COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC TARIFF FILING OF BIG RIVERS ELECTRIC CORPORATION AND KENERGY CORP. TO REVISE THE LARGE INDUSTRIAL CUSTOMER STANDBY SERVICE TARIFF	**)** **)** **)** **)** **)**	**CASE NO. 2023-00312**

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DIRECT TESTIMONY

OF

TIMOTHY A. HONADLE

ON BEHALF OF

KIMBERLY-CLARK CORPORATION

December 4, 2023

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DIRECT TESTIMONY OF TIMOTHY HONADLE
OF KIMBERLY-CLARK CORPORATION

I. INTRODUCTION, QUALIFICATIONS, AND SUMMARY

Q. PLEASE STATE YOUR FULL NAME AND BUSINESS ADDRESS.

A. My name is Timothy A. Honadle. My business address is 601 Innovative Way Owensboro, Kentucky, 42301.

Q. WHAT IS YOUR OCCUPATION AND BY WHOM ARE YOU EMPLOYED?

A. I am an Engineering Technical Leader. I am employed by Kimberly-Clark Corporation ("Kimberly-Clark").

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I received my Bachelor of Science in Electrical Engineering from the Rochester Institute of Technology in 1987. I joined Scott Paper that same year. In 1999, I went to work for Unilever as a Senior Project Engineer and was later promoted to Director of Engineering. I joined Kimberly-Clark in October 2001 as a Senior Engineer. I have been an Engineering Technical Leader for Kimberly-Clark for 12 years.

Q. ON WHOSE BEHALF OF YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of Kimberly-Clark.

Q. WHAT ISSUES ARE YOU ADDRESSING IN YOUR TESTIMONY?

A. I am addressing:

- Nature of Owensboro Facility Operations.
- Impact of Energy Costs on Facility.
- Owensboro Facility Self-Generation.
- Impact of Pilot Tariff on Owensboro Facility Operating Costs.

Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?

A. Yes. Exhibit TH-1, which is marked confidential, provides information relating to outages of the self-generation turbine at Kimberly-Clark's Owensboro Facility.

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The Owensboro Facility, which annually manufactures 14 million cases of facial tissue, bath tissue, and hand towels, is one of the largest consumers of electricity in the BREC footprint. To address high electricity costs at the Owensboro Facility, Kimberly-Clark installed a 14 MW self-generation unit capable of producing about half of the facility's electricity needs. The purpose of this effort was to reduce Kimberly-Clark's overall costs paid for electricity at the Owensboro Facility and improve the facility's competitive position.

With the implementation of the pilot LICSS tariff, the Owensboro Facility's overall electricity costs, however, have increased, further undermining the competitive position of the Owensboro Facility. The proposed LICSS tariff would increase the Owensboro Facility's overall electricity costs beyond even the increases borne under the Pilot. Moreover, because the existing pilot tariff and the proposed LICSS tariff require us to pay for backup power even when we are not actually using it, there is no incentive to continue

maintaining the Cogen Unit to run as efficiently as possible, to shut down our operations to reduce demand on the grid in the event of an unplanned outage, or to schedule our planned outages during the shoulder seasons.

II. DESCRIPTION OF FACILITY OPERATIONS AND SELF-GENERATED CAPACITY

Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AT KIMBERLY-CLARK.

A. I am responsible for maintenance of the Owensboro Facility, as well as capital investment projects at the Owensboro Facility. I also ensure these efforts are properly supported from a personnel standpoint.

Q. PLEASE DESCRIBE KIMBERLY-CLARK'S OWENSBORO FACILITY.

A. The Owensboro Facility is located at 601 Innovative Way in Owensboro, Kentucky, 42301. We manufacture paper products for the Business-to-Business sector. In a year we make approximately 14 million cases of product, which include facial tissue, bath tissue and both folded and rolled hand towels. These products are sold under the brand names of Kleenex® and Scott®.

Q. PLEASE DESCRIBE THE MANUFACTURING PROCESS AT THE OWENSBORO FACILITY.

A. The process starts with the procurement of recycled grade wastepaper. The wastepaper is cleaned of all contaminants, bleached, and blended with water to make pulp. The pulp is spread out as a thin sheet onto a fabric. The fabric carries the pulp through a drying process. The drying process involves vacuuming away water, pressing out moisture, and then blowing heated air through the fabric and pulp to evaporate the water, leaving behind a continuous sheet of fine paper. The fine paper is then rolled onto giant reels. Reels are

moved into assets that convert the tissue into consumer-sized packaging. The conversion process involves unrolling the reels, cutting the tissue to the desired size, and putting the product into appropriate packaging for use. The packaged materials are stacked, wrapped, and placed on a truck to ship to storage or to the customer.

Q. PLEASE DESCRIBE THE ELECTRICITY DEMANDS AT THE OWENSBORO FACILITY.

A. The process described above is facilitated with large, automated machines. These machines consume a significant amount of electricity to function. On average, it requires approximately 32 MW of generation to support our operations, with an average peak of 34 MW.

Q. PLEASE DESCRIBE THE IMPACT ENERGY COSTS HAVE ON THE OWENSBORO FACILITY OPERATIONS.

A. The facility consumes a significant amount of electricity to power our operations. Energy is a significant part of our cost to manufacture, so even small changes to our rates have a significant impact on the economic viability of our operations in Owensboro.

Q. PLEASE DESCRIBE ANY SELF-GENERATION CAPACITY AT THE OWENSBORO FACILITY.

A. Kimberly-Clark has a natural gas turbine Cogen Unit at its Owensboro Facility that can generate roughly 14 MW at an inlet air temperature of 58 degrees F. Weather has a significant impact on the Cogen Unit capacity resulting in a maximum capacity of roughly 11 MW to 17 MW in warm to cold weather respectively. There are other factors that impact the turbine capacity such as dust from local farming operations.

Q. WHEN WAS THE SELF-GENERATION INSTALLED?

A. The Cogen Unit was installed in the summer of 2021.

Q. WHY DID KIMBERLY-CLARK DECIDE TO INSTALL THE SELF-GENERATION CAPACITY?

A. The Cogen Unit had been installed at another Kimberly-Clark facility in Fullerton, California. When the Fullerton facility was closing, Kimberly-Clark made every effort to utilize the manufacturing equipment as effectively as possible at other plants around the country. The Cogen Unit was still in very good condition, and Kimberly-Clark made the assessment that it would be most effective to move the generator to the Owensboro Facility due to a number of factors. The Owensboro Facility cost per megawatt hour was at that time, and still is as a consequence of Big Rivers' standby rates, among the highest of Kimberly-Clark facilities in North America.

Q. HOW DOES KIMBERLY-CLARK'S COGENERATION UNIT SUPPORT KIMBERLY-CLARK'S OPERATIONS?

A. We use the Cogen Unit, which is a natural gas-fired turbine, to generate electricity and this reduces the amount of electricity that we need to pull from the grid. There is also a significant secondary benefit in that we use the heat generated by the turbine to produce steam for our manufacturing processes. When the Cogen Unit is operating, it supports approximately 43% of our overall electricity demand, and the balance of electricity is pulled from the grid. The Heat Recovering Steam Generator ("HRSG") tied to the turbine produces 100% of the steam load required by the facility. This has allowed Kimberly-Clark to idle, and hold in reserve, its natural gas fired boiler. Prior to the Cogen Unit installation,

Kimberly-Clark did not have a backup boiler and the facility would have to shut down for boiler related issues.

Q. PLEASE DESCRIBE THE EFFICIENCIES GAINED BY USING COGEN IN THE MANUFACTURING PROCESS.

A. The Owensboro gas fired cogeneration unit produces both power and steam supporting the facility operations at an overall efficiency above 70% versus traditional utility power generation. Natural gas is supplied to the turbine engine in Kimberly-Clark's Cogen Unit. A portion of this energy is transferred through the turbine to the generator to produce electricity. There is tremendous waste in this process at the turbine in the form of heat. Kimberly-Clark captures this waste heat in a beneficial way and directs it to the HRSG, which in turn uses this heat and water to produce steam. This results in a very efficient use of energy which in turn leads to a favorable cost to produce both steam and electricity.

Q. **WHAT COSTS ARE INVOLVED FOR KIMBERLY-CLARK TO MAINTAIN THE COGEN UNIT?**

A. The primary costs to maintain the Cogen Unit are maintenance and labor. We take maintenance of the equipment very seriously because we want the Cogen Unit to run as efficiently and reliably as possible. Every approximately 30,000 operating hours (approximately three-and-a-half years) the turbine engine and gearbox are removed by and shipped to Solar Turbines Incorporated ("Solar") in exchange for a fully rebuilt (like new) turbine and gearbox. During each of these intervals, or at twice this interval depending on Solar's recommendation, the generator is removed and shipped to Solar's preferred generator maintenance vendor Integrated Power Services LLC ("IPS"). At IPS, the generator is disassembled, inspected, cleaned, baked, tested, re-assembled, and tested

again. We schedule this maintenance well in advance and during a "shoulder" season, meaning spring or fall. [redacted]

Q. PLEASE DESCRIBE HOW KIMBERLY-CLARK DETERMINES WHEN TO PERFORM A MAINTENANCE OUTAGE AND HOW KIMBERLY-CLARK COMMUNICATES THESE OUTAGES TO BIG RIVERS.

A. Kimberly-Clark uses a contracted maintenance service with Solar, using their recommended maintenance practice. Maintenance occurs at 6 months intervals, and is planned for "shoulder season" which occurs during a time of year when market rates and energy demand tend to be low. Every roughly 30,000 operating hours or approximately three and a half years, Solar will remove the turbine engine and replace it with a fully rebuilt (like new) engine. In addition, every roughly 30,000 to 60,000 operating hours Solar has recommended removing the generator to have it disassembled, inspected, steam cleaned, baked and reassembled. Both the turbine and the generator went through this cycle in October and November of 2023. This is a very significant investment for Kimberly-

Clark, but the intent is to maintain a highly efficient, available and reliable Cogen Unit operation.

Q. PLEASE DESCRIBE HOW KIMBERLY-CLARK'S MANUFACTURING OPERATIONS CHANGE, IF AT ALL, DURING PLANNED MAINTENANCE OUTAGES.

A. Kimberly-Clark tries to plan manufacturing asset maintenance outages with Cogen Unit maintenance outages. This reduces the amount of backup or maintenance power Kimberly-Clark needs when the Cogen Unit is down. During this type of outage, we can reduce our load significantly. For example, during a maintenance outage on August 31, 2021, we reduced our facility load from 33 MW down to 13.4 MW. During a different maintenance outage on May 16, 2023, we reduced our facility load from 26.6 MW down to just under 8 MW. During more extended maintenance work on the Cogen Unit, such as the 30,000 hour maintenance work, there is not enough manufacturing shutdown work to fully align with the Cogen Unit shutdown work. In that example, Kimberly-Clark will typically choose to start its boiler and run the mill at full production with full demand placed on BREC.

Q. DOES THE COGEN UNIT EVER SHUT DOWN WITHOUT ADVANCE NOTICE?

A. Yes. The Cogen Unit to date has been very reliable. Sometimes the Cogen Unit will trip for reasons associated with manufacturing operations, such as shutdowns resulting in a load low enough to not allow Kimberly-Clark to operate the turbine in SoLoNOx (low emissions mode), or a Cogen Unit control system component failure. Sometimes, however, the

turbine will trip for reasons not within our control, such as a local lighting strike affecting the grid, a power grid sag, or a reversal of power flow.

Q. WHY WOULD THE COGEN UNIT NEED TO SHUT DOWN ON SHORT NOTICE?

A. For outages that are unplanned, there are generally two causes.

The first potential cause is that we might have a need to shut down some of our manufacturing assets and our electricity demand is reduced to less than what the Cogen Unit is producing. Under these circumstances, we are not pulling electricity from the grid to replace the Cogen Unit's generation, so we do not need "backup power." In spite of this fact, the present "first through the meter" LICSS tariff provisions cause this load—which is less than what Kimberly-Clark is using when all assets are up and running—to be treated and priced as backup power simply because the turbine had to shut down.

The second potential cause of an unplanned outage is when the Cogen Unit itself does not perform as expected. If the turbine trips, all facility load is instantly transferred to BREC. At that point, paper making operations, which account for roughly 75% of our facility load, will instantly trip offline, beginning the process of an orderly shutdown. Those assets go offline because we need the steam produced by the Cogen Unit turbine heat to run those assets. When Cogen Unit the turbine trips off-line, the steam is also lost. Within roughly 15 minutes, our facility load on BREC drops to a level lower than when the turbine was running. So, within roughly 15 minutes, we do not need backup power (if backup power is considered to be over and above what power BREC was providing before the turbine shutdown). But, since the LICSS tariff considers this lower load on BREC to be backup power, Kimberly-Clark is currently being billed accordingly. And, sometimes

the turbine trips not because of something Kimberly-Clark did or did not do, but because of an issue on the grid itself, meaning the cause of the trip is entirely outside of Kimberly-Clark's control.

Q. HOW OFTEN DO THESE UNPLANNED OUTAGES TAKE PLACE?

A. As expected, unplanned outages of the Cogen Unit have been decreasing due to experience since the initial start up. ~~In 2023 there have been no unplanned maintenance outages from January 1st through December 1st~~. The Cogen Unit is very reliable. Maintenance outages have gone longer than planned, but Kimberly-Clark kept Big Rivers informed with constant communication.

In 2023, there was only one unplanned outage, lasting approximately 30 minutes, which occurred in October 2023. Exhibit TH-1, as amended, shows this limited outage.

Q. WHAT EFFORTS DOES KIMBERLY-CLARK UNDERTAKE TO PROVIDE INFORMATION ABOUT ITS ELECTRICITY DEMANDS TO BREC AND/OR KENERGY?

A. Kimberly-Clark is one of the largest end-use customers located in the BREC service territory. Within roughly a month of startup of the Cogen Unit, BREC requested that Kimberly-Clark provide BREC with an hourly forecast of how much power Kimberly-Clark plans to consume as a facility, how much power Kimberly-Clark plans to generate, and how much power Kimberly-Clark needs from BREC. As a courtesy to BREC and an interim step as BREC adjusts to Kimberly-Clark's changed operations, Kimberly-Clark provides this data on Mondays, covering the period of Wednesday that week to the Wednesday of the following week. If the plan changes, Kimberly-Clark tries to communicate changes to the best of its ability. There are administrative costs to Kimberly-Clark associated with providing this detailed planning information to BREC. Also,

Kimberly-Clark has shared its Cogen Unit shutdown maintenance plan with BREC for the following year during the prior calendar year.

Q **HAS KIMBERLY-CLARK MODIFIED ITS POWER PURCHASES FROM BREC IN ANY WAY AS A RESULT OF THE LICSS PILOT TARIFF?**

A Yes but not necessarily in a way that has improved efficiency. Because Kimberly-Clark is required to pay for backup demand based solely on maximum facility power demand for the month, regardless of whether or not the turbine shuts down, the facility sometimes chooses to run paper manufacturing assets because the backup boiler is available, MISO market rates are low enough and because backup demand is not impacted by running. There is no incentive to be more efficient because we are already paying for backup power. The current rate structure is a disincentive to operating more efficiently.

Q. **HAS KIMBERLY-CLARK HAD TO PAY FOR BACKUP OR MAINTENANCE POWER EVEN WHEN THE COGEN UNIT IS PRODUCING ALL OF THE POWER THAT IT IS CAPABLE OF PRODUCING?**

A Yes. Kimberly-Clark's Cogen Unit is an outdoor installation. The turbine generator can produce roughly 14 MW at an air inlet temperature of 58 to 59 degrees F. During warmer months, the turbine generator's maximum power output capability decreases. During cooler months, it increases. So during summer months, the "first power through the meter" requirement of the LICSS allows BREC to bill the first power through the meter as backup power for an amount of power equal to the nameplate power capacity of the generator at

58 to 59 degrees F minus the maximum power that the turbine generator is capable of producing at that outdoor temperature.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes.

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Exhibit TH-1