

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023

**DATA REQUEST**

**KPSC 1\_1** Prepare a summary schedule showing the calculation of E(m) and the surcharge factor for the expense months under review. ES Form 1.00 can be used as a model for this summary. Include the two expense months subsequent to each specific review period that are the subject of this proceeding in order to show the over- and under-recovery adjustments for the months included for each of the periods under review. Include a calculation of any additional over- or under-recovery amount Kentucky Power believes needs to be recognized for the six-month and two-year reviews. Provide the schedule and all supporting calculations and documentation in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

Please refer to KPCO\_R\_KPSC\_1\_1\_Attachment1 for the requested information.

The Company is not proposing any adjustments in the environmental costs for the review period in this proceeding.

Witness: Lerah M. Kahn

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023

**DATA REQUEST**

**KPSC 1\_2** The net gain or loss from sulfur dioxide and nitrogen oxide emission allowance sales is reported on ES Form 3.00, Calculation of Current Period Revenue Requirement, Third Component. For each expense month of the specific periods under review, provide an explanation of how the gain or loss reported in the expense month was calculated and describe the transaction(s) that was the source of the gain or loss.

**RESPONSE**

Please refer to KPCO\_R\_KPSC\_1\_2\_Attachment1 for the requested information.

Witness: Lerah M. Kahn

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023

**DATA REQUEST**

**KPSC 1\_3** In Case No. 1996-00489, the Commission ordered that Kentucky Power's rate of return on common equity for the environmental surcharge would be reviewed for reasonableness during the two-year review case. Currently, the rate of return on common equity is 9.10 percent approved in Case No. 2020-00174. State whether Kentucky Power believes that the 9.10 percent rate of return on common equity for the environmental surcharge is reasonable. Explain the response and include any analyses or evaluations supporting its conclusions. If not, provide the rate of return on common equity that Kentucky Power proposes for its environmental surcharge.

**RESPONSE**

The current 9.10 percent return on equity approved by the Commission in Case No. 2020-00174 for the environmental surcharge until base rates are next adjusted is reasonable.

Witness: Lerah M. Kahn

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023

**DATA REQUEST**

**KPSC 1\_4** KRS 278.183(3) provides that during the two-year review, the Commission must, to the extent appropriate, incorporate surcharge amounts found just and reasonable into the existing base rates of the utility. State whether Kentucky Power believes any additional surcharge amounts need to be incorporated into its base rates in conjunction with this two-year review. If so, provide the additional surcharge amount that Kentucky Power believes should be incorporated into its existing base rates. Explain how the surcharge amount should be incorporated into the base rates. Provide all schedules in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

The Company is not proposing to incorporate any additional surcharge amounts into its base rates in conjunction with this two-year review.

Witness: Lerah M. Kahn

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023  
Page 1 of 3

**DATA REQUEST**

**KPSC 1\_5** Refer to ES Form 3.13, Mitchell Environmental Costs for each of the expense months of the specific periods under review in this proceeding. Explain the reason(s) for any change in the expense levels from month to month if that change is greater than plus or minus 10 percent for each of the following operating and maintenance costs listed:

- a. Line 22 Monthly Disposal (5010000)
- b. Line 24 Monthly Urea Expense (5020002)
- c. Line 25 Monthly Trona Expense (5020003)
- d. Line 26 Monthly Lime Stone Expense (5020004)
- e. Line 27 Monthly Polymer Expense (5020005)
- f. Line 28 Monthly Lime Hydrate Expense (5020007)
- g. Line 29 Monthly WV Air Emission Fee
- h. Line 35 Monthly FGD Maintenance Expense
- i. Line 36 Monthly Non-FGD Maintenance Expense

**RESPONSE**

a. Monthly Disposal. Monthly disposal expense reflects revenues derived from sales of gypsum to the neighboring wallboard plant. The variations during the review period reflect monthly changes in the wallboard plant's demand for gypsum from the Mitchell generating station.

b & d. Urea and Limestone. Usage of urea and limestone at Mitchell varies directionally (but not necessarily directly) with changes in the level of plant operation, including variations resulting from outages and deratings. For example, no net generation occurred at Mitchell Unit 2 in November 2019, Mitchell Unit 1 December 2019, Mitchell Unit 2 April 2020, Mitchell Unit 2 September 2020, Mitchell Unit 1 November 2020, Mitchell Unit 2 January 2021, Mitchell Unit 1 May 2021, Mitchell Unit 1 November-December 2021, Mitchell Unit 1 February 2022, Mitchell Unit 2 March 2022, Mitchell Unit 2 September-November 2022, and Mitchell Unit 1 October 2022, resulting in reduced urea and limestone expenses during those months.

c, e, & f. Trona, Lime Hydrate, and Polymer. Trona, lime hydrate, and polymer are expensed upon delivery to the plant. The monthly variations in these consumable expenses reflect the monthly variations in the deliveries of those three consumables to the plant. Beginning in January 2022, Lime Hydrate expenses are included with Limestone expenses in Account 5020004.

Kentucky Power Company  
 KPSC Case No. 2023-00372  
 Commission Staff's First Set of Data Requests  
 Dated December 6, 2023  
 Page 2 of 3

g. Air Emission Fees. Kentucky Power receives an invoice for West Virginia Department of Environmental Protection air emission fees once annually and includes 1/12 of the annual total in each monthly filing. The invoices were booked to the general ledger in July of each year under the review period.

h & i. Maintenance Expense. The monthly variations in maintenance expense result primarily from variation in maintenance activities at the plant. Plant management makes maintenance decisions to ensure the safe, reliable, and compliant operation of the Mitchell Plant.

More specifically, FGD maintenance events during the review period that led to monthly variability included:

Year - Month	FGD Equipment Maintenance	Amount (Approx.)
2022 - (12) Dec	ABS REAGENT SLURRY FEED	\$ 51,157
2022 - (12) Dec	SECONDARY CLARIFIER SLUDGE PUMP 1, CPS	\$ 41,428
2022 - (12) Dec	GYPHUM CONVEYOR BC20 MOTOR	\$ 59,828
2022 - (11) Nov	ABSORBER RECYCLE PUMP 2F, FGD, AR	\$ 45,529
2022 - (09) Sep	FILTER PRESS 3, CPS	\$ 43,441
2022 - (03) Mar	ABS WFGD AGITATOR	\$ 43,666
2021 - (12) Dec	REAGENT SLURRY STORAGE TANK B AGITATOR, FGD	\$ 57,365
2021 - (09) Sep	FAN, ID #1 U2	\$ 54,640
2021 - (06) Jun	FDG WW PIPE/VALV	\$ 42,503
2021 - (06) Jun	DSI INJECTION	\$ 87,412
2021 - (04) Apr	E-CRANE	\$ 159,368
2021 - (04) Apr	ABS WFGD AGITATOR	\$ 58,008
2021 - (03) Mar	DEWATERING HYDROCLONE FEED TANK A, FGD	\$ 42,232
2021 - (02) Feb	FDG WW PIPE/VALV	\$ 47,943
2021 - (02) Feb	VACUUM BELT FILTER C VACUUM RECEIVER, FGD	\$ 40,801
2020 - (12) Dec	ID FAN 2 OUTLET DAMPER	\$ 52,121
2020 - (09) Sep	FDG WW PIPE/VALV	\$ 70,999
2020 - (09) Sep	DEWATERING HYDROCLONE FEED TANK B, AGITATOR, FGD	\$ 57,263
2020 - (07) Jul	FDG WW PIPE/VALV	\$ 74,998
2020 - (03) Mar	FDG WW PIPE/VALV	\$ 62,077
2020 - (02) Feb	DEWATERING AREA SUMP PUMP A, FGD	\$ 50,672
2020 - (01) Jan	FAN, ID #2 U1	\$ 42,624
2020 - (01) Jan	LIMESTONE HANDLING	\$ 59,312
2019 - (12) Dec	DEWATERING AREA SUMP PUMP A, FGD	\$ 50,173
2019 - (11) Nov	DEWATERING AREA SUMP PUMP A, FGD	\$ 44,193
2019 - (10) Oct	DEWATERING AREA SUMP PUMP A, FGD	\$ 48,277
2019 - (10) Oct	FAN, ID #1 U2	\$ 92,760
2019 - (09) Sep	LIMESTONE HANDLING	\$ 60,506
2019 - (08) Aug	DEWATERING AREA SUMP PUMP A, FGD	\$ 74,082

Kentucky Power Company  
 KPSC Case No. 2023-00372  
 Commission Staff's First Set of Data Requests  
 Dated December 6, 2023  
 Page 3 of 3

Similarly, for non-FGD Maintenance expenses, expenses varied in connection with changes in maintenance activity. Additional maintenance events during the review period that led to monthly variability included:

Year - Month	Non-FGD Equipment Maintenance	Amount (Approx.)
2023 - (05) May	PRECIPITATOR BOX NO1 U1	\$ 215,209
2023 - (04) Apr	PRECIPITATOR BOX NO1 U1	\$ 197,416
2023 - (04) Apr	CEMS SO2 POLLUTION SAMPLING EQUIPMENT - STACK	\$ 51,193
2023 - (01) Jan	PRECIPITATOR GIRDER BLOWER FANS, BOX 2 U1	\$ 426,536
2023 - (01) Jan	PRECIP WIRES/SOLID ELECTRODES	\$ 104,525
2023 - (01) Jan	PRECIPITATOR ELECTRICAL EQUIPMENT U1	\$ 51,420
2022 - (12) Dec	PRECIPITATOR BOX NO1 U1	\$ 48,245
2022 - (10) Oct	PRECIPITATOR BOX NO1 U1	\$ 58,968
2022 - (03) Mar	PRECIPITATOR ELECTRICAL EQUIPMENT U2	\$ 134,771
2022 - (03) Mar	ASH AND FLYASH HANDLING EQUIPMENT MISC U1	\$ 48,282
2022 - (02) Feb	PRECIPITATOR ELECTRICAL EQUIPMENT U2	\$ 43,743
2021 - (11) Nov	PRECIPITATOR BOX NO1 U1	\$ 105,594
2021 - (04) Apr	PRECIPITATOR BOX NO3 U2	\$ 50,333
2021 - (03) Mar	PRECIPITATOR BOX NO3 U2	\$ 99,281
2021 - (01) Jan	PRECIPITATOR BOX NO1 U1	\$ 53,614
2020 - (12) Dec	PRECIP INST/CTRL	\$ 70,537
2020 - (12) Dec	PRECIPITATOR BOX NO1 U1	\$ 54,063
2020 - (11) Nov	PRECIPITATOR BOX NO1 U1	\$ 43,415
2020 - (10) Oct	PRECIPITATOR BOX NO1 U1	\$ 63,467
2020 - (02) Feb	PRECIP STRUCTURE	\$ 46,161
2019 - (12) Dec	PRECIP STRUCTURE	\$ 159,009
2019 - (08) Aug	PRECIPITATOR BOX NO3 U2	\$ 93,309
2019 - (08) Aug	PRECIPITATOR BOX NO1 U1	\$ 50,046

Witness: Lerah M. Kahn

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023  
Page 1 of 3

**DATA REQUEST**

- KPSC 1\_6** Refer to ES Form 3.20, Rockport Environmental Costs for each expense month in the periods under review. Explain the reason(s) for any change in the expense levels from month to month if that change is greater than plus or minus 10 percent for each of the following operating and maintenance costs listed:
- a. Line 13 Monthly Brominated Sodium Bicarbonate (5020028)
  - b. Line 14 Monthly Brominated Activated Carbon (5020008)
  - c. Line 16 Monthly IN Air Emission Fee
  - d. Line 19 Monthly Maintenance Expense

**RESPONSE**

a & b. Consumables. Consumable usage varies directionally (but not necessarily directly) with changes in the level of plant operation, including variations resulting from outages and deratings. The months with the lowest generation during the review period were December 2020, October and November 2021, and October 2022. The months of the review period with the highest generation, and likewise the highest consumable expense, were July 2019, February 2021, and December 2022. Consumable variations greater than plus or minus 10% follows this generation profile.

Additionally, in March 2022 there were two adjustments necessary for incorrect book values resulting from consumption (tons) measurements being inadvertently inaccurately reported. The first adjustment was \$2.2M for Activated Carbon (5020008). The second adjustment was \$3.3M for Sodium Bicarbonate (5020028). The process for measuring actual consumption was subsequently updated to prevent recurrence.

c. Air Emission Fees. Monthly air emission fees increased from \$15,625 per month to \$19,844 per month in January 2020. Otherwise, there was no variance in monthly air emission fees paid to the Indiana Department of Environmental Management during the review period.



Kentucky Power Company  
 KPSC Case No. 2023-00372  
 Commission Staff's First Set of Data Requests  
 Dated December 6, 2023  
 Page 2 of 3

d. Maintenance Expense. The average monthly expenditure for the 42 months ending December 2022<sup>1</sup> was approximately \$110,000 but varied depending upon ongoing decisions made by plant management to ensure the safe, reliable, and compliant operation of the Rockport Plant.

More specifically, maintenance events during the review period that led to inter-monthly variability are provided in the below table which identifies the primary maintenance activity and its associated expense. Months that did not have significant expenditures were noted as “Significantly below average expenditures.”

Expense Year	Expense Month	Monthly Maintenance Expense	Maintenance Activity	Approximate Amount \$000
2019	Jul	91,784	SCR System Maintenance	36
	Aug	98,637	Precipitator Repairs	53
	Sep	47,192	Significantly below average expenditures	
	Oct	350,457	Precipitator Repairs	291
	Nov	236,546	Precipitator Repairs/ Continuous Emissions Monitoring	152
	Dec	200,248	Precipitator Repairs	148
2020	Jan	134,932	Precipitator Repairs	74
	Feb	373,057	Ash Systems	109
	Mar	72,614	Significantly below average expenditures	
	Apr	83,775	Precipitator Repairs	46
	May	34,261	Significantly below average expenditures	
	Jun	54,083	Significantly below average expenditures	
	Jul	40,774	Significantly below average expenditures	
	Aug	49,051	Significantly below average expenditures	
	Sep	46,992	Significantly below average expenditures	
	Oct	60,931	DSI System Maintenance	19
	Nov	104,406	SCR System Maintenance/ Emissions Monitors	28
	Dec	42,444	Significantly below average expenditures	

<sup>1</sup> The Rockport UPA expired on December 8, 2022. Accordingly, the Company’s environmental surcharge filed January 23, 2023, for the month of December 2022, was the last month to include Rockport costs. Please also see Kahn Direct Testimony at pp. 7.

Kentucky Power Company  
 KPSC Case No. 2023-00372  
 Commission Staff's First Set of Data Requests  
 Dated December 6, 2023  
 Page 3 of 3

Expense Year	Expense Month	Monthly Maintenance Expense	Maintenance Activity	Approximate Amount \$000
2021	Jan	85,434	Emissions Monitors	13
	Feb	67,406	Significantly below average expenditures	
	Mar	143,125	Bottom Ash Pumps/Lines	57
	Apr	183,947	SCR System Maintenance/ Ash Pumps	142
	May	63,134	Significantly below average expenditures	
	Jun	72,223	Significantly below average expenditures	
	Jul	135,213	Bottom Ash Pump/ DSI System	61
	Aug	117,319	Mercury/CEMS Monitor & Fly Ash System	55
	Sep	72,033	Significantly below average expenditures	
	Oct	169,951	DSI System Maintenance	98
	Nov	193,580	SCR System Maintenance	155
	Dec	67,183	Significantly below average expenditures	
2022	Jan	83,229	DSI System Maintenance	39
	Feb	87,091	DSI System Maintenance	30
	Mar	100,794	Continuous Emissions Monitoring	30
	Apr	78,379	Significantly below average expenditures	
	May	47,434	Significantly below average expenditures	
	Jun	130,838	SCR & DSI System	65
	Jul	135,146	SCR & DSI System	65
	Aug	88,363	Bottom Ash Lines	28
	Sep	122,738	Continuous Emissions Monitoring	66
	Oct	132,476	Continuous Emissions Monitoring	66
	Nov	59,914	Significantly below average expenditures	
	Dec	60,143	Significantly below average expenditures	

Witness: Lerah M. Kahn

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023  
Page 1 of 2

**DATA REQUEST**

**KPSC 1\_7** Reference ES Form 3.11 and 3.12 for each expense month in the two-year review periods.

a. For each month in the two-year review periods, provide the calculation that supports the total cost of allowances consumed that is then carried to ES Form 3.13.

b. Provide an explanation and the reasons for any fluctuations greater than plus or minus 10 percent in the monthly average cost of allowances determined in 7.a.

**RESPONSE**

a. Please refer to KPCO\_R\_KPSC\_1\_7\_Attachment1 for the requested information as it pertains to information carried to ES Form 3.13.

b. Please see the below table for the months when there was a fluctuation greater than plus or minus 10 percent in the monthly average cost of allowances.

Additionally, average allowance inventory prices can swing depending on whether market purchases of allowances were needed to supplement EPA allocations. When an allowance purchase occurs, and its value reflected in the inventory, a new average inventory value is established. As allowances are consumed out of inventory at the average price and new year zero cost allocations from EPA flow into the system, the average price will typically drop annually until the next need for a market purchase inflates the average price, repeating the cycle.

Kentucky Power Company  
 KPSC Case No. 2023-00372  
 Commission Staff's First Set of Data Requests  
 Dated December 6, 2023  
 Page 2 of 2

Type	Month	Avg Unit Cost	Prior Month	Prior Month Avg Unit Cost	% Variance	Reason for Fluctuation
SO2	Jan-20	\$39.60	Dec-19	\$52.59	-25%	Annual closing process which deducts allowances in order to surrender to EPA.  Additionally, when surrenders were entered, only quantity should have been adjusted but the Company's system also adjusted price. Corrected March 2020.
CSAPR SO2	Jan-20	\$0.34	Dec-19	\$0.55	-38%	
SO2	Mar-20	\$48.73	Feb-20	\$39.60	23%	Surrender of SO2 allowances to EPA for AEP Consent Decree.  Additionally, correction for above (January 2020).
CSAPR SO2	Jan-21	\$0.29	Dec-20	\$0.34	-15%	Annual closing process which deducts allowances in order to surrender to EPA.
SO2	Jan-22	\$39.50	Dec-21	\$48.47	-19%	Annual closing process which deducts allowances in order to surrender to EPA.
CSAPR SO2	Jan-22	\$0.25	Dec-21	\$0.29	-14%	
SO2	Jan-23	\$31.55	Dec-22	\$39.55	-20%	Annual closing process which deducts allowances in order to surrender to EPA.
CSAPR SO2	Jan-23	\$0.22	Dec-22	\$0.25	-12%	
SO2	Mar-23	\$36.19	Dec-22	\$31.55	15%	Surrender of SO2 allowances to EPA for AEP Consent Decree.

Witness: Lerah M. Kahn

Kentucky Power Company  
KPSC Case No. 2023-00372  
Commission Staff's First Set of Data Requests  
Dated December 6, 2023

**DATA REQUEST**

**KPSC 1\_8** Provide the actual average residential customer's monthly usage as of April 30, 2023. Based on this usage amount, provide the dollar impact any over- or under-recovery will have on the average residential customer's bill for the recovery periods. Provide the schedule and all supporting calculations and documentation in Excel spreadsheet format with all formulas, columns, and rows unprotected and fully accessible.

**RESPONSE**

The 12-month average residential customer's monthly usage as of April 30, 2023 was 1,172 kWh.

The Company is not proposing any adjustments to the environmental costs for the review period in this proceeding. The Company notes that there were adjustments communicated to the Commission in the environmental surcharge cover letters filed May 19, 2020, March 22, 2021 and September 20, 2021.

Witness: Lerah M. Kahn

