

**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**

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**CASE NO.
2023-00312**

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

1 **Q. PLEASE STATE YOUR FULL NAME AND BUSINESS ADDRESS.**

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

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

5 A. I am an Engineering Technical Leader. I am employed by Kimberly-Clark Corporation
6 (“Kimberly-Clark”).

7 **Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.**

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

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

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

1 **Q. WHAT ISSUES ARE YOU ADDRESSING IN YOUR TESTIMONY?**

2 A. I am addressing:

- 3 • Nature of Owensboro Facility Operations.
- 4 • Impact of Energy Costs on Facility.
- 5 • Owensboro Facility Self-Generation.
- 6 • Impact of Pilot Tariff on Owensboro Facility Operating Costs.

7 **Q. ARE YOU SPONSORING ANY EXHIBITS WITH YOUR TESTIMONY?**

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

10 **Q. PLEASE SUMMARIZE YOUR TESTIMONY.**

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

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

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

**II. DESCRIPTION OF FACILITY OPERATIONS AND SELF-GENERATED
CAPACITY**

4 **Q. PLEASE DESCRIBE YOUR RESPONSIBILITIES AT KIMBERLY-CLARK.**

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

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

9 A. The Owensboro Facility is located at 601 Innovative Way in Owensboro, Kentucky,
10 42301. We manufacture paper products for the Business-to-Business sector. In a year we
11 make approximately 14 million cases of product, which include facial tissue, bath tissue
12 and both folded and rolled hand towels. These products are sold under the brand names of
13 Kleenex® and Scott®.

14 **Q. PLEASE DESCRIBE THE MANUFACTURING PROCESS AT THE
15 OWENSBORO FACILITY.**

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

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

5 **Q. PLEASE DESCRIBE THE ELECTRICITY DEMANDS AT THE OWENSBORO**
6 **FACILITY.**

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

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

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

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

18 A. Kimberly-Clark has a natural gas turbine Cogen Unit at its Owensboro Facility that can
19 generate roughly 14 MW at an inlet air temperature of 58 degrees F. Weather has a
20 significant impact on the Cogen Unit capacity resulting in a maximum capacity of roughly
21 11 MW to 17 MW in warm to cold weather respectively. There are other factors that impact
22 the turbine capacity such as dust from local farming operations.

1 **Q. WHEN WAS THE SELF-GENERATION INSTALLED?**

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

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

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

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

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

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

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

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

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

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

1 again. We schedule this maintenance well in advance and during a “shoulder” season,
2 meaning spring or fall. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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

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

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

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

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

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

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

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

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

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

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

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

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

4 **Q. HOW OFTEN DO THESE UNPLANNED OUTAGES TAKE PLACE?**

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

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

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

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

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

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

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

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

1 58 to 59 degrees F minus the maximum power that the turbine generator is capable of
2 producing at that outdoor temperature.

3 **Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?**

4 **A. Yes.**

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Exhibit TH-1

