate, and then a frozen coal tripper caused a feeder failure, resulting in a 120 MW derate.<sup>54</sup>

Notably, the Companies had been able to purchase from MISO, PJM, and TVA at various times on December 23.<sup>55</sup> However, these systems experienced energy shortfalls of their own throughout the Storm, with TVA declaring an EEA at 5:38 a.m. on December 23, and PJM and MISO both declaring EEAs at 5:30 p.m.<sup>56</sup> PJM curtailed a 400 MW export to the Companies at 4:30 p.m. on December 23 because PJM was close to its own load curtailments.<sup>57</sup> TVA, which was then in EEA-2 status, supplied 400 MW of emergency energy to the Companies after PJM curtailed.<sup>58</sup> At 4:45 p.m., the Companies’ BA reentered EEA-3 status.<sup>59</sup> Then, TVA’s own issues caused it to enter EEA-3 status at 5:18 p.m. and to inform the Companies that it was going to

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<sup>51</sup> See Case No. 2022-00402, Companies’ Response to SC 2-15(d) at 2 (filed May 4, 2023); Case No. 2022-00402, Companies’ Response to SC 3-4 (filed June 9, 2023); Case No. 2022-00402, Companies’ Response to JI 4-4 (filed July 7, 2023).

<sup>52</sup> See NERC/FERC Oct. 2023 Report at 10 n.23 (“See Reliability Standard EOP-011-2 - Emergency Preparedness and Operations, ‘Attachment 1-EOP-011-2 Energy Emergency Alerts’ for the levels of alerts and energy emergencies, at <https://www.nerc.com/pa/Stand/Reliability%20Standards/EOP-011-2.pdf>. EEA levels indicate to neighboring Balancing Authorities that a Balancing Authority is experiencing an energy emergency and the level of severity. The Reliability Coordinator is responsible for declaring EEAs for its Balancing Authorities within its footprint per EOP-011-2, Requirement R6, and as detailed in Attachment 1.”); see also NERC/FERC Oct. 2023 Report at 64-65; Case No. 2023-00422, Attachment to Companies’ Response to AG 1-2 at 2 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies’ Response to AG 1-13(l) at 2 (filed Mar. 10, 2023).

<sup>53</sup> Case No. 2023-00422, Companies’ Response to PSC 1-31 (filed Feb. 16, 2024).

<sup>54</sup> 5/23/2024 Hearing, VR 9:33:20 a.m. – 9:33:54 a.m. (Bellar).

<sup>55</sup> Case No. 2022-00402, Companies’ Response to SC 1-19(b) at 3-4 (filed Mar. 10, 2023); Case No. 2023-00422, Companies’ Response to JI 2-5(e) at 2-3 (filed Mar. 15, 2024); Case No. 2022-00402, Companies’ Response to PSC 1-58(b)(1) at 2 (filed Mar. 10, 2023); Case No. 2022-00402, Companies’ Response to AG 1-14 (filed Mar. 10, 2023); Case No. 2023-00422, Companies’ Response to PSC PHDR-5(a) (filed July 8, 2024).

<sup>56</sup> NERC/FERC Oct. 2023 Report at 63-65.

<sup>57</sup> Case No. 2023-00422, Companies’ Response to JI 2-15 (filed Mar. 15, 2024).

<sup>58</sup> NERC/FERC Oct. 2023 Report at 65.

<sup>59</sup> Case No. 2023-00422, Companies’ Response to PSC 1-31 (filed Feb. 16, 2024).

curtail its export to the Companies going into the hour beginning at 6:00 p.m.<sup>60</sup> Thus, the Companies did not know actual curtailments would be necessary until approximately forty minutes prior to when curtailments began at 5:58 p.m.<sup>61</sup>

With the loss of this 400 MW import to help offset some of the derates caused by TGT's low pressure (which ranged from 688 MW to 846 MW),<sup>62</sup> the Companies' only option to preserve the bulk electric system's stability was to begin shedding load.<sup>63</sup> Prior to and during the Companies' load shedding, they sought to purchase any available power; at times, there simply was none available even though the Companies had ample available transmission capacity ("ATC") with neighboring systems to receive imports.<sup>64</sup>

In sum, as stated at the hearing in this matter, WSE "was almost the perfect storm. A ton of things had to go wrong in order to get into the situation that so many utilities found themselves in—a number of things in rapid succession—and a lot of them were outside the Companies' control."<sup>65</sup> Indeed, the Companies did face numerous challenges leading up to the load shedding that occurred on the evening of December 23. The freezing and mechanical issues experienced by the Companies during the Storm were in line with the types of events that the Companies plan for

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<sup>60</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 5 (filed Feb. 16, 2024); NERC/FERC Oct. 2023 Report at 64-65.

<sup>61</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 5 (filed Feb. 16, 2024).

<sup>62</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 (filed Feb. 16, 2024).

<sup>63</sup> Case No. 2023-00422, Companies' Responses to PSC 1-51, PSC 1-72, and PSC 1-73 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to PSC 2-24 (filed Mar. 15, 2024); Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 5 (filed Feb. 16, 2024); Case No. 2022-00402, Companies' Response to PSC 1-58(b) at 2 (filed Mar. 10, 2023).

<sup>64</sup> Case No. 2023-00422, Companies' Responses to PSC PHDR-7 and PSC PHDR-8(a) (filed July 8, 2024); Case No. 2023-00422, Companies' Response to PSC 1-54 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to JI 1-19(f) at 3 (filed Feb. 16, 2024); Case No. 2022-00402, Companies' Response to PSC 1-58(b) at 2 (filed Mar. 10, 2023); Case No. 2022-00402, Companies' Response to AG 1-14 (filed Mar. 10, 2023); Case No. 2022-00402, Companies' Response to SC 1-19(b) at 3-4 (filed Mar. 10, 2023).

<sup>65</sup> 5/23/2024 Hearing, VR 2:17:11 p.m. – 2:17:28 p.m.

and anticipate.<sup>66</sup> But the unprecedented gas pressure collapse on the TGT pipeline, which was outside the Companies' control, ultimately required the Companies to begin customer curtailments for the first time in the Companies' history.<sup>67</sup> Had the anomalous issue with TGT's gas pressure not occurred, the Companies would not have had to shed load.<sup>68</sup>

### ***C. Customer Curtailments During Storm***

When curtailments began, the Companies curtailed radial lines to ensure load reduction and rotated curtailments to minimize impacts on customers.<sup>69</sup> The Companies' deliberate approach limited the total number of customers affected by the load shedding event to 54,637.<sup>70</sup> By implementing rotational load shedding, the highest number of customers affected at any given point in time was approximately 38,000 customers, and this peak level of load shedding lasted less than 30 minutes.<sup>71</sup> The entire curtailment lasted 4 hours and 18 minutes,<sup>72</sup> and the average customer curtailment was less than an hour.<sup>73</sup>

After curtailments began, the system's load continued to increase for several hours,<sup>74</sup> even after the Companies had issued public appeals for customers to voluntarily reduce usage.<sup>75</sup> The

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<sup>66</sup> See, e.g., Case No. 2023-00422, Companies' Response to PSC 1-81 (filed Mar. 15, 2024); Case No. 2023-00422, Companies' Responses to JI 2-8 and JI 2-9(a) (filed Mar. 15, 2024); Case No. 2022-00402, Attachment to Companies' Response to PSC 1-99 (filed Mar. 10, 2023).

<sup>67</sup> See Case No. 2023-00422, Companies' Responses to AG 1-6 and AG 1-8(e) at 2 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to SC 1-37 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Responses to KCA 2-1, KCA 2-6, and KCA 2-7 (filed Mar. 15, 2024).

<sup>68</sup> See Case No. 2023-00422, Companies' Response to AG 1-16 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Responses to KCA 1-5 and KCA 1-7 (filed Feb. 16, 2024).

<sup>69</sup> See Case No. 2023-00422, Companies' Response to PSC 1-69 (filed Feb. 16, 2024); 5/23/2024 Hearing, VR 9:36:26 a.m. – 9:37:26 a.m. (Bellar).

<sup>70</sup> Case No. 2023-00422, Companies' Response to AG 1-25 (filed Feb. 16, 2024).

<sup>71</sup> *Id.*

<sup>72</sup> See Case No. 2023-00422, Companies' Response to PSC 1-45 (filed Feb. 16, 2024); Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 5-6 (filed Feb. 16, 2024).

<sup>73</sup> Case No. 2022-00402, Companies' Response to PSC PHDR-29 (filed Sept. 15, 2023); Case No. 2022-00402, Companies' Response to SC 1-19(a)(i) at 2-3 (filed Mar. 10, 2023); 5/23/2024 Hearing, VR 9:35:35 a.m. – 9:36:55 a.m. (Bellar).

<sup>74</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 3 (Capacity Emergency Event Chart) (filed Feb. 16, 2024).

<sup>75</sup> See Case No. 2023-00422, Companies' Responses to PSC 1-62 and PSC 1-63 (filed Feb. 16, 2024); 5/23/2024 Hearing, VR 11:33:03 a.m. – 11:34:00 a.m. (Bellar).

Companies issued public appeals shortly after the load shedding began, rather than prior to, because (a) it was the Companies' reasonable belief that curtailment would not be needed until very shortly before shedding began,<sup>76</sup> and (b) once the Companies realized that load shedding was necessary, there was no time to issue a public appeal before curtailments began.<sup>77</sup> The Companies believed that the TGT gas pressure issue would be resolved at any point during the day on December 23.<sup>78</sup> But for the gas pressure issue, load shedding would not have been necessary. In addition, the need to shed load became apparent only about forty minutes before curtailments began, so "it wouldn't have been possible to get [the public appeals] out any quicker than we did, ... right at the time we were shedding load."<sup>79</sup>

Moreover, there is no evidence to suggest that such public appeals would have resulted in any reduction in load during the Storm. During the evidentiary hearing, the Companies' witness Lonnie Bellar explained the importance of carefully timing and directing public appeals to prevent an unintended and undesirable increase, rather than a decrease, in total demand.<sup>80</sup> If an appeal goes out too broadly, or too soon relative to when interruptions are expected to occur, "some customers, expecting their electricity to be cut off, would go to their thermostats and actually increase the heating load, and therefore the electric load, on our system. So, it could serve to increase load. For example, if you were going to curtail 10,000 customers and an appeal goes out to a million customers and 100,000 of them go out and increase their usage, you could have the backfire."<sup>81</sup> The Companies acted reasonably to issue sensible public appeals as soon as they knew that load shedding was imminent.

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<sup>76</sup> 5/23/2024 Hearing, VR 11:31:15 a.m. – 11:32:22 a.m. (Bellar).

<sup>77</sup> 5/23/2024 Hearing, VR 11:32:07 a.m. – 11:32:21 a.m. (Bellar).

<sup>78</sup> 5/23/2024 Hearing, VR 11:31:15 a.m. – 11:32:22 a.m. (Bellar), VR 5:05:45 p.m. – 5:06:00 p.m. (Schram).

<sup>79</sup> 5/23/2024 Hearing, VR 11:31:54 a.m. – 11:32:21 a.m. (Bellar).

<sup>80</sup> 5/23/2024 Hearing, VR 11:33:04 a.m. – 11:34:00 a.m., 4:33:45 p.m. – 4:35:05 p.m. (Bellar).

<sup>81</sup> 5/23/2024 Hearing, VR 4:34:22 p.m. – 4:34:50 p.m. (Bellar).



Throughout the events of WSE, the Companies complied with their energy curtailment and service restoration procedures as stated in their respective tariffs.<sup>82</sup> The purpose of these tariff provisions is to provide procedures and action steps that the Companies may take in the event of a capacity shortage or service outage.<sup>83</sup> The tariff establishes defined priority levels for consideration in the event of a manual load shed, though the prioritization levels are not mandatory when impractical to implement.<sup>84</sup> The Companies' tariffs make clear that any customer may be impacted by rotating or unplanned outages.<sup>85</sup> The Companies must balance specific individual customer needs with infrastructure needs that affect a larger population to ensure that their system integrity is preserved and to prevent a collapse of the interconnected electric network.<sup>86</sup>

#### ***D. Exiting the Energy Emergency***

The Companies' load curtailment ended at 10:11 p.m. on December 23, as load levels fell in the late evening hours of the day.<sup>87</sup> At 2:06 p.m. on December 24, the Companies' status moved to EEA-0, and the energy emergency concluded.<sup>88</sup> By the afternoon of December 25, gas pressures returned to contracted pressure levels allowing the gas units at Cane Run and Trimble County generation stations to return to normal operations.<sup>89</sup>

#### **V. After Winter Storm Elliott, the Companies implemented reasonable improvements to equipment and procedures to strengthen future performance and prevent a reoccurrence of curtailments under similar conditions.**

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<sup>82</sup> See LG&E P.S.C. Electric No. 13, Original Sheet Nos. 107, 107.1, 107.2, and 107.3; KU P.S.C. Electric No. 20, Original Sheet Nos. 107, 107.1, 107.2, and 107.3.

<sup>83</sup> LG&E P.S.C. Electric No. 13, Original Sheet No. 107; KU P.S.C. Electric No. 20, Original Sheet No. 107.

<sup>84</sup> LG&E P.S.C. Electric No. 13, Original Sheet No. 107.1, 107.3; KU P.S.C. Electric No. 20, Original Sheet No. 107.1, 107.3; *see also* Case No. 2023-00422, Companies' Response to PSC PHDR-10(b) at 2 (filed July 8, 2024).

<sup>85</sup> LG&E P.S.C. Electric No. 13, Original Sheet No. 107.3; KU P.S.C. Electric No. 20, Original Sheet No. 107.3.

<sup>86</sup> LG&E P.S.C. Electric No. 13, Original Sheet No. 107, 107.3; KU P.S.C. Electric No. 20, Original Sheet No. 107, 107.3; Case No. 2023-00422, Companies' Response to PSC 1-73 (filed Feb. 16, 2024).

<sup>87</sup> Case No. 2023-00422, Companies' Response to PSC 1-45 (filed Feb. 16, 2024).

<sup>88</sup> Case No. 2023-00422, Companies' Response to PSC 1-31 (filed Feb. 16, 2024).

<sup>89</sup> Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 2 (filed Feb. 16, 2024); Case No. 2022-00402, Attachment 1 to Companies' Response to AG 1-13(l) at 2 (filed Mar. 10, 2023).

The Companies have taken reasonable and prudent steps after WSE to prevent a reoccurrence of curtailments in similar future circumstances. The Companies learn from extreme weather events like WSE to improve future performance, and the Storm's unprecedented challenges presented several opportunities for the Companies to implement new procedures and improve equipment to strengthen the resiliency of their system for the future.<sup>90</sup>

Because the gas pressure issue on TGT's system was the first of its kind and played such a central role in the Companies' need to shed load on December 23, the Companies took several steps to prevent the likelihood of future gas pressure problems. First, the Companies worked directly with TGT to understand the root cause of the problem and to ensure that TGT implemented sufficient infrastructure and weatherization upgrades, along with operational improvements, to prevent a reoccurrence of the same issue under similar future circumstances.<sup>91</sup>

Second, the Companies installed upgraded software for six simple cycle combustion turbines at Trimble County to allow them to operate at pressure levels like those experienced during the Storm.<sup>92</sup>

Third, in constructing the Companies' new natural gas combined cycle unit Mill Creek 5, as approved by the Commission in Case No. 2022-00402,<sup>93</sup> the Companies considered compression options to account for the conditions experienced during the Storm.<sup>94</sup> Mill Creek 5

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<sup>90</sup> See Case No. 2023-00422, Companies' Response to PSC 1-23 at 2 (filed Feb. 16, 2024). See, e.g., Case No. 2022-00402, Attachments 1 and 2 to Companies' Response to PSC PHDR-13 (filed Sept. 15, 2023); 5/23/2024 Hearing, VR 10:02:32 a.m. – 10:02:45 a.m. (Bellar).

<sup>91</sup> Case No. 2023-00422, Companies' Responses to PSC 1-19 and PSC 1-87 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to JI 1-7(b) (filed Feb. 16, 2024); Case No. 2022-00402, Attachment to Companies' Response to PSC 1-58(a) (filed Mar. 10, 2023); Case No. 2022-00402, Attachment to Companies' Response to PSC 2-67(b) (filed May 4, 2023); Case No. 2022-00402, Attachment to Companies' Response to PSC 4-8(b) (filed June 9, 2023); 5/23/2024 Hearing, VR 9:37:45 a.m. – 9:38:00 a.m. (Bellar); VR 5:04:20 p.m. – 5:05:08 p.m. (Schram).

<sup>92</sup> Case No. 2023-00422, Companies' Response to PSC 1-21 (filed Feb. 16, 2024); 5/23/2024 Hearing, VR 9:38:00 a.m. – 9:38:14 a.m. (Bellar).

<sup>93</sup> Case No. 2022-00402, Final Order at 171 (Ky. PSC Nov. 6, 2023).

<sup>94</sup> Case No. 2022-00402, Companies' Response to PSC 2-67(a) (filed May 4, 2023).

will have on-site compression equipment that will allow it to operate under any of the pipeline pressure conditions that occurred during the Storm.<sup>95</sup>

Finally, the Companies are undertaking an overall fuel security study that contemplates the possibility of adding compression or dual fuel capability at certain generating units to further support system reliability.<sup>96</sup> This study is expected to be completed later this year, and will be provided to the Commission within ten days of completion.<sup>97</sup>

In addition to the measures aimed to address potential gas pressure issues, the Companies have refined their load shedding procedures so that in the unlikely event it ever becomes necessary again, they will be able to do so in an even more precise way.<sup>98</sup> The curtailments during WSE occurred at the transmission circuit level, and the revised procedures allow for a more granular load shedding approach at the distribution level.<sup>99</sup> The Companies also assessed and enhanced operational procedures regarding coordination between the distribution control center and transmission control center to streamline communications in the event of a future energy emergency.<sup>100</sup>

To enhance their reliability after the Storm even more, the Companies also: incorporated the weather and load data from WSE into the short-term load forecast process to serve as an input for future forecasts in similar conditions;<sup>101</sup> met with all CSR customers to discuss and review

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<sup>95</sup> Case No. 2023-00422, Companies' Response to PSC 1-20 (filed Feb. 16, 2024); 5/23/2024 Hearing, VR 9:38:29 a.m. – 9:38:46 a.m. (Bellar).

<sup>96</sup> 5/23/2024 Hearing, VR 9:38:46 a.m. – 9:38:56 a.m., 2:10:07 p.m. – 2:10:54 p.m. (Bellar); Case No. 2023-00422, Companies' Response to PSC 1-20 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to AG 1-8 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to JI 2-10 (filed Mar. 15, 2024).

<sup>97</sup> Case No. 2023-00422, Companies' Response to PSC PHDR-1 (filed July 8, 2024).

<sup>98</sup> Case No. 2023-00422, Companies' Response to JI 1-12(c) (filed Feb. 16, 2024); 5/23/2024 Hearing, VR 2:05:00 p.m. – 2:06:20 p.m. (Bellar).

<sup>99</sup> Case No. 2023-00422, Companies' Response to JI 1-12(c) (filed Feb. 16, 2024).

<sup>100</sup> Case No. 2023-00422, Companies' Response to PSC 2-8 (filed Mar. 15, 2024).

<sup>101</sup> Case No. 2023-00422, Companies' Response to PSC 1-88 (filed Feb. 16, 2024).

their respective obligations during a curtailment issuance;<sup>102</sup> revised generation operating procedures at certain generating stations to reduce the likelihood of equipment failure;<sup>103</sup> actively participated in NERC development processes regarding cold weather preparedness requirements and recommendations for generation;<sup>104</sup> formalized procedures for customer communications during emergency events;<sup>105</sup> and created a fleet-wide cold weather plan for their generating units.<sup>106</sup>

With improvements in place after analyzing the events of WSE, the Companies are confident in their ability to continue providing adequate, reliable service to customers through any weather condition. And that confidence is well-placed given the absence of any gas pressure issues on the TGT pipeline, outages, or derates due to the cold temperatures experienced as part of Winter Storm Heather from January 14 – 21, 2024.<sup>107</sup> Though extreme weather can present unpredictable conditions, the Companies take their service obligations seriously so that they are prepared to proactively act before weather events move into their service territories, quickly and responsibly respond to challenges during extreme conditions, and implement lessons from the past into future practices to continue improving the resiliency and reliability of the Companies' systems.

**VI. Because the Companies and their personnel demonstrated their reasonable decision making before, during, and after Winter Storm Elliott, they violated no part of KRS Chapter 278, 807 KAR Chapter 5, or any Commission order, so there is no basis to impose penalties under KRS 278.990.**

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<sup>102</sup> Case No. 2023-00422, Companies' Response to PSC 2-6 (filed Mar. 15, 2024); Case No. 2023-00422, Companies' Response to PSC PHDR-4(b) (filed July 8, 2024).

<sup>103</sup> Case No. 2023-00422, Companies' Response to PSC 1-25 (filed Feb. 16, 2024).

<sup>104</sup> Case No. 2023-00422, Companies' Response to AG 1-7 (filed Feb. 16, 2024).

<sup>105</sup> Case No. 2023-00422, Attachment to Companies' Response to PSC PHDR-4(a) (filed July 8, 2024).

<sup>106</sup> Case No. 2023-00422, Companies' Response to JI 1-18 (filed Feb. 16, 2024).

<sup>107</sup> See Case No. 2023-00422, Companies' Response to PSC 1-22 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to JI 1-13 (filed Feb. 16, 2024).

As an initial matter, the Companies note that although their tariffs include provisions limiting their civil liability in claims brought by customers related to service interruptions,<sup>108</sup> the Companies do not assert that these liability limitations prevent the Commission from issuing penalties against the Companies under KRS 278.990 when warranted by statute.

But no such tariff protection would be needed even if it applied here precisely because there is no basis for imposing penalties under KRS 278.990 on either the Companies or any of their personnel. KRS 278.990(1) permits the Commission to assess civil penalties against a utility and any of its officers, agents, or employees only for willful violations of KRS Chapter 278 or Commission regulations in 807 KAR Chapter 5, or for any failure to obey a final order of the Commission.<sup>109</sup> Notably, neither the Commission in its Order opening this proceeding nor any party to this proceeding has suggested that the Companies or any of their personnel violated or failed to obey any Commission regulation or order. Rather, the only question raised concerning possible non-adherence to any relevant requirement applicable to the Companies was in the Order opening this proceeding, which cited KRS 278.018 as requiring the Companies to provide “adequate” service and KRS 278.030 as requiring the Companies to provide “adequate, efficient and reasonable service.”<sup>110</sup> As explained earlier in this Brief, these are not requirements for utilities to provide perfect, absolutely uninterrupted service, either in planning or practice, as even the Commission’s own regulations acknowledge.<sup>111</sup> Rather, the applicable standard is reasonableness.<sup>112</sup> Thus, because the Companies and their personnel took all reasonable and

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<sup>108</sup> LG&E P.S.C. Electric No. 13, Original Sheet No. 107; KU P.S.C. Electric No. 20, Original Sheet No. 107 (“Company shall have the right to take whatever steps, with or without notice and without liability on Company’s part, that Company believes necessary ... to preserve system integrity and to prevent the collapse of Company’s electric system or interconnected electric network or to restore service following an outage.”).

<sup>109</sup> KRS 278.990(1).

<sup>110</sup> Case No. 2023-00422, Order at 1-2 (Ky. PSC Dec. 22, 2023).

<sup>111</sup> *See supra* Section II.

<sup>112</sup> *Id.*

prudent steps prior to, during, and after Winter Storm Elliott to serve their customers, they violated no part of KRS Chapter 278, 807 KAR Chapter 5, their own tariffs, or any Commission order, and there is no basis for penalties under KRS 278.990.

Indeed, the Companies have consistently demonstrated their reasonableness and prudence in decision making before, during, and after the Storm. The Companies were prepared for the Storm and reasonably believed that they had ample capacity available to meet customer demand.<sup>113</sup> The gas pressure issues that impacted the Companies were unprecedented; these issues had never before occurred, and the Companies had no reason to anticipate or plan for their occurrence before the Storm.<sup>114</sup> The Companies attempted to purchase power whenever it was available, but because neighboring systems experienced a multitude of weather-related stressors, not every purchase attempt was successful.<sup>115</sup> When the Companies had to curtail customer load, they did so in a manner that minimized impacts on customers, both in terms of the number of customers affected at any given time (less than four percent of customers at peak shedding) and the duration of the outages (less than an hour for customers on average).<sup>116</sup> The Companies endeavored to reestablish service as quickly as possible and accomplished this goal in 4 hours and 18 minutes.<sup>117</sup> After the load shedding event concluded, the Companies continued to take reasonable steps to exit the energy emergency swiftly and restore system stability.

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<sup>113</sup> Case No. 2023-00422, Companies' Response to KCA 1-2 at 1-2 (filed Feb. 16, 2024).

<sup>114</sup> Case No. 2023-00422, Companies' Response to KCA 2-1 (filed Mar. 15, 2024); Case No. 2023-00422, Companies' Response to PSC 1-21(b) at 2 (filed Feb. 16, 2024).

<sup>115</sup> Case No. 2023-00422, Companies' Responses to PSC PHDR-7 and PSC PHDR-8(a) (filed July 8, 2024); Case No. 2023-00422, Companies' Response to PSC 1-54 (filed Feb. 16, 2024); Case No. 2023-00422, Companies' Response to JI 1-19(f) at 3 (filed Feb. 16, 2024); Case No. 2022-00402, Companies' Response to PSC 1-58(b) at 2 (filed Mar. 10, 2023); Case No. 2022-00402, Companies' Response to AG 1-14 (filed Mar. 10, 2023); Case No. 2022-00402, Companies' Response to SC 1-19(b) at 3-4 (filed Mar. 10, 2023).

<sup>116</sup> Case No. 2023-00422, Companies' Response to AG 1-25 (filed Feb. 16, 2024); Case No. 2022-00402, Companies' Response to PSC PHDR-29 (filed Sept. 15, 2023); Case No. 2022-00402, Companies' Response to SC 1-19(a)(i) at 2-3 (filed Mar. 10, 2023); 5/23/2024 Hearing, VR 9:35:35 a.m. – 9:36:55 a.m. (Bellar).

<sup>117</sup> Case No. 2023-00422, Companies' Response to PSC 1-45 (filed Feb. 16, 2024); Case No. 2023-00422, Attachment to Companies' Response to AG 1-2 at 5-6 (filed Feb. 16, 2024).

Moving forward past the Storm, the Companies reflected on the challenges they faced and implemented improvements across several areas to reduce the likelihood that another gas pressure issue would occur in the future, and to improve overall processes and procedures for extreme weather events.<sup>118</sup> The Companies are continually focused on learning from past events to improve their operations and strengthen the resiliency of their systems for the future.

In short, there can be no penalty under KRS 278.990 for the Companies or any of their personnel because there is no evidence that the Companies and their personnel did anything but seek to provide adequate, efficient, and reasonable service to their customers before, during, and after Winter Storm Elliott. Therefore, they did not violate or fail to obey any relevant statute, regulation, tariff provision, or Commission order.

Not only did the Companies and their personnel not violate any relevant legal requirement, but any such purported violation could not be found as willful, which KRS 278.990(1) would require for the Commission to impose a penalty. The Commission has defined a willful act as one “that is committed intentionally, not accidentally or involuntarily, ... [and] does not necessarily and solely entail an intention to do wrong and inflict injury but may include conduct which reflects an indifference to its natural consequences.”<sup>119</sup> As shown at length above, the only things the Companies and their personnel did intentionally were to prepare for, minimize the impact of, and implement lessons learned from the Storm.<sup>120</sup> Thus, because there is no violation to penalize, and certainly no willful violation, there is no basis to consider penalties in resolving this case.

**VII. The Commission should close this investigation proceeding because the record clearly demonstrates that the Companies provided adequate service to customers before, during, and after the Storm.**

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<sup>118</sup> See, e.g., Case No. 2023-00422, Companies’ Response to PSC 1-87 (filed Feb. 16, 2024).

<sup>119</sup> See, e.g., *Electronic Alleged Failure of Cumberland County Water District and its Officers, Eric Carver; Garland Hieneman, Jay Cary, Mark Vibbert, Troy Norris, and its Manager; Matthew Dyer, to Comply with a Commission Order, KRS 278.990*, Case No. 2022-00244, Order at 5 (Ky. PSC July 5, 2023).

<sup>120</sup> See *supra* Sections III-V.

The Companies have an exemplary service record: in over 100 years of providing electric and natural gas utility service to customers across the Commonwealth, less than 4.5 hours of load curtailments have taken place due to an energy shortfall, impacting less than four percent of customers at peak curtailment and with an average curtailment duration of less than an hour.

Utilities are not held to an operating standard of perfection. Embedded within the statutes and regulations that guide utility operations is the concept that utilities should act reasonably to provide adequate and reliable service to customers, even when interruptions may occur. This is exactly what the Companies have done for over a century, and Winter Storm Elliott was no exception.

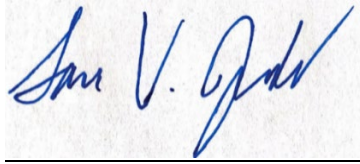
The Companies showed reasonableness and prudence before, during, and after the Storm, which was a catastrophic weather event of historic proportions and impact across the Eastern Interconnection. Despite facing a number of challenges in a short span of time over the hours of December 23, the Companies and their personnel acted diligently to ensure that their system could meet the needs of customers to the greatest extent possible, while balancing the integrity and stability needs of the greater bulk electric system.

In light of the record, replete with evidence of the Companies' reasonableness during Winter Storm Elliott, the Commission should close this investigation proceeding with no penalties to the Companies or any of their personnel.



Dated: August 9, 2024

Respectfully submitted,



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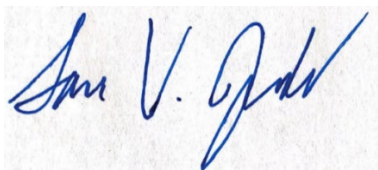
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**CERTIFICATE OF COMPLIANCE**

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 August 9, 2024; and that there are currently no parties in this proceeding that the Commission has excused from participation by electronic means.

A handwritten signature in blue ink, appearing to read "Anne V. Gidd", is written over a horizontal line.

*Counsel for Louisville Gas and Electric Company  
and Kentucky Utilities Company*