## **COMMONWEALTH OF KENTUCKY**

## BEFORE THE PUBLIC SERVICE COMMISSION

## In the Matter of:

ELECTRONIC EXAMINATION BY THE PUBLIC	)
SERVICE COMMISSION OF THE ENVIRONMENTAL	)
SURCHARGE MECHANISM OF KENTUCKY	)
UTILITIES COMPANY FOR THE SIX-MONTH	)
BILLING PERIODS ENDING APRIL 30, 2020,	) CASE NO.
OCTOBER 31, 2020, APRIL 30, 2021,	) 2023-00376
OCTOBER 31, 2021, APRIL 30, 2022, OCTOBER 31, 2022,	)
<b>APRIL 30, 2023, AND OCTOBER 31, 2023, AND THE</b>	)
TWO-YEAR BILLING PERIODS ENDING	)
APRIL 30, 2021 AND APRIL 30, 2023	)

## DIRECT TESTIMONY OF

ANDREA M. FACKLER
MANAGER, REVENUE REQUIREMENT/COST OF SERVICE
LG&E AND KU SERVICES COMPANY

Filed: February 14, 2024

#### VERIFICATION

COMMONWEALTH OF KENTUCKY	,
COUNTY OF JEFFERSON	1

The undersigned, **Andrea M. Fackler**, being duly sworn, deposes and says that she is Manager – Revenue Requirement/Cost of Service for Kentucky Utilities Company, an employee of LG&E and KU Services Company, and that she has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of her information, knowledge, and belief.

Andrea M. Fackler

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

Notary Public

Notary Public ID No. KYNP 63286

My Commission Expires:

Jamary 22, 2027

## Q. Please state your name, title, and business address.

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A. My name is Andrea M. Fackler. I am the Manager, Revenue Requirement/Cost of

Service for Kentucky Utilities Company ("KU" or "Company") and an employee of

LG&E and KU Services Company, which provides services to KU. My business

address is 220 West Main Street, Louisville, Kentucky, 40202. A complete statement

of my education and work experience is attached to this testimony as Appendix A.

## 7 Q. Have you previously testified before this Commission?

A. Yes. I have previously submitted testimony and sponsored data responses to the

Kentucky Public Service Commission ("Commission") in the Company's last six
month Environmental Cost Recovery (ECR) review. I have also previously submitted

testimony and data responses to the Commission related to the Company's FAC six
month and two-year review proceedings. I am also responsible for the Company's

monthly Environmental Surcharge Reports filed with the Commission.

## Q. What is the purpose of this proceeding?

The purpose of this proceeding is to review the past operation of KU's environmental surcharge during the six-month billing periods ending April 30, 2020, October 31, 2020, April 30, 2021, October 31, 2021, April 30, 2022, October 31, 2022, April 30, 2023, October 31, 2023, the two-year billing periods ending April 30, 2021 and April 30, 2023 (collectively, "Review Period"), and to determine whether the surcharge amounts collected during the period are just and reasonable.

## Q. What is the purpose of your testimony?

22 A. The purpose of my testimony is to summarize the operation of KU's environmental 23 surcharge during the Review Period, explain how the environmental surcharge factors were calculated during the Review Period, propose changes to the ES Forms, correct any operating expenses or rate base data from the original ES Report, reflect actual changes in the overall rate of return on capital, demonstrate that the amounts collected during the periods were just and reasonable, and present and discuss KU's proposed adjustments to the Environmental Surcharge Revenue Requirement to reconcile past surcharges with actual costs recoverable and their impact on a residential customer. In addition, my testimony will recommend that the cumulative Environmental Surcharge revenue requirement for the twelve months ending with the expense month of February 2023 be used for purposes of incorporating or "rolling-into" KU's electric base rates the appropriate surcharge amounts using the methodology previously approved by the Commission, most recently in Case No. 2019-00205. Consistent with past review cases, February 2023 represents the end of the most recent two-year review period; as such, the Commission can approve the incorporation of surcharge amounts found just and reasonable into the existing electric base rates during a two-year review pursuant to KRS 278.183(3). Finally, my testimony will recommend an updated overall rate of return on capital to be used for all ECR Plans in the ES Reports upon the Commission's Order in this proceeding.

## Q. Are you sponsoring any exhibits?

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- 19 A. Yes. I am sponsoring two exhibits identified as Exhibit AMF-1 and AMF-2:
  - Exhibit AMF-1: Current Monthly ES Forms 1.10, 2.00, 2.10, 2.40, 2.50, 2.51,
     2.60, 2.61, and 3.10 and
- Exhibit AMF-2: Proposed Monthly ES Forms 1.10, 2.00, 2.10, 2.40, 2.50, 2.60,
   and 3.10.

- Q. Please summarize the operation of the environmental surcharge for the billing periods included in this review.
- 3 A. KU billed an environmental surcharge to its customers from May 1, 2019 through October 31, 2023 to collect (or refund) any difference between its Environmental 4 Surcharge Revenue Requirement and the ECR revenues collected through base rates 5 6 during the applicable expense period. For purposes of the Commission's examination in this case, the monthly KU environmental surcharges are considered for the billing 7 periods from November 2019 to October 31, 2023 (the May 2019 to October 2019 8 9 billing periods were reviewed with Case No. 2020-00170). In each month of the billing periods under review in this proceeding, KU calculated the environmental surcharge 10 factors in accordance with its ECR Tariff and the requirements of the Commission's 11 previous orders concerning KU's environmental surcharge. The calculations were 12 made in accordance with the Commission-approved monthly forms (hereinafter 13 14 referred to as "ES Forms" for the approved templates or as "ES Report" for the monthly data filed with the Commission) and filed with the Commission ten days before the 15 new monthly factor was billed by the Company. 16

## 17 Q. Please explain the distinction between billing periods and expense periods.

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The expense period is the calendar month in which the Company incurs approved ECR costs. The Company prepares monthly ES Reports on an expense month basis to file with the Commission. As previously discussed, the environmental surcharge is determined in the monthly ES Report and billed (or refunded) to customers in the second month following the expense month. This is the billing period. References to expense periods and billing periods may be used interchangeably throughout my

L	testimony, but each period is referring to the same six months of data regardless of
2	whether referred to as an expense period or billing period.

Q. What costs were included in the calculation of the environmental surchargefactors for the billing periods under review?

A. The capital and operating costs included in the calculation of the environmental surcharge factors for the Review Period were the September 2019 through August 2023 expense period costs KU incurred in conjunction with its approved ECR Plans, as detailed in the attachment to the response to Question No. 2 of the Commission Staff's First Request for Information, incorporating all required revisions.

The monthly environmental surcharge factors applied during the billing period under review were calculated consistent with the Commission's Orders in KU's previous applications to assess or amend its environmental surcharge mechanism and plan, as well as, Orders issued in previous review cases. The monthly ES Reports filed with the Commission during this time reflect the various changes to the ES Forms ordered by the Commission from time to time.

- Q. Please describe the most recently approved changes to KU's ECR Compliance Plans.
- In Case No. 2020-00060, the Commission approved KU's 2020 ECR Compliance Plan
  that included two new projects and associated operation and maintenance costs.

  Pursuant to the Commission's September 29, 2020 Order approving KU's 2020 ECR
  Compliance Plan, KU began including the approved projects in the monthly ES Report
  for the September 2020 expense month with separate authorized rates of return for the
  Pre-2020 and 2020 ECR Compliance Plans.

1		Additionally, in KU's most recent base rate case (Case No. 2020-00349), the
2		Commission approved the Company's proposed elimination of all Eligible Pollution
3		Control capital costs and related O&M associated with Projects 28-31 and 34-38 (from
4		KU's 2009, 2011, and 2016 ECR Plans) from the ECR mechanism effective July 1,
5		2021.
6	Q.	Please describe the most recently approved changes to the operation of the
7		environmental surcharge mechanism.
8	A.	The most recent change was approved in the Company's most recent base rate case,
9		Case No. 2020-00349. The Commission approved a Stipulation modifying the return
10		on equity to be used in the monthly ES Reports to 9.35% for all ECR Plans. Pursuant
11		to the Commission's June 30, 2021 Order, the changes were implemented with the July
12		2021 expense month.
13	Q.	Is KU proposing any changes to its Environmental Cost Recovery Surcharge
14		tariff?
15	A.	No, the Company is not proposing any changes to its Environmental Cost Recovery
16		Surcharge tariff at this time.
17	Q.	Is KU proposing any changes to the currently approved ES forms?
18	A.	Yes. The Company is proposing several changes to the currently approved ES Forms.
19		First, as a result of the synchronization of the return on equity for the Pre-2020 and
20		2020 ECR Plans discussed above, the separate columns to reflect the two different
21		authorized rates of return are no longer needed on the following ES Forms:
22		• ES Form 1.10 – Jurisdictional Surcharge Billing Factor (including updates to
23		line numbering where applicable);

• ES Form 2.00 – Revenue Requirements of Environmental Compliance Costs;

and

 ES Form 2.40 – O&M Expenses and Determination of Cash Working Capital Allowances.

Additionally, the Company is proposing the following changes to its ES Forms:

- ES Form 1.10 Update of definition of BR to align with definition currently listed in the Environmental Compliance Surcharge tariff. Removed case number referenced on Line (11).
- ES Form 2.00 Removal of references to specific ES Forms for all Emission Allowance lines since no other lines include references to other ES Form pages. Consolidation of the existing Determination of Beneficial Reuse Operating Expenses section lines into a single line, Net Monthly Beneficial Reuse Operations Expenses/(Revenues). Update to Note 1 to remove the reference to an "amount in base rates" since all CCR closure costs are now recovered through the ECR mechanism.
- ES Form 2.10 Update of Form name to "Capital and Related Costs by ECR Plan and Project" to better describe the purpose of the form. Update to column name for columns (6) and (7) to remove specific date referenced. Removal of Projects 29, 34, and 35 of the 2011 ECR Plan and Projects 36, 37, and 38 of the 2016 ECR Plan, which were previously eliminated from recovery through the ECR mechanism in KU's most recent base rate case (Case No. 2020-00349). Update to Note 1 to indicate it is also applicable to the 2016 ECR Plan and removal of reference to 2011 ECR Plan in Note 2.

• ES Form 2.50 – Removal of O&M Expense Accounts applicable to ECR projects in the 2009, 2011 and 2016 ECR Plans which were previously eliminated from recovery through the ECR in KU's most recent base rate case (Case No. 2020-00349). Additionally, removal of the Adjustment for CCP Disposal in Base Rates (ES Form 2.51) since there are currently no 2009 ECR Plan CCP Disposal Facilities Operation and Maintenance Expenses recovered in the Company's base rates.

- ES Form 2.51 Complete removal of the form due to the above mentioned removal of expenses from the Company's base rates.
- ES Form 2.60 Addition of "/Revenues" to Form name. Update of the "Total O&M" column heading to "Net Expenses/(Revenues)". Also, removal of "Total Monthly Beneficial Reuse Expense" and "Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)" lines. Update of the "Net Beneficial Reuse O&M Expense" line to "Net Monthly Beneficial Reuse Operations Expenses/(Revenues)" to sum all current expense month expenses and revenues.
- ES Form 2.61 Complete removal of the form due to there being no beneficial reuse expenses or revenues currently included in base rates. Further details on the proposed removal of this Form are detailed below.
- ES Form 3.10 Addition of a new Line (7) for "Business and Community Solar" to break out the fixed monthly charge revenues associated with these programs, removal of Line (8) "Tennessee Retail" due to the Company withdrawing operations in its Tennessee service territory in 2019, and update

of other line references as needed. Removal of Note 1 due to the addition of Line (7) Business and Community Solar.

These changes are shown in the proposed monthly ES Forms attached as Exhibit AMF2.

## Q. Please explain why you are proposing to remove ES Form 2.61 from the ES Forms.

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As currently constructed, ES Form 2.61 nets the 12-month total of Pre-2009 ECR Plan beneficial reuse expenses and revenues against the baseline of beneficial reuse expenses and revenues included in base rates and then includes 1/12<sup>th</sup> of the amount for recovery in the current expense month. With the removal of the beneficial reuse expenses and revenues from KU's base rates during the Company's last base rate case, the need to net the 12-month average expenses and revenues against the level established in base rates is no longer necessary, as the Company is including all beneficial reuse expenses and revenues in the ECR mechanism for recovery. With Form 2.61 removed, KU proposes to include all current month Pre-2009 ECR Plan beneficial reuse expenses and revenues on ES Form 2.60 with the 2009 ECR Plan beneficial reuse expenses and revenues so that these items are included in the ES Report of the expense month in which they occurred. An 11-month transition period will be needed in order to incorporate the remaining Pre-2009 ECR Plans' remaining beneficial reuse expenses or revenues into the Environmental Surcharge Revenue Requirements. But during that time, all current month Pre-2009 ECR Plans' beneficial reuse expenses or revenues will immediately be included in the Environmental Surcharge Revenue Requirements. After the 11 months, ES Form 2.61 will no longer be needed and can be removed from the ES Forms. Implementing this change would create a timing

difference in when the beneficial reuse expenses or revenues are charged or credited to customers, but under either the existing or the proposed option, customers will be charged or credited the same amount over a 12-month period. However, the proposed change would create consistency between how the Pre-2009 ECR Plan and the 2009 ECR Plan beneficial reuse expenses and revenues are charged or credited to customers by including all beneficial reuse expenses and revenues in the ES Report when incurred.

# 8 Q. Does this change require any modifications to the ECR tariff or monthly ES

#### Forms?

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A. No. The ECR tariff does not specifically identify how beneficial reuse expenses/revenues are determined. With this change, the Company will be inputting the current month Pre-2009 Plan beneficial reuse expenses or revenues on Form 2.60 instead of Form 2.61 beginning in the second full billing month following the Commission's Order in this proceeding.

## Q. Please explain the proposed changes to ES Form 2.40.

KU is proposing to update how the cash working capital requirement is determined. Cash working capital requirement is the amount of investor-provided funds needed by KU to fund the day-to-day operations to serve customers. When the Company received approval in its 2009 ECR Plan case to recover beneficial reuse expenses and/or revenues in the ECR mechanism, the Company was incurring O&M costs to dispose of the coal combustion residual (CCR) materials. At that time, O&M costs exceeded revenues received from the sale of CCRs, and the net beneficial reuse expenses and revenues were included in the Total O&M in determining the cash working capital

requirement. As the market for CCR materials has evolved over the last 10+ years, the Company has been able to execute on new opportunities with third parties interested in beneficially reusing the CCR materials such that the revenue for CCR sales now significantly exceeds the O&M costs to dispose of CCRs. In recent monthly ES Reports, the Company has been able to maintain a net beneficial reuse revenue position. These revenues are then passed through to customers through the ECR mechanism as a reduction to the Environmental Surcharge Revenue Requirement.

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Based on the current underlying spreadsheet formulae, the Company is reporting net negative O&M for cash working capital purposes, which does not align with the intent of a cash working capital requirement. Additionally, the Company does not receive the third party revenues in advance of when they are credited to customers through the ECR mechanism. As such, the Company does not receive any sort of cash flow benefit due to these transactions and should not be receiving a deduction to its cash working capital requirement.

# Q. Does this change require any modifications to the ECR tariff or monthly ES Forms?

No. The ECR tariff does not specifically identify how the cash working capital is determined, and the monthly ES Form 2.40 does not refer specifically to beneficial reuse expenses or revenues being included. It only refers to O&M. With this change, the underlying spreadsheet formulae on ES Form 2.40 for the Current Month O&M will be updated to only include the total O&M amount on ES Form 2.50 beginning in the second full billing month following the Commission's Order in this proceeding.

Q. Are there any changes or adjustments in Operating Expenses from the originally filed expense months that KU is correcting in this review case?

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Yes. For the Review Period, there is one update to the Operating Expenses that is reflected in the attachment to the response to Question No. 2 Commission Staff's First Request for Information. This update is a continuation of an issue previously reported in the Company's last six-month review case regarding account 512107 - Landfill Maintenance, related to the coal combustion residuals treatment facility ("CCRT") at Trimble County<sup>1</sup>. The issue in totality spanned the expense months of April 2019 to November 2019 and was corrected in December 2019. In the Company's last sixmonth review case the impacts to operation and maintenance expenses in the April 2019 to August 2019 (totaling \$253,984) were corrected. In this proceeding, KU is correcting the remaining impacted expense months. For the expense months of September 2019 through November 2019 an additional \$179,164 in expenses were inadvertently excluded from ES Form 2.50. In the subsequent December 2019 expense month, the total amount of the excluded expenses were included on ES Form 2.50, overstating December 2019 Operating Expense by the entire correction amount of \$433,148. The impact of this issue on operating expenses and the cash working capital component of rate base is reflected in the attachments to the responses to Question Nos. 1 and 2.

Additionally, for the Review Period, there are two other updates to Operating Expenses that are reflected in the attachment to the responses to Question Nos. 1 and 2

<sup>&</sup>lt;sup>1</sup> Electronic Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Utilities Company for the Six-Month Billing Period Ending October 31, 2019, Case No. 2020-00170, Direct Testimony of Andrea M. Fackler at 4-6.

of Commission Staff's First Request for Information. The first update relates to \$41,001 in expenses for account 512151 – NOx Maintenance, which is related to the Selective Catalytic Reduction (SCR) system installed on Brown Unit 3. In November 2020, two coolers were inadvertently charged against the incorrect project and subsequently reversed in December 2020. Because of this, O&M expenses on ES Form 2.50 were overstated in the November 2020 expense month ES Report and understated in the December 2020 expense month ES Report. The second issue relates to \$18,709 in expenses for account 512107 – ECR Landfill Maintenance for Brown Unit 3. Similar to the issue above, in March 2021 a dewatering belt was inadvertently charged against the incorrect project and subsequently reversed in April 2021. Because of this, O&M expenses on ES Form 2.50 were overstated in the March 2021 expense month ES Report and understated in the April 2021 expense month ES Report.

The impact of these issues on operating expenses and the cash working capital component of rate base is reflected in the attachments to the responses to Question Nos. 1 and 2.

- Q. Are there any changes or adjustments in Rate Base from the originally filed expense months that KU is correcting in this review case?
- A. As discussed previously, both issues impacted the cash working capital component of rate base as well. No other changes or adjustments in rate base from the originally filed expense months is necessary for the Review Period.
- Q. Are there any other changes necessary to the jurisdictional revenue requirement (E(m))?

Yes. Adjustments to E(m) are necessary for compliance with the Commission's Order in Case No. 2000-00439, to reflect the actual changes in the overall rate of return on capital that is used in the determination of the return on environmental rate base.

Pursuant to the terms of the Settlement Agreement approving the 2011 ECR Plan, KU calculated the short- and long-term debt rate using average daily balances and daily interest rates in the calculation of the overall rate of return true-up adjustment for each six-month expense period of the Review Period. For the September 2019 expense month, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of September 30, 2019 and the 9.725% authorized return on equity for all approved ECR Plans at that time<sup>2</sup>. For the October 2019 through February 2020 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of February 29, 2020 and the 9.725% authorized return on equity for all approved ECR Plans at that time<sup>3</sup>. For the March 2020 through August 2020 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of August 31, 2020 and the 9.725% authorized return on equity for all approved ECR Plans at that time<sup>4</sup>. For the September 2020 through February 2021 expense months, the weighted average cost of capital was based on the average daily balances for shortand long-term debt as of February 28, 2021 and the 9.725% authorized return on equity

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<sup>&</sup>lt;sup>2</sup> Electronic Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Utilities Company for the Six-Month Billing Period Ending October 31, 2018, Case No. 2019-00014, Final Order Dated April 30, 2019.

<sup>&</sup>lt;sup>3</sup> Electronic Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Utilities Company for the Two-Year Billing Period Ending April 30, 2019, Case No. 2019-00205, Final Order Dated October 22, 2019.

<sup>&</sup>lt;sup>4</sup> *Id*.

for all approved Pre-2020 ECR Plans<sup>5</sup> at that time or the 9.2% authorized return on equity for the approved 2020 ECR Plan<sup>6</sup>. For the March 2021 through April 2021 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of April 30, 2021 and the 9.725% authorized return on equity for all approved Pre-2020 ECR Plans<sup>7</sup> or the 9.2% authorized return on equity for the approved 2020 ECR Plan<sup>8</sup>. For the May 2021 through June 2021 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of June 30, 2021 and the 9.725% authorized return on equity for all approved Pre-2020 ECR Plans<sup>9</sup> or the 9.2% authorized return on equity for the approved 2020 ECR Plan<sup>10</sup>. For the July 2021 through August 2021 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of August 31, 2021 and the 9.35% authorized return on equity for all ECR Plan projects<sup>11</sup>. For the September 2021 through February 2022 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of February 28, 2022 and the 9.35%

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<sup>&</sup>lt;sup>5</sup> *Id* 

<sup>&</sup>lt;sup>6</sup> Electronic Application of Kentucky Utilities Company for Approval of its 2020 Compliance Plan for Recovery by Environmental Surcharge, Case No. 2020-00060, Final Order Dated September 29, 2020.

<sup>&</sup>lt;sup>7</sup> Electronic Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Utilities Company for the Two-Year Billing Period Ending April 30, 2019, Case No. 2019-00205, Final Order Dated October 22, 2019.

<sup>&</sup>lt;sup>8</sup> Electronic Application of Kentucky Utilities Company for Approval of its 2020 Compliance Plan for Recovery by Environmental Surcharge, Case No. 2020-00060, Final Order Dated September 29, 2020.

<sup>&</sup>lt;sup>9</sup> Electronic Examination by the Public Service Commission of the Environmental Surcharge Mechanism of Kentucky Utilities Company for the Six-Month Billing Period Ending October 31, 2019, Case No. 2020-00170, Final Order Dated May 20, 2021.

<sup>&</sup>lt;sup>10</sup> *Id*.

<sup>&</sup>lt;sup>11</sup> Electronic Application of Kentucky Utilities Company for an Adjustment of its Electric Rates, a Certificate of Public Convenience and Necessity to Deploy Advanced Metering Infrastructure, Approval of Certain Regulatory and Accounting Treatments, and Establishment of a One-Year Surcredit, Case No. 2020-00349, Final Order Dated June 30, 2021.

authorized return on equity for all ECR Plan projects<sup>12</sup>. For the March 2022 through August 2022 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of August 31, 2022 and the 9.35% authorized return on equity for all ECR Plan projects<sup>13</sup>. For the September 2022 through February 2023 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of February 28, 2023 and the 9.35% authorized return on equity for all ECR Plan projects<sup>14</sup>. For the March 2023 through August 2023 expense months, the weighted average cost of capital was based on the average daily balances for short- and long-term debt as of August 31, 2023 and the 9.35% authorized return on equity for all ECR Plan projects<sup>15</sup>. The details of and support for the overall rate of return calculations used to true-up the return on environmental rate base are shown in the attachment to KU's response to Question No. 1 of the Commission Staff's First Request for Information.

- Q. Are there any other corrections to information provided in the monthly ES

  Reports during the Review Period that KU is correcting in this review case?
- 16 A. No.

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- Q. Are the amounts collected through the environmental surcharge just and reasonable?
- 19 A. Yes. The Company only includes costs in the environmental surcharge that were 20 incurred in conjunction with Commission-approved ECR Plans. Any information 21 identified and corrected in a review case proceeding, such as the instant proceeding, or

<sup>&</sup>lt;sup>12</sup> *Id*.

<sup>&</sup>lt;sup>13</sup> *Id*.

<sup>&</sup>lt;sup>14</sup> *Id*.

<sup>16. 15</sup> *Id*.

- through the filing of revised ES Reports with the Commission are due to various checks and balances the Company has in place to ensure proper cost recovery through the environmental surcharge.
- 4 Q. As a result of the operation of the environmental surcharge during the billing periods under review, is an adjustment to the revenue requirement necessary?
- A. Yes. KU experienced an over-recovery of \$4,573,958 for the Review Period. KU's attachment to the response to Question No. 2 of the Commission Staff's First Request for Information shows the calculation of the over-recovery. An adjustment to the Environmental Surcharge Revenue Requirement is necessary to reconcile the over-collection of past ECR revenues with actual costs for the Review Period.
- 11 Q. Has KU identified the causes of the over-recovery during the billing period under review?
- 13 A. Yes. KU has identified the primary components that make up the over-recovery during
  14 the Review Period. The primary components are: (1) changes in overall rates of return
  15 as previously discussed and (2) the use of 12-month average revenues to determine the
  16 billing factor. The details and support of the primary components that make up the
  17 over-recovery during the Review Period are shown in the attachment to KU's response
  18 to Question No. 2 of the Commission Staff's First Request for Information.
- 19 Q. Please explain how the function of the ECR mechanism contributes to the 20 recovery position in the billing period under review.
- A. The use of 12-month average revenues to calculate the monthly billing factors and then applying those same billing factors to the actual monthly revenues will result in an over- or under-collection of ECR revenues. For illustrative purposes, the table below

shows a comparison of the 12-month average revenues used in the monthly ES Reports to determine the ECR billing factors and the actual revenues to which the ECR billing factors were applied in the billing month during the last six-month period under review.

<b>Expense Month</b>	12-Month Average Revenues	Billing Month	Actual Revenues Subject to ECR Billing Factors
March 2023	\$121,505,434	May 2023	\$104,759,966
April 2023	\$121,311,753	June 2023	\$113,459,347
May 2023	\$121,272,406	July 2023	\$120,880,832
June 2023	\$120,747,804	August 2023	\$128,274,568
July 2023	\$119,831,641	September 2023	\$123,975,656
August 2023	\$119,149,418	October 2023	\$107,305,266

<sup>\*</sup>The 12-month average revenues and the Actual Revenues subject to ECR Billing Factors reflect net revenues for Groups 1 and 2.

Generally, an under-recovery will occur when actual revenues for the billing month are less than the 12-month average revenues used for the expense month. Likewise, an over-recovery will usually occur when actual revenues for the billing month are greater than the 12-month average revenues used for the expense month.

Additionally, the Company's revenues over the Review Period experienced more volatility than normal due to the COVID-19 pandemic as well as fluctuations in weather. Mild weather can result in lower actual monthly revenues applicable to the environmental surcharge and vice versa for extreme weather. For example, for the March through August 2023 expense period shown above, the total actual revenues subject to the environmental surcharge were about \$699 million, but the 12-month average revenues used to determine the environmental surcharge were about \$724 million. This contributed to an approximate \$0.5 million under-recovery of the Environmental Surcharge Revenue Requirement for this six-month period.

- Q. What kind of adjustment is KU proposing in this case as a result of the operation of the environmental surcharge during the billing period?
- A. KU is proposing that the over-recovery be distributed over six months following the

  Commission's Order in this proceeding. Specifically, KU recommends that the

  Commission approve a decrease to the Environmental Surcharge Revenue

  Requirement of \$762,326 for four months beginning in the second full billing month

  following the Commission's Order in this proceeding and of \$762,327 for two months

  thereafter. This method is consistent with the method of implementing previous over
  or under-recovery positions in prior ECR review cases.
- 10 Q. What is the bill impact on a residential customer for the proposed distribution of 11 the over-recovery?
- The inclusion of the distribution reflecting the over-recovery position in the 12 A. determination of the ECR billing factor will decrease the billing factor by 13 14 approximately 0.53% per month for six months. For a residential customer using an average of 1,060 kWh per month (based on 12-month ended October 2023 data), the 15 impact of the adjusted ECR billing factor would be a decrease of approximately \$0.65 16 17 for each of the six months (using rates and adjustment clause factors in effect for the February 2024 billing month). See the response and attachment to Commission Staff's 18 19 First Request for Information Question No. 7.
- Q. Has KU calculated the Environmental Surcharge amount that should be incorporated into existing base rates pursuant to KRS 278.183(3)?
- Yes, based on the most recent two-year period under review ended February 28, 2023, KU determined that \$42,304,190 should be incorporated into base rates at the

1 conclusion of this case. See the response and attachment to Commission Staff's First
2 Request for Information Question No. 6.

#### Q. How did KU determine this amount?

3

- A. KU determined the incremental roll-in amount of \$42,304,190 using environmental 4 surcharge rate base as of February 28, 2023 and environmental surcharge operating 5 6 expenses for the twelve-month period ending February 28, 2023. If approved, the total amount of environmental surcharge that will be included in base rates will be 7 \$74,085,745. The implementation of the change in base rates reflecting the roll-in 8 9 amount should take effect with bills rendered beginning with the first billing cycle in the second month following the month in which the Commission issues its Order in 10 this proceeding. 11
- Q. If the Commission accepts KU's recommendation to incorporate the proposed amount into base rates, what will be the impact on KU's ECR revenue requirement?
- 15 A. There will be no impact on the environmental costs KU is allowed to recover from its
  16 customers; only the method of collection will be impacted. The incorporation of the
  17 recommended surcharge amount into base rates will increase base rates and, two
  18 months later, decrease the environmental surcharge by an equal amount.
- Q. Please explain why the environmental surcharge will not decrease in the same
   month that base rates will increase.
- A. The ECR is billed on a two-month lag, meaning that costs are incurred, for example, in February (expense month) and ECR billing factor revenues are collected two months later in April (billing month). KU's determination of costs recoverable through the

billing factor (E(m) for the expense month) are reduced by the ECR revenue included in base rates. Therefore, total ECR costs for the month of February are collected from customers through base rates in February and through the ECR billing mechanism in April. If base rates increase due to a roll-in in February, the portion of ECR costs incurred in February that is recovered through base rates will increase and the resulting decrease in the ECR billing factor will be applied in April. If the decrease in the ECR billing factor were applied in February, the same month that base rates change, then KU would not be collecting the correct amount of ECR revenue associated with costs incurred in December. This is because the February billing factor is associated with the December expense month and must be calculated using base rates in effect in December.

A.

# Q. What rate of return is KU proposing to use for all ECR Plans upon the Commission's Order in this proceeding?

KU is recommending an overall rate of return on capital of 8.73%, including the currently authorized 9.35% return on equity and adjusted capitalization, to be used to calculate the environmental surcharge. This is based on capitalization as of August 31, 2023, the Commission's Order of June 30, 2021 in Case No. 2020-00349 authorizing a 9.35% return on equity for all ECR Plans, and the continued use of the federal corporate income tax rate implemented in accordance with the Tax Cuts and Jobs Act and the Kentucky state corporate income tax rate implemented in accordance with Kentucky House Bill 487.

See the response and attachment to Commission Staff's First Request for Information Question No. 5.

## Q. What is your recommendation to the Commission in this case?

- 2 A. KU makes the following recommendations to the Commission in this case:
- a) The Commission should determine the environmental surcharge amounts for the six-month billing periods ending April 30, 2020, October 31, 2020, April 30, 2021, October 31, 2021, April 30, 2022, October 31, 2022, April 30, 2023, and October 31, 2023, and the two-year billing periods ending April 30, 2021 and April 30, 2023 to be just and reasonable;
- 8 b) The Commission should approve the proposed changes to the ES Forms;
  - c) The Commission should approve the proposed decrease to the Environmental Surcharge Revenue Requirement of \$762,326 for four months beginning in the second full billing month following the Commission's Order in this proceeding and \$762,327 for two months thereafter;
  - d) The Commission should approve a "roll-in" of \$42,304,190 in incremental environmental costs into KU's base rates, for a total base rate ECR component of \$74,085,745, to be included in base rates following the methodology previously approved by the Commission and implemented by KU. The implementation of the change in base rates reflecting the roll-in amount should take effect with bills rendered beginning with the first billing cycle in the second month following the month in which the Commission issues its Order in this proceeding; and
  - e) The Commission should approve the use of an overall rate of return on capital of 8.73% for all projects, using a return on equity of 9.35%, beginning in the second full billing month following the Commission's Order in this proceeding.

- 1 Q. Does this conclude your testimony?
- 2 A. Yes.

#### APPENDIX A

#### Andrea M. Fackler, CPA, CGMA

Manager, Revenue Requirement/Cost of Service LG&E and KU Services Company 220 West Main Street Louisville, Kentucky 40202

#### **Professional Experience**

LG&E and KU Services Company

Manager, Revenue Requirement/Cost of Service	Nov 2019 – Present
Rate & Regulatory Analyst III & Senior	Jan 2016 – Nov 2019
Accounting Analyst III & Senior	Aug 2012 – Jan 2016
Accounting Analyst II & III	Jul 2010 – Aug 2012

Dean Dorton Ford, PSC

Supervisor in Accounting and Compliance Services Jan 2007 – May 2010

### **Professional/Trade Memberships**

Association of International Certified Professional Accountants Kentucky Society of Certified Public Accountants Institute of Management Accountants

## **Education/Certifications/Training**

Bachelor of Science in Accounting, University of Kentucky, Dec 2006 Bachelor of Business Administration, University of Kentucky, Dec 2006 Certified Public Accountant License, Feb 2009 Chartered Global Management Accountant Designation, Jul 2014 LG&E and KU Strategic Business Integration, 2017-2018 Cohort

## **Civic Activities**

Troop Leader, Girl Scouts of Kentuckiana, September 2021 – Present

Parent Volunteer, Budget Committee, St. John United Methodist Church, January 2021 – Present

President, LG&E and KU CARE Business Resource Group, January 2021 – Present

Committee Member, Harmony Elementary PTA, August 2020 – Present

Committee Member, Members in Business and Industry, KYCPA, July 2017 – Present

President-Elect, President, and Immediate Past President, LG&E and KU Young Energy Professionals Business Resource Group, 2015-2017

ES FORM 1.10

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Calculation of Total E(m) and Jurisdictional Surcharge Billing Factor

For the Expense Month of

#### Calculation of Total E(m)

E(m) = [(RB / 12) (ROR+(ROR -DR)(TR/(1-TR)))] + OE - BAS + BR, where

RB = Environmental Compliance Rate Base

ROR = Rate of Return on the Environmental Compliance Rate Base

DR = Debt Rate (both short-term and long-term debt)

TR = Composite Federal & State Income Tax Rate

OE = Pollution Control Operating Expenses

BAS = Total Proceeds from By-Product and Allowance Sales

BR = Beneficial Reuse Operating Expenses

			Pre-2020 Environmental Compliance Plans	2020 Environmental Compliance Plans
(1)	RB	=		
(2)	RB / 12	=		
(3)	(ROR + (ROR - DR) (TR / (1 - TR)))	=		
(4)	OE	=		
(5)	BAS	=		
(6)	BR	=		
(7)	E(m) $(2) x (3) + (4) - (5) + (6)$	=		
(8)	Total $E(m) = \text{sum of Pre-}2020 E(m) + 2020 E(m)$	=		

#### Calculation of Adjusted Net Jurisdictional E(m)

(9)	Jurisdictional Allocation Ratio for Expense Month ES Form 3.10	=	
(10)	Jurisdictional E(m) = Total E(m) x Jurisdictional Allocation Ratio [(8) x (9)]	=	
(11)	Adjustment for (Over)/Under-collection pursuant to Case No. 2020-00170	=	
(12)	Prior Period Adjustment (if necessary)	=	
(13)	Revenue Collected through Base Rates	=	
(14)	Adjusted Net Jurisdictional $E(m) = [(10) + (11) + (12) - (13)]$	=	

Calculation of Group Environmental Surcharge Billing Factors

		GROUP 1 (Total Revenue)	GROUP 2 (Net Revenue)
(15)	Revenue as a Percentage of 12-month Total Revenue ending with the Current Month ES Form 3.00	=	
(16)	Group E(m) [(14) x (15)]	=	
(17)	Group R(m) = Average Monthly Group Revenue for the 12  Months Ending with the Current Expense Month ES Form 3.00	=	
(18)	Group Environmental Surcharge Billing Factors $[(16) \div (17)]$	=	

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Revenue Requirements of Environmental Compliance Costs For the Expense Month of

**Determination of Environmental Compliance Rate Base** 

			2020 Environmental
	Pre-2020 Environmental Compliance Plans		Compliance Plan
Eligible Pollution Control Plant			
Eligible Pollution CWIP Excluding AFUDC			
Subtotal			
Additions:			
Inventory - Emission Allowances per ES Form 2.31, 2.32, 2.33 and 2.34			
Less: Allowance Inventory Baseline			
Net Emission Allowance Inventory			
Cash Working Capital Allowance			
Net Unamortized Closure Cost Balance - Active Stations <sup>1</sup>			
Net Unamortized Closure Cost Balance - Retired Stations <sup>1</sup>			
Subtotal			
Deductions:			
Accumulated Depreciation on Eligible Pollution Control Plant			
Pollution Control Deferred Income Taxes			
Pollution Control Deferred Investment Tax Credit			
Subtotal			
Environmental Compliance Rate Base			

**Determination of Pollution Control Operating Expenses** 

	2020 Environ
	Pre-2020 Environmental Compliance Plans Compliance
Monthly Operations & Maintenance Expense	
Monthly Depreciation & Amortization Expense	
Monthly Taxes Other Than Income Taxes - Eligible Plant	
Monthly Taxes Other Than Income Taxes - Closure Costs	
Amortization of Monthly Closure Costs - Active Stations	
Amortization of Monthly Closure Costs - Retired Stations	
Amortization of Excess ADIT with gross-up	
Monthly Emission Allowance Expense from ES Form 2.31, 2.32, 2.33 and 2.34	
Add KU Current Month TC2 Emission Allowance Expense reported on ES Form 2.31, 2.32, 2.33 and	d 2.34
Less Monthly Emission Allowance Expense in base rates	
Net Recoverable Emission Allowance Expense	
Monthly Surcharge Consultant Fee	
Construction Monitoring Consultant Fee	
Total Pollution Control Operations Expense	

**Determination of Beneficial Reuse Operating Expenses** 

	Environmental
	Compliance Plan
Total Monthly Beneficial Reuse Expense	
Adjustment for Beneficial Reuse in Base Rates (from ES Form 2.61)	
Net Beneficial Reuse Operations Expense	

Note 1: The net unamortized closure cost balance is comprised of CCR closure cost expenditures less accumulated amortization, accumulated deferred income taxes and amount in base rates.

#### KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Plant, CWIP & Depreciation Expense

#### For the Month Ended:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Description	Eligible Plant In Service	Eligible Accumulated Depreciation	CWIP Amount Excluding AFUDC	Eligible Net Plant In Service	Unamortized ITC as of 1/0/1900	Deferred Tax Balance as of 1/0/1900	Monthly Depreciation Expense	Monthly Property Tax Expense
				(2)-(3)+(4)				
2009 Plan: Project 28 - Brown 3 SCR Project 29 - ATB Expansion at E.W. Brown Station (Phase II) Project 30 - Ghent CCP Storage (Landfill - Phase I) Project 31 - Trimble County Ash Treatment Basin (BAP/GSP) Project 32 - Trimble County CCP Storage (Landfill - Phase I) Project 33 - Beneficial Reuse								
Subtotal Less Retirements and Replacement resulting from implementation of 2009 Plan								
Net Total - 2009 Plan:								
2011 Plan: Project 29 - Brown Landfill (Phase I) Project 34 - E.W. Brown Station Air Compliance Project 35 - Ghent Station Air Compliance Subtotal								
Less Retirements and Replacement resulting from implementation of 2011 Plan								
Net Total - 2011 Plan:								
2016 Plan: Project 36 - Brown Landfill (Phase II) Project 37 - Ghent 2 WFGD Improvements Project 38 - Supplemental Mercury Control Project 40 - Ghent New Process Water Systems Project 41 - Trimble County New Process Water Systems Project 42 - Brown New Process Water Systems								
Subtotal Less Retirements and Replacement resulting from implementation of 2016 Plan								
Net Total - 2016 Plan:								
2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System Project 44 - Trimble County ELG Water Treatment System								
Subtotal Less Retirements and Replacement resulting from implementation of 2020 Plan								
Net Total - 2020 Plan:								
Net Total - All Plans:								

Note 1: Trimble County projects for the 2009 Plan and 2020 Plan are proportionately shared by KU at 48% and LG&E at 52% Note 2: Project 29 as approved in the 2009 ECR Plan recovers costs associated with the Brown Aux Pond (Phase II). In the 2011 Plan, Project 29 was amended to recover costs associated with the conversion of the Brown Main Ash Pond to the Brown Landfill (Phase I)

Note 3: The Deferred Tax Balance includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.

Note 4: Adjustments in Projects 28-31 reflect capital amounts that were recovered in base rates rather than in ECR and were not removed in KU's base rate proceeding (CN 2020-00349) when the projects were eliminated from ECR; therefore, the adjusted amounts continue to be reflected in ECR.

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

O&M Expenses and Determination of Cash Working Capital Allowance

#### For the Month Ended:

Environmental Complian	ice Plan	
	Pre-2020 Environmental	2020 Environmental
O&M Expenses	Compliance Plans	Compliance Plan
11th Previous Month		
10th Previous Month		
9th Previous Month		
8th Previous Month		
7th Previous Month		
6th Previous Month		
5th Previous Month		
4th Previous Month		
3rd Previous Month		
2nd Previous Month		
Previous Month		
Current Month		
Total 12 Month O&M		

Determination of Working Capi	tal Allowance		
12 Months O&M Expenses	\$	-	\$ -
One Eighth (1/8) of 12 Month O&M Expenses	1/8		1/8
Pollution Control Cash Working Capital Allowance	\$	-	\$ -

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

**Pollution Control - Operations & Maintenance Expenses** 

#### For the Month Ended:

	E. W.			
O&M Expense Account	Brown	Ghent	Trimble County	Total
See In Emperior Present	Bioii	S. C. C.	Times county	1000
2009 Plan				
506154 - ECR NOx Operation Consumables				
506155 - ECR NOx Operation Labor and Other				
512151 - ECR NOx Maintenance				
506159 - ECR Sorbent Injection Operation				
506152 - ECR Sorbent Reactant - Reagent Only				
512152 - ECR Sorbent Injection Maintenance				
502013 - ECR Landfill Operations				
512107 - ECR Landfill Maintenance				
Adjustment for CCP Disposal in Base Rates (ES Form 2.51)				
Total 2009 Plan O&M Expenses				
•				
2011 Plan				
506159 - ECR Sorbent Injection Operation				
506152 - ECR Sorbent Reactant - Reagent Only				
512152 - ECR Sorbent Injection Maintenance				
506156 - ECR Baghouse Operations				
512156 - ECR Baghouse Maintenance				
506151 - ECR Activated Carbon				
502013 - ECR Landfill Operations				
512107 - ECR Landfill Maintenance				
Total 2011 Plan O&M Expenses				
2016 Plan				
506153 - ECR Liquid Injection - Reagent Only				
Total 2016 Plan O&M Expenses				
2020 Plan				
502015 - ECR Effluent Water Chemicals				
502017 - ECR Effluent Water Operations				
512157 - ECR Effluent Water Maintenance				
Total 2020 Plan O&M Expenses				
Current Month O&M Expense for All Plans				

Note 1: Trimble County projects for the 2009 Plan and 2020 Plan are proportionately shared by KU at 48% and LG&E at 52%.

# KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

CCP Disposal Facilities Expenses
For the Month Ended: January 0, 1900

On-Site CCP Disposal O&M Expense	Ghent	Trimble County
	•	
Existing CCP Disposal Facilities (Pre 2009 Plan Project)		
(1) 12 Months Ending with Expense Month		
(2) Monthly Amount [(1) / 12]		
2009 Plan Project		
(3) Monthly Expense		
Total Generating Station		
(4) Monthly Expense [(2) + (3)]		
Base Rates		
(5) Annual Expense Amount (12 Mo Ending with Last Test Year)		
(6) Monthly Expense Amount [(5) / 12]		
(7) Total Generating Station Less Base Rates [(4) - (6)]		
(8) Less 2009 Plan Project [(7) - (3)]		
If Line (8) Greater than Zero, No Adjustment		
If Line (8) Less than Zero, Adjustment for Base Rates		
Adjustment for Base Rate Amount (to ES Form 2.50)		

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%.

Note 2: ES Form 2.51 will not be utilized until O&M costs associated with the 2009 Plan are incurred.

# KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Beneficial Reuse - Operations & Maintenance Expenses For the Month Ended:

Third Party	O&M Expense Account	Plant	Total O&M
Total Monthly Beneficial Reuse Expense			
Adjustment for Beneficial Reuse in Base Rates (fr	am ES Farm 2.61)		I
Net Beneficial Reuse O&M Expense	oni es roini 2.01)		

# KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Beneficial Reuse Opportunities For the Month Ended: January 0, 1900

On-Site CCP Disposal O&M Expense	E. W. Brown	Ghent	Trimble County	Total
Existing Beneficial Reuse Opportunities (Pre 2009 Plan Project)	1			
(1) 12 Months Ending with Expense Month				
(2) Monthly Amount [(1) / 12]				
2009 Plan Project 33				
(3) Monthly Amount (Expense/Revenue)	1			
Total Beneficial Reuse - Generating Station				
(4) Monthly Expense [(2) + (3)]				
Beneficial Reuse in Base Rates				
(5) Annual Expense Amount (12 Mo Ending with Last Test Year) (6) Monthly Expense Amount [(5) / 12]				
(0) Monthly Expense Amount [(3)/12]	+			
(7) Total Generating Station Less Base Rates [(4) - (6)]				
(8) Less 2009 Plan Project 33 [(7) - (3)]				
If Line (8) Greater than Zero, No Adjustment				
If Line (8) Less than Zero, Adjustment for Base Rates				
Adjustment for Base Rate Amount (to ES Form 2.60)				

Note 1: Trimble County projects for the 2009 Plan are proportionately shared by KU at 48% and LG&E at 52%.

**ES FORM 3.10** 

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

**Reconciliation of Reported Revenues** 

#### For the Month Ended:

		Revenues per	Revenues per
		Form 3.00	Income Statement
Kentu	cky Retail Revenues	1 01111 3.00	meome statement
(1)	Base Rates (Customer Charge, Energy Charge, Demand Charge)		
(2)	Fuel Adjustment Clause including Off System Sales Tracker		
(3)	DSM		
(4)	Environmental Surcharge		
(5)	CSR Credits		
(6)	EDR Credits		
(7)	Total Kentucky Jurisdictional Revenues for Environmental Surcharge Purposes =		
Non -J	urisdictional Revenues		
(8)	Tennessee Retail		
(9)	Virginia Retail		
(10)	Wholesale		
(11)	InterSystem (Total Less Transmission Portion Booked in Account 447)		
(12)	Total Non-Jurisdictional Revenues for Environmental Surcharge Purposes =		
(13)	Total Company Revenues for Environmental Surcharge Purposes =		
	Jurisdictional Allocation Ratio for Current Month [(7) / (13)] =		
	ciling Revenues		
(14)	Brokered		
(15)	InterSystem (Transmission Portion Booked in Account 447)		
(16)	Unbilled		
(17)	Provision for Refund		
(18)	Miscellaneous		
(19)	Total Company Revenues per Income Statement =		

Note 1: Revenues per Form 3.00 do not include the fixed monthly charges for the Company's Solar Share and Business Solar programs and therefore will not always reflect Revenues per the Income Statement.

ES FORM 1.10

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Calculation of Total E(m) and Jurisdictional Surcharge Billing Factor

For the Expense Month of

#### Calculation of Total E(m)

E(m) = [(RB / 12)]	(ROR+(RO	(DR - DR)(TR/(1-TR))) + OE - BAS + BR, where
RB	=	Environmental Compliance Rate Base
ROR	=	Rate of Return on the Environmental Compliance Rate Base
DR	=	Debt Rate (both short-term and long-term debt)
TR	=	Composite Federal & State Income Tax Rate
OE	=	Pollution Control Operating Expenses
BAS	=	Total Proceeds from By-Product and Allowance Sales
BR	=	Net Monthly Beneficial Reuse Operations Expenses/(Revenue

			nvironmental pliance Plans
(1) RB		=	
(2) RB / 12		=	
(3) (ROR + (ROR - DF	R) (TR / (1 - TR)))	=	
(4) OE		=	
(5) BAS		=	
(6) BR		=	
(7) E(m)	$(2) \times (3) + (4) - (5) + (6)$	=	

#### Calculation of Adjusted Net Jurisdictional E(m)

(8)	Jurisdictional Allocation Ratio for Expense Month ES Form 3.10	=
(9)		=
(10)	Adjustment for (Over)/Under-collection pursuant to Case No.	=
(11)	Prior Period Adjustment (if necessary)	=
(12)	Revenue Collected through Base Rates	=
(13)	Adjusted Net Jurisdictional $E(m) = [(9) + (10) + (11) - (12)]$	=

Calculation of Group Environmental Surcharge Billing Factors

		GROU (Total Rev	
(14)	Revenue as a Percentage of 12-month Total Revenue ending with the Current Month ES Form 3.00	=	
(15)	Group E(m) [(13) x (14)]	=	
(16)	Group R(m) = Average Monthly Group Revenue for the 12  Months Ending with the Current Expense Month ES Form 3.00	=	
(17)	Group Environmental Surcharge Billing Factors [(15) ÷ (16)]	=	

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Revenue Requirements of Environmental Compliance Costs For the Expense Month of

Determination of Environmental Compliance Rate Base		
	All Environmental	Compliance Plans
Eligible Pollution Control Plant		
Eligible Pollution CWIP Excluding AFUDC		
Subtotal		
Additions:		
Inventory - Emission Allowances		
Less: Allowance Inventory Baseline		
Net Emission Allowance Inventory		
Cash Working Capital Allowance		
Net Unamortized Closure Cost Balance - Active Stations		
Net Unamortized Closure Cost Balance - Retired Stations <sup>1</sup>		
Subtotal		
Deductions:		
Accumulated Depreciation on Eligible Pollution Control Plant		
Pollution Control Deferred Income Taxes		
Pollution Control Deferred Investment Tax Credit		
Subtotal		
Environmental Compliance Rate Base		
Determination of Pollution Control Operating Expenses	All Environmental	Compliance Plans
Monthly Operations & Maintenance Expense		
Monthly Depreciation & Amortization Expense		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates  Net Recoverable Emission Allowance Expense  Monthly Surcharge Consultant Fee		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates  Net Recoverable Emission Allowance Expense		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates  Net Recoverable Emission Allowance Expense  Monthly Surcharge Consultant Fee  Construction Monitoring Consultant Fee		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates  Net Recoverable Emission Allowance Expense  Monthly Surcharge Consultant Fee  Construction Monitoring Consultant Fee  Total Pollution Control Operations Expense		All Environmental
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates  Net Recoverable Emission Allowance Expense  Monthly Surcharge Consultant Fee  Construction Monitoring Consultant Fee  Total Pollution Control Operations Expense		All Environmental Compliance Plans
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates  Net Recoverable Emission Allowance Expense  Monthly Surcharge Consultant Fee  Construction Monitoring Consultant Fee  Total Pollution Control Operations Expense  Determination of Beneficial Reuse Operations Expenses/(Revenues)		
Monthly Depreciation & Amortization Expense  Monthly Taxes Other Than Income Taxes - Eligible Plant  Monthly Taxes Other Than Income Taxes - Closure Costs  Amortization of Monthly Closure Costs - Active Stations  Amortization of Monthly Closure Costs - Retired Stations  Amortization of Excess ADIT with gross-up  Monthly Emission Allowance Expense  Add KU Current Month TC2 Emission Allowance Expense  Less Monthly Emission Allowance Expense in base rates  Net Recoverable Emission Allowance Expense  Monthly Surcharge Consultant Fee  Construction Monitoring Consultant Fee  Total Pollution Control Operations Expense		

Note 1: The net unamortized closure cost balance is comprised of CCR closure cost expenditures less accumulated amortization, and accumulated deferred income taxes.

#### KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Capital and Related Costs by ECR Plan and Project

#### For the Month Ended:

Description  Eligible Plant In Service  2009 Plan: Project 28 - Brown 3 SCR Project 29 - ATB Expansion at E.W. Brown Station (Phase II) Project 30 - Ghent CCP Storage (Landfill - Phase I) Project 31 - Trimble County Ash Treatment Basin (BAP/GSP) Project 31 - Trimble County CCP Storage (Landfill - Phase I) Project 33 - Beneficial Reuse  Subtotal Less Retirements and Replacement resulting from implementation of 2009 Plan  Net Total - 2009 Plan:  2016 Plan: Project 40 - Ghent New Process Water Systems Project 41 - Trimble County New Process Water Systems Project 42 - Brown New Process Water Systems Subtotal Less Retirements and Replacement resulting from implementation of 2016 Plan  Net Total - 2016 Plan:  2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System Project 44 - Trimble County ELG Water Treatment System	Eligible Accumulated Depreciation	CWIP Amount Excluding AFUDC	Eligible Net Plant In Service	Unamortized ITC as of	Deferred Tax Balance as of	Monthly Depreciation Expense	Monthly Property Tax Expense
Project 28 - Brown 3 SCR Project 29 - ATB Expansion at E.W. Brown Station (Phase II) Project 30 - Ghent CCP Storage (Landfill - Phase I) Project 31 - Trimble County Ash Treatment Basin (BAP/GSP) Project 32 - Trimble County CCP Storage (Landfill - Phase I) Project 33 - Beneficial Reuse  Subtotal Less Retirements and Replacement resulting from implementation of 2009 Plan  Net Total - 2009 Plan:  2016 Plan: Project 40 - Ghent New Process Water Systems Project 41 - Trimble County New Process Water Systems Project 42 - Brown New Process Water Systems Subtotal Less Retirements and Replacement resulting from implementation of 2016 Plan  Net Total - 2016 Plan:  2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System			(2)-(3)+(4)				
Project 28 - Brown 3 SCR Project 29 - ATB Expansion at E.W. Brown Station (Phase II) Project 30 - Ghent CCP Storage (Landfill- Phase I) Project 31 - Trimble County Ash Treatment Basin (BAP/GSP) Project 32 - Trimble County CCP Storage (Landfill - Phase I) Project 33 - Beneficial Reuse  Subtotal Less Retirements and Replacement resulting from implementation of 2009 Plan  Net Total - 2009 Plan:  2016 Plan: Project 40 - Ghent New Process Water Systems Project 41 - Trimble County New Process Water Systems Project 42 - Brown New Process Water Systems Subtotal Less Retirements and Replacement resulting from implementation of 2016 Plan  Net Total - 2016 Plan:  2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System							
Less Retirements and Replacement resulting from implementation of 2009 Plan  Net Total - 2009 Plan:  2016 Plan: Project 40 - Ghent New Process Water Systems Project 41 - Trimble County New Process Water Systems Project 42 - Brown New Process Water Systems Subtotal Less Retirements and Replacement resulting from implementation of 2016 Plan  Net Total - 2016 Plan:  2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System							
2016 Plan: Project 40 - Ghent New Process Water Systems Project 41 - Trimble County New Process Water Systems Project 42 - Brown New Process Water Systems Subtotal Less Retirements and Replacement resulting from implementation of 2016 Plan  Net Total - 2016 Plan:  2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System							
Project 40 - Ghent New Process Water Systems Project 41 - Trimble County New Process Water Systems Project 42 - Brown New Process Water Systems Subtotal Less Retirements and Replacement resulting from implementation of 2016 Plan  Net Total - 2016 Plan:  2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System							
Less Retirements and Replacement resulting from implementation of 2016 Plan  Net Total - 2016 Plan:  2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System							
2020 Plan: Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System							
Project 43 - Ghent ELG Water Treatment System, Diffuser, and BATW Recirculation System							
Subtotal Less Retirements and Replacement resulting from implementation of 2020 Plan							
Net Total - 2020 Plan:							
Net Total - All Plans:			<u> </u>	1			

 $Note \ 1: \ Trimble \ County \ projects \ for \ the \ 2009, \ 2016, \ and \ 2020 \ Plans \ are \ proportionately \ shared \ by \ KU \ at \ 48\% \ and \ LG\&E \ at \ 52\% \ Additional \ Add$ 

Note 2: Project 29 as approved in the 2009 ECR Plan recovers costs associated with the Brown Aux Pond (Phase II).

Note 3: The Deferred Tax Balance includes Excess Deferred Taxes resulting from the Tax Cuts and Jobs Act.

Note 4: Adjustments in Projects 28-31 reflect capital amounts that were recovered in base rates rather than in ECR and were not removed in KU's base rate proceeding (CN 2020-00349) when the projects were eliminated from ECR; therefore, the adjusted amounts continue to be reflected in ECR.

# KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

**O&M** Expenses and Determination of Cash Working Capital Allowance

### For the Month Ended:

O&M Expenses	All Environmental Compliance Plans
11th Previous Month	
10th Previous Month	
9th Previous Month	
8th Previous Month	
7th Previous Month	
6th Previous Month	
5th Previous Month	
4th Previous Month	
3rd Previous Month	
2nd Previous Month	
Previous Month	
Current Month	
Total 12 Month O&M	

Determination of Working Capital Allowance			
12 Months O&M Expenses			
One Eighth (1/8) of 12 Month O&M Expenses	1/8		
Pollution Control Cash Working Capital Allowance			

# KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

**Pollution Control - Operations & Maintenance Expenses** 

#### For the Month Ended:

	E. W.			
O&M Expense Account	Brown	Ghent	Trimble County	Total
2009 Plan				
506154 - ECR NOx Operation Consumables				
506155 - ECR NOx Operation Labor and Other				
512151 - ECR NOx Maintenance				
502013 - ECR Landfill Operations				
512107 - ECR Landfill Maintenance				
Total 2009 Plan O&M Expenses				
2020 Plan				
502015 - ECR Effluent Water Chemicals				
502017 - ECR Effluent Water Operations				
512157 - ECR Effluent Water Maintenance				
Total 2020 Plan O&M Expenses				
Current Month O&M Expense for All Plans				

Note 1: Trimble County projects for the 2009 Plan and 2020 Plan are proportionately shared by KU at 48% and LG&E at 52%.

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

Beneficial Reuse - Operations & Maintenance Expenses/(Revenues)

For the Month Ended:

Third Party	O&M Expense Account	Plant	Net Expenses/ (Revenues)		
Net Monthly Beneficial Reuse Operations Expenses/(Revenues)					

**ES FORM 3.10** 

## KENTUCKY UTILITIES COMPANY ENVIRONMENTAL SURCHARGE REPORT

**Reconciliation of Reported Revenues** 

#### For the Month Ended:

		Revenues per	Revenues per
		Form 3.00	Income Statement
Kentu	cky Retail Revenues	101111 3.00	meeme statement
(1)	Base Rates (Customer Charge, Energy Charge, Demand Charge)		
(2)	Fuel Adjustment Clause including Off System Sales Tracker		
(3)	DSM		
(4)	Environmental Surcharge		
(5)	CSR Credits		
(6)	EDR Credits		
(7)	Business and Community Solar		
(8)	Total Kentucky Jurisdictional Revenues for Environmental Surcharge Purposes =		
Non -J	urisdictional Revenues		
(9)	Virginia Retail		
(10)	Wholesale		
(11)	InterSystem (Total Less Transmission Portion Booked in Account 447)		
(12)	Total Non-Jurisdictional Revenues for Environmental Surcharge Purposes =		
(13)	Total Company Revenues for Environmental Surcharge Purposes =		
(14)	Jurisdictional Allocation Ratio for Current Month $[(8)/(13)] =$		
Recon	ciling Revenues		
(15)	Brokered		
(16)	InterSystem (Transmission Portion Booked in Account 447)		
(17)	Unbilled		
(18)	Provision for Refund		
(19)	Miscellaneous		
(20)	Total Company Revenues per Income Statement =		