

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC APPLICATION OF EAST)	
KENTUCKY POWER COOPERATIVE INC. FOR)	
APPROVAL TO AMEND ITS ENVIROMENTAL)	CASE NO.
COMPLIANCE PLAN AND RECOVER COSTS)	2023-00177
PURSUANT TO ITS ENVIROMENTAL)	
SURCHARGE, AND FOR ISSUANCE OF)	
CERTIFICATES OF PUBLIC CONVENIENCE)	
AND NECESSITY AND OTHER RELIEF)	

RESPONSES TO STAFF’S FIRST REQUEST INFORMATION REQUEST

TO EAST KENTUCKY POWER COOPERATIVE, INC.

DATED AUGUST 15, 2023

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

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KENTUCKY POWER COOPERATIVE INC. FOR)
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CERTIFICATES OF PUBLIC CONVENIENCE)
AND NECESSITY AND OTHER RELIEF)

CASE NO.
2023-00177

CERTIFICATE

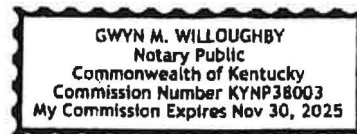
STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Tom Stachnik, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Commission Staff's First Request for Information in the above-referenced case dated August 15, 2023, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Tom Stachnik

Subscribed and sworn before me on this 24th day of August, 2023.

Gwyn M. Willoughby
Notary Public



COMMONWEALTH OF KENTUCKY

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ELECTRONIC APPLICATION OF EAST)
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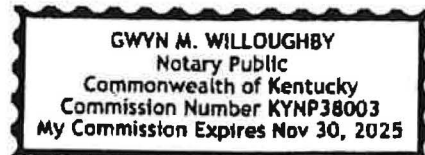
STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Isaac S. Scott, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Commission Staff's First Request for Information in the above-referenced case dated August 15, 2023, and that the matters and things set forth therein are true and accurate to the best of his knowledge, information and belief, formed after reasonable inquiry.

Isaac S. Scott

Subscribed and sworn before me on this 29th day of August, 2023.

Gwyn M. Willoughby
Notary Public



EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2023-00177
FIRST REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED AUGUST 15, 2023

REQUEST 1

RESPONSIBLE PARTY: Joe VonDerHaar

Request 1. Refer to Application, page 6, paragraph 12. Provide supporting documentation and calculations of Spurlock Station's costs, capacity factors, and availability relative to the EKPC generation fleet since the integration into PJM Interconnection LLC (PJM) that support the assertion that the four units at the Spurlock Station are the least expensive in EKPC's fleet.

Response 1. Please refer to the file titled *PSC DRI Response 1* for Spurlock Station's capacity factors and availability metrics.

	Variable Production Cost (Mills/Net kWh)									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Spurlock Station	\$ 37.83	\$ 37.19	\$ 39.53	\$ 35.93	\$ 38.92	\$ 34.62	\$ 41.08	\$ 35.47	\$ 34.44	\$ 43.52

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2023-00177
FIRST REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED AUGUST 15, 2023

REQUEST 2

RESPONSIBLE PARTY: Joe VonDerHaar

Request 2. Refer to Application, page 7, paragraph 15. Provide supporting documentation and calculations of Cooper Station's costs, capacity factors, and availability relative to the EKPC generation fleet since the integration into PJM.

Response 2. Please refer to the file titled *PSC DRI Response 2* for Cooper Station's capacity factors and availability metrics.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2023-00177
FIRST REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED AUGUST 15, 2023

REQUEST 3

RESPONSIBLE PARTY: Isaac S. Scott

Request 3. Refer to Application, page 30, paragraph 62. Provide supporting documentation, explanation, and calculations for the rationale as to why EKPC proposes to expense \$47.2 million in costs due to the nature of the Cooper former impoundment (CFI) closure project rather than capitalizing them.

Response 3. Please see EKPC's response to Request 14.

EAST KENTUCKY POWER COOPERATIVE, INC.
CASE NO. 2023-00177
FIRST REQUEST FOR INFORMATION RESPONSE

STAFF'S REQUEST DATED AUGUST 15, 2023

REQUEST 4

RESPONSIBLE PARTY: Isaac S. Scott

Request 4. Refer to Application, page 19 and Exhibit ISS-1. The charts list the additional 23 projects and the total 41 projects.

- a. For each project in Exhibit ISS-1 that has already been completed, provide a detailed accounting of actual expenses.
- b. For each project listed in Exhibit ISS-1, indicate whether or not EKPC is currently recovering the expenses through the ESM.

Response 4. Please see the Attachment for Response 4(a). EKPC does not understand the request for “actual expenses” as the dollar amounts shown on Exhibit ISS-1 reflect the project costs of each compliance plan project, in other words the capitalized cost or investment. EKPC is unaware of any additional information that would be responsive to the request. In the Attachment, EKPC is providing the actual capital investment for the listed compliance projects. The Attachment is in two parts. The first part reflects the capital investments for the currently approved environmental compliance plan projects, Project References 1 through 26, and compares the project costs as shown on Exhibit ISS-1 with the eligible gross plant in service reported by EKPC

in its monthly environmental surcharge report as of July 31, 2023. It should be noted that the amounts shown on Exhibit ISS-1 reflect the actual or estimated project costs at the time the project was included in the environmental compliance plan. The final original cost of the project is reflected in the monthly surcharge report balances.

The second part of the Attachment reflects the capital investments for the projects included in the proposed amendment to the environmental compliance plan. As noted on page 11 of the Scott Direct Testimony, several of the projects included in the proposed amendment to the environmental compliance plan have been completed and are considered plant in service. In developing this application, EKPC began with project cost information as of December 31, 2022 as a starting point. Seven of the projects were still recorded as construction work in progress (“CWIP”) as of December 31, 2022. EKPC is providing the capital investment balance as of December 31, 2022 for the completed projects and has identified the seven projects that were still in CWIP as of December 31, 2022. EKPC would also note that while Exhibit ISS-1 indicates that the project cost for Project Reference 29 is “actual”, in fact this project was still recorded in CWIP at December 31, 2022 and had not been classified as plant in service.

Finally, Project Reference 41, the CFI Closure project, is included in the environmental compliance plan and is shown with a project cost amount. However, as noted throughout the Application, EKPC is proposing to expense the costs for this project as incurred rather than capitalizing those costs.

Response 4b. Please see the Attachment for Response 4(b). This is a copy of Exhibit ISS-1 as filed with the Application, with the projects currently being recovered through EKPC’s

environmental surcharge mechanism highlighted in yellow. The projects not highlighted, the 2023 Amendments to Project References 1, 3, 4, 9, 11, 12, 15, and 16 and Project References 27 through 41, represent the proposed additions to EKPC's environmental compliance plan and are not currently recovered through EKPC's environmental surcharge mechanism.

**EKPC Environmental Compliance Plan - Exhibit ISS-1
Actual Capital Investment
Currently Approved Compliance Plan as of July 31, 2023**

Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Project Costs as shown on Exhibit ISS-1	Eligible Gross Plant in Service ES Form 2.1 as of 7/31/2023	
1						
2	Capital Investment for Currently Approved Environmental Compliance Plan Projects:					
3						
4	1	Fly Ash/Particulate, NOx & SO2	Boiler, SNCR, Baghouse, Flash Dry Absorber	Gilbert	\$69,600,000	\$73,480,346
5						
6	2	Particulate	Precipitator	Spurlock 1	\$24,300,000	\$24,291,751
7						
8	3	NOx	SCR	Spurlock 1	\$84,400,000	\$80,926,802
9						
10	4	NOx	SCR	Spurlock 2	\$47,200,000	\$46,002,975
11						
12	6	NOx	NOx Reduction Equipment	Spurlock 1	\$3,090,000	\$3,088,571
13						
14	7	SO2	Scrubber	Spurlock 2	\$194,100,000	
15			Switchyard Improvements	Spurlock 2	\$8,396,000	
16			Isolation Valve	Spurlock 2	\$787,793	
17			Total		\$203,283,793	\$213,469,514
18						
19	8	SO2	Scrubber	Spurlock 1	\$145,800,000	
20			Switchyard Improvements	Spurlock 1	\$1,260,000	
21			Isolation Valve	Spurlock 1	\$677,992	
22			Total		\$147,737,992	\$156,742,927
23						
24	9	Fly Ash/Particulate, NOx & SO2	Boiler, SNCR, Baghouse, Flash Dry Absorber	Spurlock 4	\$84,800,000	
25			Ash Silos	Spurlock 4	\$11,700,000	
26			Total		\$96,500,000	\$94,565,530
27						
28	10	Particulate Matter (PM) & Mercury, CEMS	Stack Emissions Monitoring	Spurlock, Cooper	\$2,900,000	\$2,586,198
29						
30	11	NOx, SO2 & PM	Air Quality Control System	Cooper 2	\$222,000,000	\$223,859,530
31						
32	12	Coal Combustion by-products (CCB)	Landfill Area C Expansion and Sediment Pond Construction	Spurlock 1, 2, 4 & Gilbert	\$6,500,000	
33		Coal Combustion Residuals (CCR) & Special Waste	Area C - Phases Two through Four	Spurlock 1, 2, 4 & Gilbert	\$19,300,000	
34			Total		\$25,800,000	\$23,066,920
35						
36	13	SOx, H2SO4 & Mercury	Replacement of Retired Ductwork	Spurlock 2	\$2,800,000	\$2,809,721
37						
38	14	NOx, SO2 & PM	Ductwork to Connect to Existing Air Quality Control System	Cooper 1	\$15,000,000	\$14,959,125
39						
40	15	CCB	Ash Special Waste Landfill Construction	Smith	\$27,000,000	\$6,050,425
41						
42	16	Non-hazardous Waste & Steam Effluent Water Quality Standards	CCR Rule units and Industrial Water Discharges	Spurlock	\$262,400,000	\$243,366,001
43						
44	17	Special Waste	Waste Landfill	Cooper	\$6,200,000	\$5,325,572
45						
46	18	Special Waste	Landfill - Sediment Pond	Cooper	\$2,200,000	\$2,163,009
47						
48	19	Special Waste	KY Waste Facility	Cooper	\$300,000	\$260,441
49						
50	20	Special Waste	KY Waste Facility	Cooper	\$1,200,000	\$1,242,055
51						
52	21	CCR and Stormwater	Station Drainage Improvement Facilities	Spurlock	\$13,100,000	\$12,126,964
53						
54	22	Mercury	Hg Removal Equipment	Spurlock	\$2,800,000	\$2,755,438

EKPC Environmental Compliance Plan - Exhibit ISS-1
 Actual Capital Investment
 Currently Approved Compliance Plan as of July 31, 2023

Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Project Costs as shown on Exhibit ISS-1	Eligible Gross Plant in Service ES Form 2.1 as of 7/31/2023	
55						
56	23	NH3	Anhydrous Ammonia Containment	Spurlock	\$1,100,000	\$1,050,780
57						
58	24	CCR & PM	Spurlock Facilities	Spurlock	\$2,700,000	\$2,350,114
59						
60	25	SO3 & NH3	Dry Sorbent Injection System	Spurlock	\$3,900,000	\$3,866,608
61						
62	26	Special Waste	KY Waste Facility	Spurlock	\$11,200,000	\$6,422,603
63						
64			Totals	<u>\$1,278,711,785</u>	<u>\$1,246,829,920</u>	
65						
66						

Note: Project 16 has components still under construction; the total from ES Form 2.1 reflects actual capital investment as of the filing of ES Form 2.1.

**EKPC Environmental Compliance Plan - Exhibit ISS-1
Actual Capital Investment
Proposed Amendment as of December 31, 2022**

Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Project Costs as shown on Exhibit ISS-1	Actual Capital Investment as of 12/31/2022
Capital Investment for Proposed Environmental Compliance Plan Projects:					
Amend 1	Mercury, PM & HAPs	PJTT Baghouse	Gilbert	\$5,500,000	\$5,465,071
Amend 3	CCR	SCR	Spurlock 1	\$200,000	\$162,151
Amend 4	CCR	SCR	Spurlock 2	\$200,000	\$224,529
Amend 9	Mercury, PM & HAPs	PJTT Baghouse	Spurlock 4	\$4,800,000	\$4,827,367
Amend 11	PM, HAPs & SOx	PJTT Baghouse	Cooper 2	\$400,000	\$359,709
Amend 12	CCR	Area C, Phase Five	Spurlock	\$5,100,000	\$5,083,982
Amend 15	CCR	Groundwater Monitoring Well	Smith	\$300,000	\$325,446
Amend 16	Effluent Limitation Guidelines (ELG)	Waste Water Treatment	Spurlock	\$1,300,000	\$1,175,917
27	KY Water Quality Standards (WQS)	Waste Water Treatment	Cooper	\$20,000	\$23,276
28	CCR	Groundwater Monitoring Well	Spurlock	\$200,000	\$249,045
29	KY WQS	Waste Water Treatment	Spurlock	\$2,000,000	\$2,002,438
30	CCR	Landfill	Spurlock	\$300,000	\$342,996
31	PM & CCR	Fugitive Dust Control	Spurlock	\$2,600,000	\$2,646,723
32	PM & CCR	Bin Vent Filters, Fugitive Dust Control	Spurlock	\$1,000,000	\$953,827
33	ELG	Waste Water Treatment	Spurlock	\$300,000	\$342,448
34	PM & CCR	Fugitive Dust Control	Spurlock 1, 2 & 4	\$200,000	\$226,712
35	Mercury, PM & HAPs	WFGD, WESP	Spurlock 2	\$400,000	\$397,833
36	CCR & KY WQS	Waste Water Treatment	Spurlock	\$700,000	\$194,655
37	PM & CCR	Fugitive Dust Control	Spurlock	\$300,000	\$269,289
38	CCR	Fugitive Dust Control	Spurlock	\$2,100,000	\$2,097,196
39	CCR & ELG	Landfill, Sedimentation Basin and Water Treatment	Spurlock	\$11,000,000	\$10,889,612
40	CCR & ELG	Landfill, Sedimentation Basin and Water Treatment, Area D, Phase One	Spurlock	\$5,000,000	\$4,979,252
	CCR	Landfill, Area D, Phase Two	Spurlock	\$15,700,000	\$0
			Total	<u>\$20,700,000</u>	<u>\$4,979,252</u>
			Totals	<u>\$59,620,000</u>	<u>\$43,239,474</u>

Note: The following projects were still under construction as of 12/31/2022 and the balances reported reflect the actual capital investment as of that date:
Amend 16, Projects 29, 33, 36, 37, 39, and 40 (Area D, Phase One)

Note: While Project 41 appears on Exhibit ISS-1 as part of the environmental compliance plan, EKPC is proposing to expense the costs as incurred rather than recording as a capital investment. Thus, it is not included on this schedule.

EAST KENTUCKY POWER COOPERATIVE, INC ENVIRONMENTAL COMPLIANCE PLAN PURSUANT TO ENVIRONMENTAL SURCHARGE LAW							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Environmental Regulation	Environmental Permit	Actual or Scheduled Completion	Actual (A) or Estimated (E) Project Cost
1.	Fly Ash/Particulate NOx & SO2	Boiler SNCR Baghouse Flash Dry Absorber	Gilbert	401 KAR Chap 45 CAA Sec.404 40 CFR Part 72 401 KAR 50:035 CAA Sec.407 40 CFR Part 76	081-0005 V-97-050 (Rev. 1)	2005	\$69.6 M (A)
2023 Amendment	Mercury, Particulate Matter (PM) & HAPs	PJTT Baghouse	Gilbert	40 CFR Part 63	V-15-063 R1	April 2020	\$5.5 M (A)
2.	Particulate	Precipitator	Spurlock 1	401 KAR 61:015	V-95-050 (Rev. 1)	2003	\$24.3 (A)
3.	NOx	SCR	Spurlock 1	CAA Sec. 407 40 CFR Part 76	V-97-050	2003	\$84.4 M (A)
2023 Amendment	Coal Combustion Residuals (CCR)	SCR	Spurlock 1	42 CFR 257 401 KAR Chap. 46	SW08100005	May 2020	\$0.2 M (A)
4.	NOx	SCR	Spurlock 2	CAA Sec. 407 40 CFR Part 76	V-97-050	2002 Fall 2007 & Spring 2008	\$47.2 (A)
2023 Amendment	CCR	SCR	Spurlock 2	42 CFR 257 401 KAR Chap. 46	SW08100005	Dec. 2017	\$0.2 M (A)
5.	This project was associated with the Dale Station, which has been retired. The Commission's February 11, 2016 Order in Case No. 2015-00302 authorized the creation of regulatory assets for the undepreciated balance of the Dale Station assets. Further, the Commission authorized the recovery of these regulatory assets through base rates in Case No. 2021-00103. Consequently, costs associated with Project 5 and the Dale portion of Project 10 are no longer included in the environmental compliance plan or surcharge.						
6.	NOx	NOx Reduction Equipment	Spurlock 1	40 CFR Part 76.7 CAN 04-34-KSF	V-06-007	Spring 2009	\$3.09 M (A)
7.	SO2	Scrubber	Spurlock 2	CAN 04-34-KSF CAA Sec 405	V-97-050 Rev. 1	Oct. 2008	\$194.1 M (A)
2010 Amendment		Switchyard Improvements				In Svce	\$8.396 M (A)
2010 Amendment		Isolation Valve	Spurlock 2 Scrubber	40 CFR Part 76.7 CAN 04-34-KSF CAA Sec 405 CAA Sec 404	V-06-007, Rev 2	Fall 2010	\$787,793 (A)
8.	SO2	Scrubber	Spurlock 1	CAN 04-34-KSF CAA Sec 404	V-97-050 Rev. 1	Spring 2009	\$145.8 M (A)
2010 Amendment		Switchyard Improvements				In Svce	\$1.26 M (A)
2010 Amendment		Isolation Valve	Spurlock 1 Scrubber	40 CFR Part 76.7 CAN 04-34-KSF CAA Sec 405 CAA Sec 404	V-06-007, Rev 2	Spring 2011	\$677,992 (A)

EAST KENTUCKY POWER COOPERATIVE, INC ENVIRONMENTAL COMPLIANCE PLAN PURSUANT TO ENVIRONMENTAL SURCHARGE LAW							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Environmental Regulation	Environmental Permit	Actual or Scheduled Completion	Actual (A) or Estimated (E) Project Cost
9.	Fly Ash/Particulate NOx & SO2	Boiler SNCR Baghouse Flash Dry Absorber	Spurlock 4	401 KAR Chap 45 CAA Sec.404 40 CFR Part 72 401 KAR 50:035 CAA Sec.407 40 CFR Part 76	V-06-007	April 2009	\$84.8 M (A)
2010 Amendment		Ash Silos	Spurlock 4	401 KAR 63:010	V-06-007	Summer 2010	\$11.7 M (A)
2023 Amendment	Mercury, PM, HAPs	PJTT Baghouse	Spurlock 4	40 CFR Part 63	V-15-063 R1	Nov. 2020	\$4.8 M (A)
10.	PM & Mercury CEMS	Stack Emissions Monitoring	Spurlock Cooper	40 CFR Part 60 App. B, PS 11, & App. F Proced. 2. CD para 97-102. 40 CFR 75	CAN 04-34-KSF	Spring 2010	\$2.9 M (A)
11	NOx and SO2, PM	Air Quality Control System	Cooper 2	Consent Decree CAN 04-34-KSF KY BART SIP	V-05-082 R1	Summer 2012	\$222 M (A)
2023 Amendment	PM, HAPs, SOx	PJTT Baghouse	Cooper 2	40 CFR 50 40 CFR 63	V-18-027	June 2018	\$0.4 M (A)
12	Coal Combustion by-products (CCB)	Landfill Area C Expansion and Sediment Pond Construction	Spurlock 1, 2, 4, Gilbert; Spur 1, 2 Scrubbers	Clean Water Act (CWA) Section 404	KPDES No. KY0022250	Fall 2010	\$6.5 M (E)
2018 Amendment	CCR and Special Waste	Area C - Phases Two through Four	Spurlock 1, 2, 4, Gilbert	40 CFR 257 401 KAR Chap 45 401 KAR Chap 46 CWA Section 404	SW08100005	In Svce Fall 2018	\$8.6 M (A) \$10.7 M (E)
2023 Amendment	CCR	Area C, Phase Five	Spurlock	40 CFR 257 401 KAR Chap. 46	SW08100005	Jan. 2022	\$5.1 M (A)
13	SOx, H2SO4, Mercury	Replacement of Retired Ductwork	Spurlock 2	CFR Title 40, Part 51 CFR Title 40, Part 52 (New Source Review)	V-06-007	Spring 2010	\$2.8 M (A)
14	NOx and SO2, PM	Ductwork to Connect to Existing Air Quality Control System	Cooper 1	Mercury Air Toxics Rule, 40 CFR Parts 60 & 63 EPA BART & KY BART SIP; 40 CFR Parts 51 & 52	V-05-082R1	Summer 2016	\$15 M (E)

EAST KENTUCKY POWER COOPERATIVE, INC ENVIRONMENTAL COMPLIANCE PLAN PURSUANT TO ENVIRONMENTAL SURCHARGE LAW							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Environmental Regulation	Environmental Permit	Actual or Scheduled Completion	Actual (A) or Estimated (E) Project Cost
15	CCB	Ash Special Waste Landfill Construction	Smith	Regulations proposed at 75 Fed. Reg. 35128 (June 21, 2010) that are anticipated to be finalized in 40 CFR Parts 257, 261, 264, 265, 268, 271, and 302; 401 KAR Sec. 45; 401 KAR 5:055; 401 KAR 63:010	USACE Individual 404 Permit # LRL-2012-455-mdh; KY Division of Water (KDOW) KPDES Permit # KY0055972; KDOW 401 Water Quality Certification # 2012-049-7R; KY Division of Waste Permit # 025-00022	Nov. 2017	\$27 M (E)
2023 Amendment	CCR	Groundwater Monitoring Well	Smith	40 CFR 257 401 KAR Chap. 46	SW02500022	June 2017	\$0.3 M (A)
16	Non-hazardous Waste and Steam Effluent Water Quality Standards	CCR Rule units and Industrial Water Discharges	Spurlock	40 CFR 257; 40 CFR 261; 40 CFR 423; 401 KAR Sec. 46; KRS Chap. 224	Permit Revision forthcoming for KPDES Permit No. KY0022250; KDWM Waste Permit #SW08100005; #SW08100019	Nov. 2024	\$262.4 M (E)
2023 Amendment	Effluent Limitation Guidelines (ELG)	Waste Water Treatment	Spurlock	40 CFR Part 423	KY0022250	June 2023	\$1.3 M (E)
17	Special Waste	Waste Landfill	Cooper	401 KAR Chap 45 KRS Chap 224	SW10000015	In Svce	\$6.2 M (A)
18	Special Waste	Landfill - Sediment Pond	Cooper	401 KAR Chap 45 KRS Chap 224	SW10000015	In Svce	\$2.2 M (A)
19	Special Waste	KY Waste Facility	Cooper	401 KAR Chap 45 KRS Chap 224 401 KAR 63:010	SW10000015 V-12-019R1	In Svce	\$0.3 M (A)
20	Special Waste	KY Waste Facility	Cooper	401 KAR Chap 45 KRS Chap 224	SW10000015	In Svce	\$1.2 M (A)
21	CCR and Stormwater	Station Drainage Improvement Facilities	Spurlock	CWA Section 402 KRS Chap 224 40 CFR 257 401 KAR 63:010	V-15-063 KY0022250	In Svce	\$13.1 M (A)
22	Mercury	Hg Removal Equipment	Spurlock	40 CFR 60 40 CFR 63 401 KAR 63:020	Title V in renewal to incorporate 40 CFR 63	In Svce	\$2.8 M (A)

EAST KENTUCKY POWER COOPERATIVE, INC ENVIRONMENTAL COMPLIANCE PLAN PURSUANT TO ENVIRONMENTAL SURCHARGE LAW							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Environmental Regulation	Environmental Permit	Actual or Scheduled Completion	Actual (A) or Estimated (E) Project Cost
23	NH3	Anhydrous Ammonia Containment	Spurlock	40 CFR 112 CAA Sec 112(r)	Spurlock Spill Prevention Control & Counter-measure plan; Risk Management plan	In Svce	\$1.1 M (A)
24	CCR and PM	Spurlock Facilities	Spurlock	40 CFR 257 401 KAR Chap 46 401 KAR 59:010	V-15-063	Fall 2018	\$2.7 M (E)
25	SO3, NH3	Dry Sorbent Injection System	Spurlock	40 CFR 63	V-15-063	In Svce	\$3.9 M (A)
26	Special Waste	KY Waste Facility	Spurlock	401 KAR Chap 45 CWA Section 404	SW08100005	Feb. 2021	\$11.2 M (E)
27	KY Water Quality Standards (WQS)	Waste Water Treatment	Cooper	40 CFR Part 423	KY0003611	Dec. 2019	\$0.02 M (A)
28	CCR	Groundwater Monitoring Well	Spurlock	40 CFR 257 401 KAR Chap. 46	SW08100005	April 2017	\$0.2 M (A)
29	KY WQS	Waste Water Treatment	Spurlock	40 CFR 50 40 CFR Part 423	V-15-063R1 KY0022250	Sept. 2022	\$2.0 M (A)
30	CCR	Landfill	Spurlock	40 CFR 257 401 KAR Chap. 46	SW08100005	Nov. 2020	\$0.3 M (A)
31	PM, CCR	Fugitive Dust Control	Spurlock	40 CFR 50 40 CFR 257 401 KAR Chap. 46	V-15-063 R1	March 2020	\$2.6 M (A)
32	PM, CCR	Bin Vent Filters Fugitive Dust Control	Spurlock	40 CFR 50 40 CFR 257 401 KAR Chap. 46	V-15-063 R1 SW08100005	May 2020	\$1.0 M (A)
33	ELG	Waste Water Treatment	Spurlock	40 CFR Part 423	KY0022250	Dec. 2023	\$0.3 M (E)
34	PM, CCR	Fugitive Dust Control	Spurlock 1, 2 & 4	40 CFR 50 40 CFR 257 401 KAR Chap. 46	V-15-063 R1 SW08100005	Dec. 2018	\$0.2 M (A)
35	Mercury, PM, HAPs	WFGD, WESP	Spurlock 2	40 CFR 50 40 CFR Part 63	V-15-063 R1	Dec. 2017	\$0.4 M (A)

EAST KENTUCKY POWER COOPERATIVE, INC ENVIRONMENTAL COMPLIANCE PLAN PURSUANT TO ENVIRONMENTAL SURCHARGE LAW							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Project Reference	Pollutant or Waste/By-Product To be Controlled	Control Facility	Generating Station	Environmental Regulation	Environmental Permit	Actual or Scheduled Completion	Actual (A) or Estimated (E) Project Cost
36	CCR, KY WQS	Waste Water Treatment	Spurlock	40 CFR 257 401 KAR Chap. 46 40 CFR Part 423	SW08100005 KY0022250	Aug. 2023	\$0.7 M (E)
37	PM, CCR	Fugitive Dust Control	Spurlock	40 CFR 50 40 CFR 257 401 KAR Chap. 46	V-15-063 R1 SW08100005	March 2023	\$0.3 M (E)
38	CCR	Fugitive Dust Control	Spurlock	41 CFR 257 401 KAR Chap. 46	SW08100005	Nov. 2020	\$2.1 M (A)
39	CCR, ELG	Landfill, Sedimentation Basin and Water Treatment	Spurlock	401 KAR Chap. 46 CWA Sec. 404 40 CFR 257 40 CFR 423	SW08100005 KY0022250	Nov. 2022	\$11.0 M (E)
40	CCR, ELG	Landfill, Sedimentation Basin and Water Treatment Area D, Phase One	Spurlock	401 KAR Chap. 46 CWA Sec. 404 40 CFR 257 40 CFR 423	SW08100005 KY0022250	Sept. 2023	\$5.0 M (E)
	CCR	Landfill Area D, Phase Two	Spurlock	401 KAR Chap. 46 CWA Sec 404 40 CFR 257	SW08100005	2024	\$15.7 M (E)
41	CCB, KY WQS	Special Waste / Surface & Stormwater Control	Cooper	CWA Sec 404 401 KAR Chap. 45 40 CFR 122 401 KAR 5:065	KY0003611	2023-2027	\$47.2 M (E)

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REQUEST 5

RESPONSIBLE PARTY: Jerry Purvis

Request 5. Refer to Application, page 14, paragraph 30(d). Identify the future environmental regulations the Peg's Hill (Area D) Phase 2 project preserves.

Response 5. In summary, the Peg's Hill (Area D) Phase 2 project will provide many benefits to EKPC, including, without limitation, the following:

1. Complying with the Coal Combustion Residual ("CCR") Rule in a reasonable, least-cost manner;
2. Furthering EKPC's efforts to provide reliable, safe, adequate and reasonable service to its owner-members at rates that are fair, just and reasonable;
3. Ensuring the continued safe and responsible disposal of CCR materials, particularly in light of Spurlock Station's proximity to one of the largest rivers in North America and its location within the 100-year flood plain; and
4. EKPC is in compliance with all currently applicable state and federal regulations. Should additional regulatory obligations be imposed by state and federal authorities in the future, EKPC will carefully evaluate those requirements and ensure compliance in a timely manner as required by law.

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REQUEST 6

RESPONSIBLE PARTY: Patrick Bischoff

Request 6. Refer to the Direct Testimony of Patrick Bischoff (Bischoff Direct Testimony), page 3. Provide supporting documentation, explanation, and calculations for the projections of ash production.

Response 6. As described in Exhibit PB-1, EKPC Landfill Management Plan, EKPC plans for the routine expansion of Spurlock Landfill in an effort to minimize environmental and financial risk to our Owner-Members. To reduce the risk of overbuilding landfill cells, which can contribute to increased costs, construction challenges, operational concerns, and environmental exposures, EKPC plans for a construction sequence that ensures a minimum capacity of two years of ash disposal at any given time. Historical planning disposal volume has ranged from 1,200,000 cubic yards to 1,800,000 cubic yards. Since joining PJM, the ash disposal quantities have been lower. As a result, a rolling five-year average has been utilized to project capacity needs. The current five-year rolling average for Spurlock Station based off actual disposal volumes from 2018 through 2022 is 1,300,000 cubic yards. An additional 200,000 to 650,000 cubic yards of annual disposable capacity is considered necessary through 2026 to account for the closure of the

Spurlock Ash Pond. Attachment C of the Landfill Management Plan summarizes the annual projected ash production, past actual ash production, available constructed capacity, and the permitted capacity for Spurlock Landfill.

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REQUEST 7

RESPONSIBLE PARTY: Patrick Bischoff

Request 7. Refer to the Bischoff Direct Testimony, page 6. Provide supporting documentation, explanation, and calculations for the cost of offsite ash disposal estimated at \$50 per cubic yard.

Response 7. In September 2021, EKPC revised the offsite disposal costs for Spurlock Landfill. EKPC directly engaged with Rumpke's landfill located in Georgetown, Ohio. Rumpke quoted a disposal cost of \$38 per ton for the 1,300,000 tons of ash generated by Spurlock Station. EKPC assumes a dry density unit weight of 1.0 tons per cubic yard. Uncompacted dry densities can range from 34 to 54 pounds per cubic foot.

In addition to the disposal costs, hauling the material from Spurlock Station to Georgetown, Ohio was quoted at approximately \$12 per ton. This haul cost was provided to EKPC by EKPC's contracted landfill operator, Charah, LLC.

The total of the two quotes supports the \$50 per cubic yard (ton) offsite disposal cost.

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REQUEST 8

RESPONSIBLE PARTY: Patrick Bischoff

Request 8. Refer to the Bischoff Direct Testimony, page 7. Provide supporting documentation, explanation, and calculations for EKPC's cost to develop, operate, and maintain the Spurlock Landfill at \$13.41 per cubic yard.

Response 8. In February 2023, EKPC re-evaluated the costs associated with the development, operation, and maintenance for Spurlock Landfill, specific to the Area D Phase 2 cell. In this calculation, EKPC considers the following factors: footprint of landfill cell and associated disposal airspace gained, permitting fees, cost of cell construction, owner's costs (inspections, operational oversight, internal labor, etc.), closure costs, and operational costs (haul and placement in landfill, sediment pond maintenance, road maintenance, etc.). The following table summarizes the aforementioned costs:

Cost for Spurlock Landfill Capacity	
Spurlock Projected Airspace (CY)	2,000,000
Endangered Bat Mitigation Fees	\$5,000
Engineering Permitting Fees	\$20,000
Cost of Spurlock Landfill Construction	\$15,730,000 ¹
Land Cost	\$50,000
Owner's Costs	\$210,580
Closure	\$1,710,000 ²
Costs per Cubic Yard	\$8.86
Cost to Haul and Place Ash & Operate Ash Landfill (CY)	\$4.55 ³
Total Cost of Ash (CY)	\$13.41

¹ Budgeted cost of Area D Phase 2 project

² Assumed 15 acres of exterior final slopes that will require closure

³ Cost calculated using 2022 actual operational costs and hauled volumes

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REQUEST 9

RESPONSIBLE PARTY: Patrick Bischoff

Request 9. Refer to the Bischoff Direct Testimony, page 8. Provide support for cost estimates for each of the major elements of the Peg's Hill project.

Response 9. EKPC contracted with an engineering firm, Kenvirons, Inc., to provide detailed design of the Spurlock Area D Phase 2 project. Please see the Engineer's Estimate of Constructed Cost, provided by Kenvirons, for the 100% design set that supports the construction material and labor components of the cost estimate provided in my testimony.

Pegs Hill Landfill - Phase 2
H.L. Spurlock Power Station, EKPC
EXHIBIT B

Version: 1.0

Unit #	Construction Material	UOM	Quantity	Labor Cost per Unit	Material Cost per Unit	Total Cost per Unit	Extended Cost
1	Mobilization/Demobilization	LS	1	\$260,000.00	\$15,000.00	\$275,000.00	\$275,000.00
2	Construction Staking	LS	1	\$200,000.00	\$0.00	\$200,000.00	\$200,000.00
3	Small Tree/Vegetation Clear & Grub (Cell)	AC	6	\$7,500.00	\$0.00	\$7,500.00	\$45,000.00
4	Vegetation/Topsoil Stripping (Cell)	AC	9	\$15,000.00	\$0.00	\$15,000.00	\$135,000.00
5	Erosion & Sediment Control	LS	1	\$75,000.00	\$0.00	\$75,000.00	\$75,000.00
SUBGRADE QUANTITIES							
6	Cut (General Excavation)	CY	236,176	\$6.00	\$0.00	\$6.00	\$1,417,056.00
7	Cut (Rock Excavation - Estimated)	CY	42,241	\$35.00	\$0.00	\$35.00	\$1,478,435.00
7	Fill (Embankment) from Within Cell	CY	51,154	\$3.00	\$0.00	\$3.00	\$153,462.00
8	Underdrain (Includes trenching, piping, fittings, bedding, stone, fabric, and backfill)	LF	2,925	\$40.00	\$25.00	\$65.00	\$190,125.00
8	Undercut (if needed, includes excavation and embankment)	CY	5,000	\$25.00	\$0.00	\$25.00	\$125,000.00
CLAY BORROW AREA							
9	Vegetation/Topsoil Stripping (No tree clearing required)	AC	5	\$10,000.00	\$0.00	\$10,000.00	\$50,000.00
10	Regrade (at project completion)	AC	5	\$7,000.00	\$0.00	\$7,000.00	\$35,000.00
11	Seeding & Mulching	AC	5	\$3,000.00	\$0.00	\$3,000.00	\$15,000.00
12	Road Crossing (Includes all labor, materials, equipment etc. to install the crossing as shown in the Construction Drawings)	LS	1	\$10,000.00	\$10,000.00	\$20,000.00	\$20,000.00
13	Road Crossing Fence and Gated Access (includes all fencing and gate materials as shown in the Construction Drawings)	LS	1	\$10,000.00	\$10,000.00	\$20,000.00	\$20,000.00
LINER SYTEM							
14	8" GCL Base Soil Liner (Place & Compact)	CY	18,750	\$20.00	\$0.00	\$20.00	\$375,000.00
15	GCL Base Soil Liner Screening	CY	18,750	\$25.00	\$0.00	\$25.00	\$468,750.00
16	Anchor Trench (Incl. excavation & backfill)	LF	2,155	\$12.00	\$0.00	\$12.00	\$25,860.00
17	Anchor Trench Rock Excavation	CY	260	\$60.00	\$0.00	\$60.00	\$15,600.00
18	Geosynthetic Clay Liner (3D area plus anchor trench and 15% waste & overlap)	SF	899,750	\$1.35	\$0.65	\$2.00	\$1,799,500.00

19	60 mil HDPE-T Geomembrane Liner (3D area plus anchor trench and 15% waste & overlap, rain gutters, rain flaps, sandbag ballast flaps & containment flap)	SF	947,750	\$1.35	\$0.60	\$1.95	\$1,848,112.50
20	Geocomposite (3D area plus 15% waste & overlap)	SF	893,250	\$1.35	\$0.65	\$2.00	\$1,786,500.00
21	Rain Gutters (Incl. pipe segments, install, et al), fml quantity included in Item 19	LF	2,075	\$32.00	\$4.00	\$36.00	\$74,700.00
22	Rain Flap (includes straw bales), fml quantity included in Item 19	LF	1,575	\$32.00	\$4.00	\$36.00	\$56,700.00
23	Sand Bag Flap (includes sand bags & sand), fml quantity included in Item 19	LF	2,155	\$32.00	\$4.00	\$36.00	\$77,580.00
24	FML Containment Flap, fml quantity included in Item 19	LF	2,155	\$25.00	\$4.00	\$29.00	\$62,495.00
LEACHATE SYSTEM							
25	4" HDPE DR-11 Perforated Pipe	LF	4,050	\$22.00	\$6.00	\$28.00	\$113,400.00
26	4" HDPE DR-11 Solid Pipe	LF	100	\$18.00	\$4.00	\$22.00	\$2,200.00
27	8" HDPE DR-11 Perforated Pipe	LF	1,588	\$18.00	\$15.00	\$33.00	\$52,404.00
28	8" HDPE DR-11 Solid Pipe	LF	222	\$25.00	\$10.00	\$35.00	\$7,770.00
29	4" Cleanout	EA	5	\$650.00	\$150.00	\$800.00	\$4,000.00
30	HDPE Penetration Assembly (includes materials & install)	LS	2	\$2,000.00	\$2,000.00	\$4,000.00	\$8,000.00
31	Granular Drainage Media (washed river gravel)	CY	1,655	\$40.00	\$25.00	\$65.00	\$107,575.00
32	Geotextile (CoalTex or Equal)	SF	108,500	\$1.05	\$1.25	\$2.30	\$249,550.00
HAUL ROAD							
33	Haul Road - No. 2 Stone	CY	2,000	\$15.00	\$30.00	\$45.00	\$90,000.00
34	Haul Road - Dense Grade Aggregate	CY	1,000	\$15.00	\$45.00	\$60.00	\$60,000.00
35	Haul Road - Geotextile (SKAPS GT-180 or equal)	SF	54,000	\$0.15	\$0.35	\$0.50	\$27,000.00
SURFACE WATER DITCH ARMORING							
36	Ditch Type 1 (includes geotextile, aggregate & grout/concrete), excavation included in subgrade quantities	LF	418	\$150.00	\$170.00	\$320.00	\$133,760.00
37	Ditch Type 2 (includes geomembrane installation & anchor trench), excavation included in subgrade quantities	LF	1,990	\$90.00	\$1.00	\$91.00	\$181,090.00
38	Ditch Type 2: 60 mil HDPE-T Geomembrane Liner (includes 12% waste and overlap)	SF	26,750	\$0.00	\$0.00	\$0.00	\$0.00
39	Ditch Type 3 (includes geomembrane installation & anchor trench), excavation included in subgrade quantities	LF	140	\$90.00	\$1.00	\$91.00	\$12,740.00

40	Ditch Type 3: 60 mil HDPE-T Geomembrane Liner (includes 12% waste and overlap)	SF	1,400	\$0.00	\$0.00	\$0.00	\$0.00
MAIN WATER CONVEYANCE CHANNEL							
41	Ditch Type 5 - Grout Mat Repair (Fabriform 5" Filterpoint or equal)	LF	20	\$500.00	\$500.00	\$1,000.00	\$20,000.00
BERM SLOPE PROTECTION							
42	Berm Slope Protection - Veg. & TRM	SF	10,350	\$1.00	\$1.00	\$2.00	\$20,700.00
43	Seeding/Slope Protection - Veg. & Mulch	SF	43,560	\$0.10	\$0.00	\$0.10	\$4,356.00
44	Permanent End Treatment Slope Protection - Veg. & TRM	SF	4,350	\$1.00	\$0.00	\$1.00	\$4,350.00
						Grand Total:	\$11,923,770.50

NOTE:

1. Units above are all inclusive of Work outlined in Scope of Work for this Projects.

2. Except for structural fill material & soil liner material (each processed from onsite areas), Contractor is responsible for the purchase & install of all materials required to complete the work for each item above unless noted.

Material \$2,323,995.00

Labor \$9,599,775.50

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REQUEST 10

RESPONSIBLE PARTY: Laura LeMaster

Request 10. Refer to the Direct Testimony of Laura Lemaster (Lemaster Direct Testimony) pdf page 8. Explain each of the risks EKPC has identified, the cost associated with those risks as well as the likelihood of the risks occurring. Provide all supporting documentation.

Response 10. Consistent with the direct testimony of Mr. Purvis, EKPC has determined that current conditions at the CFI pose an unacceptable risk of release of ash-related constituents into adjacent water, including Pitman Creek and Lake Cumberland¹. The risks associated with Alternative One – monitor and mitigate – are the same as the current conditions, as Alternative One does not address any of the long-term risks associated with the site.

Included in Exhibit LL-1, the Project Scoping Report, Geosyntec Consultants (“Geosyntec”) completed a long-term environmental risk impact comparison for the four project alternatives considered. A summary of this comparison is shown Table 5-2 of the Project Scoping Report. Table 5-2 is shown below:

¹ Case No. 2023-00177, Application Exhibit F, Direct Testimony of Jerry Purvis, Page 15 Lines 1 - 11.

Table 5-2 Summary of Long-Term Environmental Risk Impact

Alternative	Overall	Dam/Dike Breach	Karst	Surface
Alternative 1 - Monitor and Mitigate	High	Low	Moderate	High
Alternative 2 - Closure In Place	Low	Low	Low	Low
Alternative 3 - Closure By Removal	Low	None	Low	None
Alternative 4 - Closure In Place with ISS	Low	Low	Low	Low

In this comparison, Geosyntec evaluated the overall risk, the risk associated with a dam or dike breach, risks related to release through the karst terrain, and surface release risks for each of the four alternatives considered. With respect to Alternative One (monitor and mitigate), Geosyntec concluded there was a low risk of a dam or dike breach leading to a release of coal combustion by products (“CCB”) based on slope stability analysis; a high risk of CCB release long-term via surface water runoff due to the lack of a cover system; and a moderate risk of release through karst due to infiltration and the underlying geology. Geosyntec concluded that the composite long term environmental risk associated with Alternative One was based on the risk factors identified above.

EKPC did not quantify the cost associated with each of the risks identified. However, the costs associated with a release to waters of the Commonwealth could include significant fines levied under the Clean Water Act, as well as costs associated with required clean-up efforts.

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REQUEST 11

RESPONSIBLE PARTY: Julia J. Tucker

Request 11. Refer to the Direct Testimony of Don Mosier (Mosier Direct Testimony), page 4. Explain how EKPC maintained reliability for its record peak demand of 3,747 MW on December 23, 2022, with its fleet of 3,400 MW net winter generating capacity during Winter Storm Elliott. Include in the response if any units incurred PJM performance penalties.

Response 11. EKPC is a member of the PJM system. When EKPC joined PJM, EKPC ceded its balancing authority and reliability coordinator responsibilities to PJM. PJM has a responsibility to ensure that its entire system has adequate power supply to serve load during extreme conditions and plant outages. EKPC owns and operates its generation fleet, as well as makes firm purchases, as a way to reliably limit the upper extremes of prices that will be incurred to serve its owner members. One of the very tangible benefits that EKPC expected to realize by joining PJM was the ability to carry fewer reserves during its peak load season but maintain or even increase reliability of its load service. The PJM system as a whole peaks during the summer months. By ensuring there is enough capacity to serve its summer peak load plus an acceptable amount of reserves, PJM also ensures that its winter peak load will have adequate resources to

serve the expected peak load. EKPC pays PJM its pro rata share of the cost to secure this capacity through the Reliability Pricing Model (“RPM”). Participation in the RPM, also known as the capacity market, ensures that EKPC has adequate capacity to serve its load with an acceptable reserve margin even though EKPC does not own all of the assets. Prior to joining PJM, EKPC had to carry enough capacity to cover its expected peak load plus an adequate reserve margin of 12 to 15%. When EKPC made its application to join PJM at the Commission, EKPC explained that it expected to see financial benefits in three areas. The first benefit being that PJM measures the amount of capacity a Load Serving Entity must purchase based on their summer loads. EKPC’s generation portfolio exceeded its load obligation in PJM and benefited from excess capacity sales. When EKPC was a stand-alone operator, EKPC goal was to have 12% to 15% reserve margin. In PJM, EKPC’s load reserve margin is significantly less. Lastly, EKPC has benefited by being able to purchase energy out of the market at less than its own generation cost. EKPC reports these estimated saving each year to the PSC. PJM membership allows the owner members to be reliably served while not requiring the level of capacity investment that would be required on a stand-alone basis.

EKPC’s generation fleet contributed to PJM’s ability to reliably serve its load during Winter Storm Elliott, and also provided a price hedge to its owner members. EKPC was not able to completely offset its load expense with its generation. The load costs not offset by EKPC generation were served at the prevailing market prices. When PJM experiences extreme temperatures and generation or experiences forced outages within PJM, energy prices can also become extreme. Price volatility to the owner members is essentially hedged by limits in the Fuel Adjustment Clause which only allow EKPC to pass through the cost of the highest cost unit that EKPC operates. The

costs in excess of EKPC's highest cost unit remain on the EKPC balance sheet unless relief is sought through a special rate request to the Commission.

EKPC both incurred performance penalties and received bonus payments during Winter Storm Elliott. EKPC incurred penalties on a portion of its SEPA purchase (Barkley 1-4), Bluegrass 1 and 2, J.K. Smith 4 and Spurlock 4 generating units. EKPC was also awarded bonus payments for over-performing on several units during the penalty periods, for a total exceeding the penalty amount. The bonus payments are directly dependent on the penalties being paid to PJM. It remains to be seen exactly how much penalty revenue PJM will receive and likewise how much will be paid in bonuses.

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REQUEST 12

RESPONSIBLE PARTY: Tom Stachnik and Isaac S. Scott

Request 12. Refer to the Direct Testimony of Thomas Stachnik (Stachnik Direct Testimony), page 4. Provide supporting documentation, explanation, and calculations as to why the facts in Case No. 2021-00103, supporting the 1.475 TIER, still apply and its continued application to compute the 6.487 percent rate of return remains fair, just and reasonable.

Response 12. EKPC would note that in Case No. 2021-00103 it proposed and supported the authorization of a 1.50 TIER in its rate case application and proposed no change in the TIER level reflected in the determination of the rate of return for environmental surcharge mechanism purposes. The use of a 1.475 TIER for the environmental surcharge mechanism was a provision in the July 29, 2021 Joint Stipulation, Settlement Agreement and Recommendation ("2021 Settlement") reached by EKPC and the parties to Case No. 2021-00103. In its September 30, 2021 Order the Commission stated:

The Commission finds that the TIER calculation for EKPC's base rates should be set to 1.50, which is a reasonable level to ensure EKPC retains its ability to meet its debt covenants and maintain its equity and cash flow to ensure financial stability in case of unforeseen circumstances. The Commission also finds that the reduced TIER of 1.475 for its ES is reasonable, because through the true-up mechanism from ES, the revenue generated by ES is generally considered more stable than

revenue generated through base rates. Therefore, the Commission finds that the provisions of the Settlement regarding TIER are reasonable and should be approved.²

With that clarification, EKPC believes that the 1.475 TIER continues to be a reasonable TIER level to recognize in the determination of the rate of return for the environmental compliance rate base. In its direct testimony in Case No. 2021-00103, EKPC cited current ratings by Fitch and S&P Global in support of the proposed authorized TIER. In its June 2, 2020 rating action commentary, Fitch affirmed EKPC's rating of "BBB+" and a rating outlook as Stable.³ Fitch again affirmed EKPC's rating of "BBB+" and a rating outlook as Stable in a May 17, 2022 rating action commentary. Fitch reported the same ratings and outlook in credit summaries issued on May 21, 2021 and May 10, 2023. In its January 25, 2021 rating summary, S&P Global affirmed EKPC's rating of "A" and a rating outlook as Stable.⁴ S&P Global again affirmed EKPC's rating of "A" and a rating outlook as Stable in a July 26, 2023 rating summary. These updated evaluations by Fitch and S&P Global are attached to this response.

Concerning the continued application of the TIER level authorized in the most recent base rate case to compute the rate of return remaining fair, just, and reasonable, EKPC points to the process established when its environmental surcharge was first authorized by the Commission. EKPC's initial environmental compliance plan and related environmental surcharge mechanism was

² See *In the Matter of Electronic Application of East Kentucky Power Cooperative, Inc. for a General Adjustment of Rates, Approval of Depreciation Study, Amortization of Certain Regulatory Assets, and Other General Relief*, Case No. 2021-00103, Order, at 5 (Ky. P.S.C. Sep. 30, 2021).

³ Case No. 2021-00103, Application Exhibit 17, Direct Testimony of Thomas J. Stachnik, Exhibit TJS-4.

⁴ *Id.*, Exhibit TJS-5.

approved in Case No. 2004-00321,⁵ through the adoption by the Commission of a Settlement Agreement dated February 2, 2005. Paragraph 4 of the February 2, 2005 Settlement Agreement states,

The Parties agree that the reasonable return on construction expenditures shall be based on a weighted average debt cost of those debt issuances directly related to the four projects in EKPC's compliance plan, multiplied by a 1.15 TIER factor. Further, the initial rate of return shall be based on the weighted average cost of such debt as of December 31, 2004 of 4.918%, multiplied by a 1.15 TIER factor or 5.66%. Attachment 2 provides the basis of this rate of return. The Parties agree that the 5.66% return will remain in use until altered by Commission Order. EKPC will update the return as of the end of each six-month review period and request Commission approval of the updated average cost of debt. The 1.15 TIER factor will be applied to the updated average cost of debt. Upon Commission approval, the updated rate of return will be applied prospectively until altered by the Commission.

The 1.15 TIER had been authorized in EKPC's last general rate case, Case No. 1994-00336.⁶

The 1.15 TIER was utilized to determine the rate of return until the Commission decided Case No. 2008-00115.⁷ In Case No. 2008-00115, EKPC proposed to utilize a 1.35 TIER multiplier, reflecting the Commission's determination that a TIER of 1.35 was reasonable in Case No. 2006-00472.⁸ In Case No. 2008-00115, the Commission approved the August 6, 2008 Settlement Agreement in its entirety. The August 6, 2008 Settlement Agreement provided that the TIER for the environmental surcharge would be raised to 1.35. The 1.35 TIER was utilized to determine

⁵ See *In the Matter of Application of East Kentucky Power Cooperative, Inc. for Approval of an Environmental Compliance Plan and Authority to Implement an Environmental Surcharge*, Case No. 2004-00321, Order, (Ky. P.S.C. Mar. 17, 2005).

⁶ See *In the Matter of Application of East Kentucky Power Cooperative, Inc. to Adjust Electric Rates*, Case No. 1994-00336, Order at 19-21, (Ky. P.S.C. Jul. 25, 1995).

⁷ See *In the Matter of The Application of East Kentucky Power Cooperative, Inc. for Approval of an Amendment to Its Environmental Compliance Plan and Environmental Surcharge*, Case No. 2008-00115, Order, (Ky. P.S.C. Sep. 29, 2008).

⁸ See *In the Matter of General Adjustment of Electric Rates of East Kentucky Power Cooperative, Inc.*, Case No. 2006-00472, Order at 34-35, (Ky. P.S.C. Dec. 5, 2007).

the rate of return until the Commission decided Case No. 2011-00032.⁹ In Case No. 2011-00032, EKPC proposed to utilize a 1.50 TIER multiplier, reflecting the Commission's determination that a TIER of 1.50 was reasonable in Case No. 2010-00167.¹⁰ In Case No. 2011-00032, the Commission found the use of a 1.50 TIER to be reasonable and authorized the use of the 1.50 TIER in all monthly surcharge filings subsequent to August 2, 2011.¹¹ The 1.50 TIER was utilized to determine the rate of return until the Commission's September 30, 2021 Order in Case No. 2021-00103. As noted previously, the 2021 Settlement provided that a 1.475 TIER would be utilized to determine the rate of return. The 2021 Settlement also provided that the weighted average debt cost would also reflect the financing of construction work in progress for projects included in the environmental compliance plan using the interest rate of the EKPC credit facility. Subject to these changes, all monthly surcharge filings subsequent of September 30, 2021 reflect a rate of return utilizing the 1.475 TIER.

In every environmental surcharge review case opened by the Commission since the surcharge mechanism was authorized in Case No. 2004-00321, EKPC has provided an updated weighted average debt cost. EKPC also proposed a rate of return based on multiplying the weighted average debt cost by a TIER level which has always reflected the most recently authorized TIER established in a base rate case. In each surcharge review case, the Commission has found the updated weighted average debt cost and resulting rate of return to be reasonable and authorized the application of the rate of return in the monthly surcharge calculations. EKPC believes this

⁹ See *In the Matter of An Examination by the Public Service Commission of the Environmental Surcharge Mechanism of East Kentucky Power Cooperative, Inc. for the Six-Month Billing Period Ending December 31, 2010; and the Pass-Through Mechanism for Its Sixteen Member Distribution Cooperatives*, Case No. 2011-00032, (Ky. P.S.C. Aug. 2, 2011).

¹⁰ See *In the Matter of Application of East Kentucky Power Cooperative, Inc. for General Adjustment of Electric Rates*, Case No. 2010-00167, Order at 19, (Ky. P.S.C. Jan. 14, 2011).

¹¹ Case No. 2011-00032, August 2, 2011 Order at 3 and 5.

approach, that of determining the reasonable rate of return utilizing the TIER level authorized in the most recent base rate case, has been and continues to be fair, just, and reasonable.

17 MAY 2022

Fitch Affirms East Kentucky Power Cooperative's Bonds at 'BBB+'; Outlook Stable

Fitch Ratings - Austin - 17 May 2022: Fitch Ratings has affirmed East Kentucky Power Cooperative's (EKPC) Issuer Default Rating (IDR) and the underlying ratings on the utility's \$1.4 million Pulaski County, KY solid waste disposal revenue bonds series 1993B at 'BBB+'.

The Rating Outlook is Stable.

ANALYTICAL CONCLUSION

EKPC's rating reflects the utility's leverage profile, which is expected to decline closer to 8.0x in fiscal 2022 from 9.4x in fiscal 2021 as the utility benefits from a recently approved wholesale base rate increase. Capex, which had been elevated in recent years to address environmental regulations, are also expected to moderate over the medium term and should mitigate the need for meaningful debt issuances. Fitch expects EKPC's current liquidity levels and overall financial performance will remain supportive of the current rating.

EKPC's revenue defensibility assessment and rating further consider the aggregate credit quality of the cooperative's members. Member service territories are diverse, both economically and geographically, with credit quality among the largest members ranging between midrange and strong. Fitch believes EKPC's low cost power supply is diversified and, together with wholesale market purchases, is sufficient to meet members' peak energy demands.

CREDIT PROFILE

EKPC provides wholesale power and energy to 16-member distribution cooperatives, which in turn provide retail electric service to 559,576 energy meters across 87 counties in Kentucky. Member territories are reasonably diverse and located throughout central and eastern Kentucky. The territories served include mountainous coal mining areas, rolling farmlands and the more suburban areas surrounding the state's largest cities.

KEY RATING DRIVERS

Revenue Defensibility: 'a'

Unconditional Power Sales Contracts; Rate Regulated

EKPC's revenue defensibility assessment reflects the very strong revenue source characteristics of its all-requirements long-term wholesale power agreements with its members that extend through Jan. 1,

2051. Aggregate member credit quality is assessed as strong, but credit weaknesses -- including service high unemployment, low median income levels and customer concentration -- exist at certain members. Wholesale electric rates and those of its members are regulated by the Kentucky Public Service Commission (PSC) limiting rate flexibility.

Operating Risk: 'a'

Ample and Low Cost Power Supply

EKPC's operating risk assessment of strong is based on the utility's history of providing a consistently low cost power supply to its members. EKPC owns a diverse generating fleet and supplements its power supply with economic purchases from the PJM wholesale market. EKPC expects capex will decline to an annual average spend ranging from approximately \$120 million to \$150 million during the five-year period ending in 2026 following elevated levels of capex in 2019 and 2020 related to environmental capital improvements.

Financial Profile: 'bbb'

Elevated Leverage Expected to Decline

EKPC's leverage ratio is expected to improve to 8.0x in fiscal 2022 from 9.4x in fiscal 2021 as the utility's operating margins improve following the utility's implementation of a 4.4% wholesale base rate increase on Oct. 1, 2021. Fitch believes EKPC's leverage profile will remain supportive of the financial profile assessment as the utility's debt amortizes and future capex levels moderate. EKPC's liquidity profile is neutral to the rating assessment.

Asymmetric Additional Risk Considerations

No asymmetric additional risk considerations affected this rating determination.

RATING SENSITIVITIES

Factors that could, individually or collectively, lead to positive rating action/upgrade:

--A sustainable decline in net leverage below 8.0x in Fitch's base and stress cases;

--An increase in operating cash flow through rate increases or reduced discretionary expenditures.

Factors that could, individually or collectively, lead to negative rating action/downgrade:

--An inability, or unwillingness, to increase member rates, which leads to weakened operating margins;

--Sustained increase in leverage of 9.0x in Fitch's base and stress cases.

Best/Worst Case Rating Scenario

International scale credit ratings of Sovereigns, Public Finance and Infrastructure issuers have a best-case rating upgrade scenario (defined as the 99th percentile of rating transitions, measured in a

positive direction) of three notches over a three-year rating horizon; and a worst-case rating downgrade scenario (defined as the 99th percentile of rating transitions, measured in a negative direction) of three notches over three years. The complete span of best- and worst-case scenario credit ratings for all rating categories ranges from 'AAA' to 'D'. Best- and worst-case scenario credit ratings are based on historical performance. For more information about the methodology used to determine sector-specific best- and worst-case scenario credit ratings, visit <https://www.fitchratings.com/site/re/10111579>.

SECURITY

The solid waste disposal revenue bonds are secured by a mortgage interest in substantially all of EKPC's tangible and certain of its intangible assets.

Revenue Defensibility

EKPC's revenue source characteristics are very strong. The wholesale power agreements extend through Jan. 1, 2051 and require members to serve their entire load through purchases from EKPC.

EKPC also actively participates in the PJM marketplace. The cooperative uses the marketplace to make economic purchases and sales, and has historically used gains to mitigate member wholesale base rate increases. Energy sales to PJM represented nearly 7% of EKPC's total operating revenues, slightly elevated relative to the three-year historical average of less than 5% of operating revenues.

Fitch does not believe that the PJM market sales and other off-system sales warrant an asymmetric risk consideration. Non-member sales account for approximately 4% of total annual sales, on average, in EKPC's forecast.

Rate Flexibility

EKPC's wholesale electric rates and those of its members are regulated by the PSC. The PSC has a history of being supportive of EKPC, but Fitch believes regulatory oversight limits rate flexibility. EKPC's most recent rate case, which resulted in a 4.4% wholesale base rate increase, was approved on Sept. 30, 2021.

The rate increase allows EKPC to budget for a 1.50 Times Interest Earned Ratio (TIER) for base rates; however, as part of the PSC approval, EKPC agreed to return excess margins to its customers in the form of a bill credit to the extent the utility achieves a per book margin in excess of 1.40 TIER. Fitch views the rebate mechanism favorably as it provides some cushion to the utility's projected operating cash flows to the extent there is an unanticipated reduction in energy demand, or an unanticipated increase in operating costs.

The rate increase represented the first adjustment to EKPC's base rates in 10 years. Part of the reason for the long hiatus in base rate adjustments was the economic benefit EKPC earned through the generous interest rates on the RUS cushion of credit program. Following the passage of the Farm Bill in December 2018, the high interest rates provided by the cushion of credit program were phased out over the next two years (funds in the program earn the one-year Treasury rate). Fitch believes the

recently approved base rate increase will improve the utility's operating margins in fiscal 2022, after declining to a five-year historical low of \$11 million in fiscal 2021.

Additional non-base rate filings with the PSC have resulted in an allowance of an economic development rider, an environmental surcharge that recovers costs for coal-related environmental expenditures including funding for the transfer of ash storage, and a fuel adjustment clause (FAC). EKPC management believes that its relationship with the PSC remains healthy and that the commission will likely remain supportive of the cooperative and its members.

The EKPC board is required to review its wholesale rate at least annually, and to seek revisions as necessary to ensure covenant compliance. The utility attempts to mitigate the risks related to rate regulation through a multi-year budgeting process. Given the anticipated time frame for PSC approval and implementation of rate increases (up to 10 months), the cooperative seeks to anticipate the need for rate relief well in advance of any projected revenue shortfall, to maintain minimum annual TIER and debt service coverage metrics. Timelier rate adjustments may be permitted if the PSC finds that EKPC's credit quality or operations will be materially impaired by a failure to implement rate changes.

Purchaser Credit Quality

Fitch assesses EKPC's Purchaser Credit Quality (PCQ) as strong based on the aggregate credit quality of its members. EKPC's member distribution cooperatives provide retail electric service throughout territories that are reasonably diverse, both economically and geographically, but sometimes weak.

EKPC's members serve many of the communities surrounding Cincinnati, Lexington and Louisville, which have experienced higher rates of economic and population growth. However, EKPC's members also serve many of the coal-mining communities in east Kentucky where average household income has reached 45% of the national average and unemployment is approximately nearly double the national average (e.g., Owsley County).

In accordance with criteria, Fitch evaluated the credit quality of EKPC's top five members, which accounted for approximately 58% of 2021 revenue. EKPC's top five members received a weighted average score of 2.48, which indicates a rating factor assessment of strong but approaches the midrange threshold of 2.5.

The scoring assessment evaluates wholesale members based on their ability to absorb rates, leverage and cash flow (measured by net margin and cash cushion). Member scores ranged from 2 to 3 (higher scores reflect weaker credit quality), with the lower credit quality members reflecting weak economic metrics, lower liquidity levels, and customer concentration. Rate competitiveness remained strong at each of the top five members, but affordability remains tempered by below average median household income levels.

Operating Risk

EKPC has consistently maintained low-cost energy to its members, averaging an operating cost burden of 5.8 cents/kWh during the past five years. EKPC's operating cost burden increased to 6.6 cents/kWh

in fiscal 2021 due to increasing fuel and purchased power costs, but still supports Fitch's assessment of EKPC's operating risk at 'a'.

EKPC's operating cost burden reflects the utility's low cost baseload coal power plants, which are supplemented with economic purchased power through EKPC's participation with the PJM marketplace. EKPC's strategy is to temper its exposure to coal and keep production costs low through optimization of its asset portfolio and flexible generation dispatching. Purchased power accounted for approximately 19% of EKPC's operating expenses in fiscal 2021, which was slightly lower than the five-year historical average of 21%.

Operating Cost Flexibility

EKPC owns a diverse generating fleet of coal-fired, natural gas-fired, and landfill gas and solar facilities, totaling nearly 3,300MWs, which is sufficient to meet EKPC's peak load (2021 peak load of 2,862MW). Market purchases accounted for approximately 27% of energy supplied during fiscal 2021, down from 37% in fiscal 2020 and significantly higher than 6% in fiscal 2011, primarily driven by market economics.

EKPC's owned coal-based facilities include Spurlock and Cooper. Spurlock is the cooperative's largest plant, with 1,346MWs of rated capacity. Cooper provides an additional 341MWs of capacity. EKPC purchases coal for its generating plants under long-term contracts. EKPC's natural gas-fired plants include Smith and Bluegrass, which together, provide 1,556 of rated capacity (winter). EKPC's 2021 owned power supply capacity remains largely unchanged from over the past five years, with coal, natural gas and renewable (landfill and solar) representing 57%, 42% and 1%, respectively, in fiscal 2021.

In addition to its coal and natural gas facilities, the cooperative has rights to 170MWs of hydroelectric power from the Southeastern Power Administration.

EKPC filed its 2022 Integrated Resource Plan with the PSC on April 1, 2022. Over the near to medium term, EKPC's IRP generally follows the utility's existing power supply strategy by continuing to supplement its owned generation with economic purchases from the PJM marketplace. The utility plans to layer in purchased power agreements to the extent EKPC's projected load demand requires additional power resources, but no additions are currently planned. Fitch views EKPC's power supply as adequately resourced.

Capital Planning and Management

EKPC's capital planning and management assessment of very strong reflects EKPC's average age of plant of 12 years, as well as the utility's continued investment in the utility's generation and transmission assets. Recent capital spending was aimed at addressing environmental regulations associated with both Coal Combustion Residuals (CCRs) and the Effluent Limitations Guidelines (ELG).

Management estimates that compliance expenditures at Spurlock will total approximately \$262 million through fiscal 2024, although most of the capex was completed during the past three years. An

environmental surcharge was used to substantially recover all costs related to the Spurlock compliance capex. Emissions at Spurlock were previously reduced following the addition of flue gas desulphurization systems, electrostatic precipitators, selective catalytic reduction units and new low-NOx burners. Similar equipment was installed in 2015 at Cooper unit No. 1, with a tie into a new air quality control system for unit No. 2 that brought the unit into compliance with the Mercury and Air Toxics (MATS) rule.

EKPC conservatively estimates capex will range from approximately \$120 million to \$150 million annually over the next five years, the vast majority of which will be dedicated to transmission infrastructure investments. EKPC will fund its capital plan through a combination of operational cash flow and debt. Management continues to monitor proposed changes to federal environmental policies but EKPC believes that it is currently well positioned, both operationally and financially, to adapt to changes in environmental regulations.

Financial Profile

EKPC's financial profile weakened in fiscal 2021 as the utility's operating margins tightened. Growth in operating expenses, primarily driven by rising fuel and purchased power costs as well as rising maintenance expenses, outpaced the increase in the utility's operating revenues despite the utility's pass through of fuel charges through its FAC.

EKPC's weaker operating cash flows also drove EKPC's increase in leverage, which rose to 9.4x at FYE 2021, up from 8.1x in fiscal years 2018 and 2019. However, despite the rising leverage, the utility's debt burden continued to decline as outstanding debt amortized. Additionally, in fiscal 2020, EKPC used the remaining \$353 million in its cushion of credit to prepay debt owed to RUS, which was permitted following the passage of the Farm Bill in 2018.

Liquidity was healthy with 97 days cash on hand (DCOH) at FYE 2021, in line with the utility's five-year historical average of 101 days. Management has historically targeted 80 to 100 DCOH. The cooperative also maintains a \$600 million syndicated credit facility, which provides an additional source of liquidity. The utility currently has \$440 million available on its credit facility at FYE 2021.

Fitch Analytical Stress Test (FAST) Scenarios

The FAST base case scenario represents Fitch's expectation of EKPC's financial performance through the five-year period ending in 2026. Under Fitch's base case, operating cash flow and leverage are both expected improve in fiscal 2022 as EKPC benefits from the recently approved wholesale base rate increase, which was implemented on Oct. 1, 2021. Leverage is projected to decline to 8.0x in fiscal 2022 and Fitch expects the leverage ratio will remain around that level over the next five years.

Capex, which had been elevated in fiscal years 2019 and 2020 primarily due to CCR and ELG capital improvements at the Spurlock facility, are also expected to decline over the next five years. The lower capex should alleviate EKPC's future debt issuances and Fitch expects the utility's debt burden will improve as outstanding debt amortizes. Energy sales are assumed to grow at 1.1% annually in the base case scenario.

The FAST considers a stress scenario which applies a demand stress case on EKPC's projected 2022 and 2023 energy sales followed by recoveries in fiscal years 2024 through 2025. The stress scenario also considered EKPC's new wholesale base rates, which only provide a bill credit to members to the extent EKPC achieves a per book margin in excess of 1.40 TIER. Fitch believes this mechanism provides some additional operating cash flow cushion upon an unanticipated decline in energy sales.

Under the revised stress case, leverage could still increase to over 9.0x in the near term, but Fitch would expect this to moderate over the long-term. No additional base rate increases (beyond the 2021 wholesale base rate increase) were considered in the stress case scenario.

Debt Profile

EKPC's debt profile is neutral to the rating. The cooperative reported total debt of \$2.5 billion at Dec. 31, 2021, most of which (\$2.0 billion) has been funded pursuant to the RUS loan program at conservatively fixed interest rates. Amortization of the RUS program debt extends through 2051. EKPC also has first mortgage bonds (\$309 million) and first-mortgage promissory notes (\$93 million). The cooperative's remaining debt has largely been funded through tax-exempt bonds (\$19 million), and through credit facility with National Rural Utilities Cooperative Finance Corp. (CFC) and a syndicate of banks (\$160 million).

All of the cooperative's debt is secured under its existing indenture, except for the CFC-led facility and \$2.7 million National Cooperative Services Corporation fixed rate notes. Approximately \$160 million, or 6% of EKPC's total debt, was variable rate at Dec. 31, 2021, exposing the cooperative to manageable interest rate risk.

In addition to the sources of information identified in Fitch's applicable criteria specified below, this action was informed by information from Lumesis.

REFERENCES FOR SUBSTANTIALLY MATERIAL SOURCE CITED AS KEY DRIVER OF RATING

The principal sources of information used in the analysis are described in the Applicable Criteria.

ESG Considerations

Unless otherwise disclosed in this section, the highest level of ESG credit relevance is a score of '3'. This means ESG issues are credit-neutral or have only a minimal credit impact on the entity, either due to their nature or the way in which they are being managed by the entity. For more information on Fitch's ESG Relevance Scores, visit www.fitchratings.com/esg.

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Rating Actions

ENTITY/DEBT	RATING		RECOVERY	PRIOR
East Kentucky Power Cooperative (KY)	LT IDR	BBB+ 	Affirmed	BBB+ 

RATINGS KEY OUTLOOK WATCH

POSITIVE		
NEGATIVE		
EVOLVING		
STABLE		

Applicable Criteria

[Public Sector, Revenue-Supported Entities Rating Criteria \(pub.01 Sep 2021\) \(including rating assumption sensitivity\)](#)

[U.S. Public Power Rating Criteria \(pub.09 Apr 2021\) \(including rating assumption sensitivity\)](#)

Applicable Models

Numbers in parentheses accompanying applicable model(s) contain hyperlinks to criteria providing description of model(s).

FAST Econometric API - Fitch Analytical Stress Test Model, v3.0.0 (1)

Additional Disclosures

Solicitation Status

Endorsement Status

Pulaski County (KY) EU Endorsed, UK Endorsed

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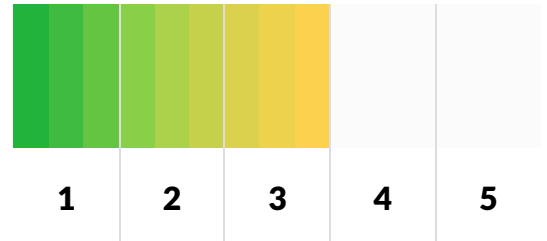
CREDIT SUMMARY

East Kentucky Power Cooperative (KY)









US Public Finance/Global / North America/United States

EU Endorsed, UK Endorsed; Solicited by or on behalf of the issuer (sell side)

ESG RELEVANCE



01 Ratings

RATING	ACTION	DATE	TYPE	Ratings Key	Outlook	Watch
BBB+ 	Review - No Action	10-May- 2023	Long Term Issuer Default Rating	POSITIVE		
				NEGATIVE		
				EVOLVING		
				STABLE		

KEY RATING FACTORS

Revenue Defensibility	a
Operating Risk	a
Financial Profile	bbb





* Ratings displayed in orange denotes EU or UK Unsolicited and Non-Participatory Ratings

Where there was a review with no rating action (Review - No Action), please refer to the "Latest Rating Action Commentary" for an explanation of key rating drivers

*Premium Content is displayed in Fitch Red

RATING HISTORY

LONG TERM ISSUER DEFAULT RATING

DATE :	10-May-2023	17-May-2022	21-May-2021	02-Jun-2020	0
RATING :	BBB+ 	BBB+ 	BBB+ 	BBB+ 	B
ACTION :	Review - No Action	Affirmed	Review - No Action	Affirmed	N

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Summary:

East Kentucky Power Cooperative; Rural Electric Coop

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Credit Highlights

Outlook

Credit Opinion

Related Research

Summary:**East Kentucky Power Cooperative; Rural Electric Coop**

Credit Profile		
East Kentucky Pwr Coop ICR		
<i>Long Term Rating</i>	A/Stable	Affirmed

Credit Highlights

S&P Global Ratings affirmed its 'A' issuer credit rating on East Kentucky Power Cooperative Inc. (EKPC). The outlook is stable.

Security

The ICR reflects our view of EKPC's overall creditworthiness and its capacity and willingness to meet financial commitments in full as they come due. It does not apply to any specific financial obligations. Our assessment of the issuer's creditworthiness considers existing and projected debt balances. Long-term debt is secured by property pledged under the cooperative's master mortgage indenture. The cooperative reported \$2.7 billion of long-term debt as of Dec. 31, 2022.

Credit overview

The rating reflects favorable regulatory support of this rate-regulated generation and transmission (G&T) cooperative electric utility. Regulatory support includes a formulaic monthly fuel adjustment clause and an environmental remediation cost surcharge. In 2021, the Kentucky Public Service Commission approved a 4.4% rate increase that became effective Oct. 1, 2021. Between 2010 and 2021, the utility relied on fuel cost adjustment mechanisms to capture costs increases and fixed charge coverage (FCC) was at least 1.3x since 2018. EKPC reported \$1.263 billion of fiscal 2022 operating revenues. In 2021, EKPC was among the 10 largest G&T cooperatives in the U.S. as measured by member energy sales.

The rating further reflects the following credit strengths:

- Robust FCC, which measured 1.48x in 2022, spurred by cash flow supported by rate increases, and cost management through procurement of power in the PJM market when market resources were more economical than owned generation;
- Declining leverage with \$2.7 billion of debt at fiscal year-end (Dec. 31), which was up slightly from the previous year but still 15% lower than 2017's almost \$3 billion;
- Long-term contracts with EKPC's 16 member distribution cooperatives that extend through 2050 and members that accounted for about 92% of operating revenues in 2022; and
- Member distribution cooperatives that serve almost 560,000 retail customers in 87 of Kentucky's 120 counties. The members derive two-thirds of their revenues from residential customers and we view the residential customer class

as the most stable and predictable.

Tempering the cooperative's strengths are the following credit weaknesses:

- The utility's significant reliance on coal generation assets accounted for 88%-94% of self-production since 2017 and 46%-65% of those years' energy supply that includes power purchases.
- We attribute additional credit exposures to the regional economy's reliance on coal mining, which underlies low income levels. Retrenchment in coal mining operations by utility customers exposes remaining customers to reallocations of fixed costs.
- We also believe the utility is vulnerable to the outmigration of those seeking employment outside the service territory as the coal-based economy weakens. Mine closures also create the potential for growth in customers relying on transfer payments to support basic needs, which could make electric bills more burdensome.

Contributions of self-generation to energy sales vary with market conditions and are lower when opportunities for economic market purchases are greater. Self-generation accounted for about 70% of 2022's energy sales when the economics of owned coal assets were more attractive relative to gas-fired market generation. By comparison, in 2019, the cooperative produced 52% of the energy it sold. We believe the pronounced softening of natural gas prices in 2023, compared with 2022, will likely provide additional opportunities for economic purchases.

Environmental, social, and governance

We believe the utility faces material energy transition risk because of its significant dependence on its coal fleet. Depending on opportunities to purchase economic energy from others, EKPC produces half to more than two-thirds of its customers' electricity needs. Coal accounts for 90% of self-production, and 62% of total energy sales. Purchases reduce coal's contribution to total energy sales but do not diminish the environmental exposures we associate with the utility's coal generation. The utility does not plan to retire its Cooper coal station that accounted for about 6% of 2022's coal generation, nor does EKPC plan to retire its Spurlock coal generation that accounted for 94% of 2022's coal generation. Cooper's depreciable life ends June 30, 2030. Citing the earlier retirement of its coal-fired Dale units in 2015 and 2016 and an integrated resource plan that targets adding 1,100 megawatts of solar capacity, management projects that its 2035 carbon dioxide emissions will be 35% lower than 2010's.

Although members' weighted-average retail rates are in line with the state average, we believe that the prevalence of low incomes within the service territory presents social risks and can limit financial flexibility, particularly because large swaths of the service area's economy are closely tied to the economically vulnerable coal mining industry. S&P Global Ratings believes that unsustainably strong business and consumer economic activity that are driving inflation will likely lead to further interest rate increases and will ultimately produce an economic slowdown. Yet, although S&P Global Economics sees an economic weakening on the horizon, it no longer foresees imminent recession risk. (See "Economic Outlook U.S. Q3 2023: A Sticky Slowdown Means Higher For Longer," published June 26, 2023, on RatingsDirect.) Consequently, we continue to monitor the strength and stability of electric cooperative utilities' revenue streams for evidence of delinquent payments or other revenue erosion because elevated consumer prices and interest rates will likely continue whittling discretionary incomes.

We believe the utility faces limited governance risk because it has a cohesive board and because it operates under the

Summary: East Kentucky Power Cooperative; Rural Electric Coop

state's favorable regulatory framework, and benefits from using an automatic PCA.

Outlook

The stable outlook reflects our expectation that recent base rate increases and power cost pass through, along with pockets of energy sales growth within a service territory that is also susceptible to declines, should facilitate achieving consistently strong FCC of at least 1.3x. We expect liquidity including undrawn balance on credit lines to remain above 130 days.

Downside scenario

We could lower the rating if the costs of complying with more stringent emissions regulations erode financial margins or if financial performance is adversely affected by economic dislocations tied to the region's mining industry. We could also lower the rating if extreme weather events pressure liquidity.

Upside scenario

Although FCC has been consistently favorable, we do not expect to raise the rating during our two-year outlook period because we believe the utility's carbon intensity creates a financial vulnerability to further regulation and the regional economy is closely tied to the struggling coal mining industry.

Credit Opinion

S&P Global Ratings calculated favorable FCC that averaged 1.35x in 2018-2021. S&P Global Ratings' FCC calculation treats portions of purchased power expense as debt service to reflect our view that actual and imputed capacity payments fund generation suppliers' recovery of capital investments in assets dedicated to serving EKPC. The utility's FCC ratio closely tracks its debt service coverage ratio because energy purchases from others are primarily opportunistic economy purchases from power markets, rather than bilateral arrangements that include capacity payments. We view debt to capitalization of 77% in 2020-2022 as high, but consistent with that of many other G&T cooperative utilities. Liquidity levels are very strong. Unrestricted cash and investments at Dec. 31, 2021, provided almost three months' operating expenses, net of depreciation expense. Liquidity facilities' undrawn balances added access to liquidity equivalent to 10 months' operating expenses.

Related Research

- Through The ESG Lens 3.0: The Intersection Of ESG Credit Factors And U.S. Public Finance Credit Factors, March 2, 2022

Certain terms used in this report, particularly certain adjectives used to express our view on rating relevant factors, have specific meanings ascribed to them in our criteria, and should therefore be read in conjunction with such criteria. Please see Ratings Criteria at www.standardandpoors.com for further information. Complete ratings information is available to subscribers of RatingsDirect at www.capitaliq.com. All ratings affected by this rating action can be found on S&P Global Ratings' public website at www.standardandpoors.com. Use the Ratings search box located in the left column.

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STAFF'S REQUEST DATED AUGUST 15, 2023

REQUEST 13

RESPONSIBLE PARTY: Isaac S. Scott

Request 13. Refer to the Direct Testimony of Isaac S. Scott (Scott Direct Testimony), page 12. Explain how EKPC's proposal to earn a return on its monthly Construction Work in Progress (CWIP) balance for the construction of the additional facilities is consistent with the treatment approved in Case No. 2008-00115.

Response 13. Case No. 2008-00115 was the first amendment to EKPC's environmental compliance plan and surcharge mechanism. The projects included in the original environmental compliance plan approved in Case No. 2004-00321 reflected plant already in service. The environmental compliance plan amendment included in Case No. 2008-00115 included several projects that were still under construction. At that time, EKPC did accrue Allowance for Funds Used During Construction ("AFUDC") on its construction projects. EKPC wanted to clarify that the balance of CWIP that would be included in the environmental compliance rate base would be net of AFUDC. EKPC believed this clarification was necessary in order to avoid the appearance of double recovery on the CWIP, from both AFUDC and earning a cash return on CWIP. EKPC proposed to amend its environmental surcharge tariff to clarify that any CWIP balance included in

the environmental compliance rate base would be net of AFUDC. The Commission approved this tariff modification in its September 29, 2008 Order. The citation to Case No. 2008-00115 was made because that was the first EKPC environmental surcharge proceeding where CWIP would actually be a component in the environmental compliance rate base and earning a cash return.

As a point of fact, EKPC's environmental surcharge tariff has always included CWIP in the environmental compliance rate base and thus eligible to earn a cash return on the CWIP balance.¹²

In addition, EKPC was permitted to cease the accrual of AFUDC on its major construction projects in Case No. 2008-00409.¹³ The citation in Mr. Scott's testimony should have been expanded to include these facts to support the proposal in the current application to earn a return on its monthly CWIP balance for the construction of the additional facilities.

¹² Case No. 2004-00321, March 17, 2005 Order, Appendix A, Attachment 4, page 1 of 28.

¹³ See *In the Matter of General Adjustment of Electric Rates of East Kentucky Power Cooperative, Inc.*, Case No. 2008-00409, Order at 4-6 and Appendix A, March 5, 2009 Settlement Agreement, paragraph 3, (Ky. P.S.C. Mar. 31, 2009).

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REQUEST 14

RESPONSIBLE PARTY: Isaac S. Scott

Request 14. Refer to the Scott Direct Testimony, page 12. Explain why the Commission's rate-making treatment of the ash hauling costs for Dale Station and the ash pond closure costs for Spurlock Station in the cases mentioned should apply to the rate-making proposal to expense the CFI Closure project.

Response 14. In Case No. 2014-00252, EKPC proposed to capitalize the ash hauling costs for the Dale Station and amortize those costs over a 10-year period, with the amortization beginning once the ash hauling effort was completed. EKPC explained it was difficult to determine exactly how long there would be a future benefit of the resolution of the permanent disposal of the Dale Station ash. EKPC proposed the 10-year amortization period as a reasonable balance between itself, its Owner-Members, and the retail customers. EKPC responded to several data requests during discovery concerning this proposed rate-making treatment. In a post-hearing data request, EKPC was requested to provide a revenue requirements analysis treating the ash hauling costs for Dale Station as an expense rather than capitalizing and amortizing it over a 10-year period. This analysis showed the net difference in the revenue requirements where the ash hauling costs were

expensed was \$3.6 million lower than EKPC's original proposal. In its March 6, 2015 Order, the Commission concluded:

The Commission finds that the ash hauling costs associated with the proposed project should not be treated as a capital cost. The Commission is of the opinion that, for ratemaking purposes, the nature of the hauling costs at issue is more reasonably characterized to be an operating cost, notwithstanding the accounting treatment required by the RUS USoA to the contrary. Unlike the facts as presented in Case No. 2004-00421, the hauling costs proposed herein neither extend the life of any asset, namely the Dale Ash Ponds, nor do they add value to the new Smith Landfill. The Commission recognizes the need for EKPC to incur these costs due to environmental regulatory requirements, but we are also cognizant of our duty to minimize the impact of such costs on EKPC's ratepayers. The Commission notes the analysis provided by EKPC which indicates a savings to the ratepayers of approximately \$3.6 million over the life of the proposed project if the ash transfer costs are expensed rather than capitalized. While the analysis shows that the savings do not occur until over nine years into the project, the Commission believes that it is important that the ratepayers be afforded the benefit of available cost savings. The Commission, having considered the evidence of record and being otherwise sufficiently advised, finds that for ratemaking purposes, the ash transfer costs of \$9,866,193 should be expensed and recovered as incurred through the environmental surcharge.¹⁴

In Case No. 2017-00376, the closure of the existing ash pond at Spurlock Station was a component of EKPC's proposed environmental compliance plan amendment associated with the requirements of the Environmental Protection Agency's Disposal of Coal Combustion Residuals from Electric Utilities Rule. EKPC proposed that the recovery of the costs associated with the Spurlock ash pond closure be expensed and recovered through the surcharge as incurred. EKPC believed that this cost recovery approach would enable the corresponding regulatory asset to be amortized as the Asset Retirement Obligation ("ARO") settlement activities take place, which would result in

¹⁴ See *In the Matter of Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for Construction of an Ash Landfill at J. K. Smith Station, the Removal of Impounded Ash from William C. Dale Station for Transport to J. K. Smith and Approval of a Compliance Plan Amendment for Environmental Surcharge Recovery*, Case No. 2014-00252, Order at 15-16, (Ky. P.S.C. Mar. 6, 2015).

the ARO and the regulatory asset balances clearing within the same timeframe. EKPC further believed that this rate-making approach was consistent with the Commission's decision in Case No. 2014-00252 concerning the rate-making treatment of the Dale ash hauling costs. EKPC pointed out that while a small portion of the Spurlock ash pond site would be repurposed under the proposed compliance project, the closure activities were related to the settlement of the ARO and did not extend the life of the ash pond or add value to the ash pond site. Thus, EKPC concluded that the appropriate rate-making treatment for the ash pond closure expenditures was to expense and recover those costs through the surcharge as incurred. In its May 18, 2018 Order, the Commission approved the proposed amendment to EKPC's environmental compliance plan and the recovery of the costs of the proposed project through the environmental surcharge.¹⁵

Concerning the CFI Closure project, as stated in the Scott Direct Testimony, page 12, lines 21 to 23, the project will be closing the impoundment in place and it neither extends the life of the impoundment nor adds value to the impoundment. EKPC believes this corresponds with the Commission's decision in Case No. 2014-00252 concerning the Dale ash hauling costs. Likewise, EKPC relied on that decision when it proposed to expense as incurred the Spurlock ash pond closure costs in Case No. 2017-00376. While there were certain financial conditions also taken into consideration in those two decisions, the common thread was the fact that the costs incurred were not going to extend the useful life of the ash ponds in question or add value to the Smith

¹⁵ See *In the Matter of Application of East Kentucky Power Cooperative, Inc. for Approval to Amend Its Environmental Compliance Plan and Recover Costs Pursuant to Its Environmental Surcharge, Settlement of Certain Asset Retirement Obligations and Issuance of a Certificate of Public Convenience and Necessity and Other Relief*, Case No. 2017-00376, Order at 24, (Ky. P.S.C. May 18, 2018). The Commission also approved the request for the settlement of the Spurlock ash pond ARO and associated regulatory asset as set forth in the application.

Landfill or Spurlock ash pond. The CFI has not received sluiced coal combustion residual by-products from the Cooper Station since 1992. The costs to close the impoundment in place will not extend the life of the impoundment or add value to the impoundment. From this standpoint, EKPC believes that the CFI Closure project is similar enough to the Dale ash hauling project and the Spurlock ash pond closure to warrant similar rate-making treatment. Consequently, EKPC proposed to expense the costs of the CFI Closure project as incurred.

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REQUEST 15

RESPONSIBLE PARTY: Jerry Purvis

Request 15. Provide the status of each Cooper Station Unit's environmental compliance under the Environmental Protection Agency (EPA) Mercury and Air Toxics Standard.

Response 15. EKPC Cooper Station is in compliance with EPA Mercury and Air Toxics Standard ("MATS") rule and standards. Please refer back to the 2022 EKPC Integrated Resource Plan ("IRP") pages 179-180. In addition, please refer to the EKPC MATS filing to EPA presented in Response 24. EKPC owner members have invested over \$1.6 billion dollars in environmental control equipment that essentially meets or exceeds air quality standards for MATS, Cross State Air Pollution Rule ("CSAPR"), and its Title V permits. Cooper Station is located near Burnside, Kentucky adjacent to Lake Cumberland. Cooper Station is a critical asset due to its location in rural, south-central Kentucky. EKPC undertook significant control enhancements by installing an SCR on unit 2, a pulse-jet fabric filter (baghouse) to control PM, mercury and dry FGD to control SO₂ for both units venting cleaned up flue gas through a common stack to comply with EPA MATS.

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REQUEST 16

RESPONSIBLE PARTY: Jerry Purvis

Request 16. Provide the status of each Cooper Station Unit's environmental compliance under the EPA Cross State Air Pollution Rule

Response 16. Please refer to the 2022 EKPC IRP pages 181-182, attached with Response 15. EKPC is in compliance with the Cooper Title V air permit and its provisions regarding the CSAPR rule. EKPC owner members invested over \$1.6 billion dollars in environmental control equipment at its coal fired and natural gas fired plants that clearly demonstrates excellent performance with regards to the SO_x and NO_x emissions.

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REQUEST 17

RESPONSIBLE PARTY: Jerry Purvis

Request 17. Provide the status of each Cooper Station Unit's environmental compliance under the EPA Greenhouse Gas Regulations.

Response 17. EPA promulgated Greenhouse Gas (“GHG”) reporting final regulations on December 9, 2016. At this time, EKPC is only obligated to report its GHG emissions under that reporting rule. In May 2023, EPA proposed a GHG new source performance standard (“NSPS”) for new, modified and existing sources. Cooper Station is not subject to the NSPS until EPA finalizes it. EPA projects a final NSPS to be promulgated in 2024. For more regarding the GHG reporting regulation, please refer to: <https://www.epa.gov/ghgreporting>.

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REQUEST 18

RESPONSIBLE PARTY: Jerry Purvis

Request 18. Provide the status of each Cooper Station Unit's environmental compliance under the EPA National Ambient Air Quality Standard (NAAQS) for ozone.

Response 18. EKPC is operating in the counties that are in attainment with the Ozone NAAQs. See reference https://www3.epa.gov/airquality/greenbook/anayo_ky.html.

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REQUEST 19

RESPONSIBLE PARTY: Jerry Purvis

Request 19. Provide the status of each Cooper Station Unit's environmental compliance under the EPA NAAQS for PM2.5.

Response 19. EKPC is operating in the counties that are in attainment with the PM2.5 NAAQs. See reference https://www3.epa.gov/airquality/greenbook/anayo_ky.html.
<https://www3.epa.gov/pm/designations/1997standards/final/statemaps/Kentucky.html>

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REQUEST 20

RESPONSIBLE PARTY: Jerry Purvis

Request 20. Provide the status of each Cooper Station Unit's environmental compliance under the EPA Start-up, Shutdown Malfunction (SSM) Exemptions.

Response 20. Sources comply with federal SSM requirements through their Title V permits that include them. EKPC complies with the Cooper Title V permit, including the notification provisions with respect to SSM events. The Kentucky Division for Air Quality (KDAQ") requires that sources submit a DEP4014 form to the Division when an applicable event occurs. EKPC follows this process, as required.

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REQUEST 21

RESPONSIBLE PARTY: Jerry Purvis

Request 21. Provide the status of each Cooper Station Unit's environmental compliance under the EPA Coal Combustion Residual (CCR) Regulations.

Response 21. EKPC is in compliance with the 2015 CCR rule, as amended (40 CFR Part 257, Subpart D). EKPC has one regulated CCR unit at Cooper Station – the Cooper Station CCR Landfill (Cooper Landfill). The status of the Cooper Landfill's compliance with the CCR rule is described in the most recent *Annual CCR Groundwater Monitoring & Corrective Action Report, Cooper Landfill*, dated January 31, 2023, a copy of which is provided herewith. For more information and detailed historical documentation on the Cooper Landfill's compliance with the CCR rule, please see the EKPC CCR compliance web site at:

https://www2.ekpc.coop/ccr/Cooper_Reports_files/Cooper_Reports.htm

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REQUEST 22

RESPONSIBLE PARTY: Jerry Purvis

Request 22. Provide the status of each Cooper Station Unit's environmental compliance under the EPA Effluent Limitation Guidelines (ELG).

Response 22. Each Cooper Station Unit is in compliance with requirements imposed by the currently applicable EPA ELG. ELG's are applied by the state permitting authority – the Kentucky Division of Water - to develop certain effluent limitations set forth in the facility's Kentucky Pollutant Discharge Elimination System ("KPDES") permit. The effluent limitations in the facility's currently operative KPDES permit are set forth in the following Section 1, pp. 4-9, of the facility's currently effective KPDES permit. Compliance with KPDES permit effluent limitations is demonstrated by analysis of the facility's discharges, with the data reported to the Division of Water on discharge monitoring reports ("DMR's"). Cooper Station's most recent DMR's are attached (Cooper DMR data) hereto and additional DMR data can also be found at echo.epa.gov/effluent-charts.

EKPC is in compliance with its Kentucky Pollution Discharge Elimination System and its KPDES water permit (attached). For more see response to question 25. EKPC meets compliance

by demonstration in each DMR monthly under the NPDES delegated program to Kentucky
Division of Water.

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REQUEST 23

RESPONSIBLE PARTY: Jerry Purvis

Request 23. Provide the status of each Cooper Station Unit's environmental compliance under the EPA Clean Water Act impacting Cooling Water Intakes under section 316b of the Clean Water Act.

Response 23. The manner in which Cooper Station achieves compliance with section 316b of the Clean Water Act was previously explained in the 2022 IRP at pp. 193 – 194 (Please refer to Response 15 for the attached IRP). As set forth therein, the Clean Water Act Section 316b requirements applicable to the station are included as conditions of the facility's KPDES permit (Please refer to Question 22 for the attached Cooper Station's KPDES Permit).

On June 24, 2023, the Kentucky Division of Water issued a renewed KPDES permit for Cooper Station, which permit will become effective October 1, 2023. The renewed Cooper Station KPDES permit reaffirms the Division's previous determination that the Station's cooling water intake structures, as currently installed and operated, meet Clean Water Act Section 316b's best technology available ("BTA") standard. *See* Cooper Station KPDES Permit pp. 27 – 29;

Cooper Station KPDES Permit Fact Sheet, pp. 37-43 (attached). Accordingly, Cooper Station's units are in compliance with Clean Water Act Section 316b requirements.

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REQUEST 24

RESPONSIBLE PARTY: Jerry Purvis

Request 24. Provide the following for the Cooper Station Generating Units.

- a. Legal SO₂, NO_x, and Hg emission limits for each unit.
- b. Actual and planned SO₂, NO_x, and Hg emissions for the audit period.
- c. A comparison of the actual SO₂, NO_x, and Hg quantities emitted from each unit with the monthly limits for each unit for the past twelve months.
- d. The average pound per Metric Million British Thermal Unit (MMBtu) emission rate separately for SO₂, Hg, and NO_x for each unit for the last 12 months.

Response 24.

- a. EKPC operates Cooper Station per Title V permit V-18-027. For SO₂, NO_x and Hg emissions limits, refer to pages 8-10 of 113 for Unit 1 and pages 29-32 of 113 for Unit 2 of the permit attached in this filing.
- b. See response to 24d for actual monthly SO₂ and NO_x emissions as well as hourly Hg emissions for Q1-2023. It is unclear what audit period is being referenced for any future year planned emissions.

- c. EKPC does not have monthly limits for SO₂, NO_x, and Hg emissions. EKPC is required under its Title V permit to submit quarterly reports to the KDAQ and MATS Semiannual Reports to EPA, which address SO₂, NO_x and Hg emissions and their limits. Please refer to the submitted quarterly and MATS semiannual reports attached in this filing.
- d. See attachment (Cooper Monthly Emissions 2022 and 2023 files). Hg emissions are provided on an hourly basis for Q2-Q4 of 2022 and Q1 of 2023 (see attachment Cooper hourly MATS Emissions files). All referenced data is available publicly at <https://campd.epa.gov>

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REQUEST 25

RESPONSIBLE PARTY: Jerry Purvis

Request 25. Provide the most recent Cooper Station environmental compliance reports.

Response 25. The status of the Cooper Station's compliance with the CCR rule, as amended (40 CFR Part 257, Subpart D), is described in the most recent *Annual CCR Groundwater Monitoring & Corrective Action Report, Cooper Landfill*, dated January 31, 2023, a copy of which is provided in Response 21.

The status of Cooper Station's compliance with its Title V permit is reported in the required annual air compliance report submitted to KDAQ and EPA. Please refer to the annual report attached herewith.

The status of Cooper Station's compliance with its KPDES permit is determined through the required DMRs. Please refer to Response #22 for those reports.

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REQUEST 26

RESPONSIBLE PARTY: Jerry Purvis

Request 26. Provide Cooper Station's plan to meet current state and federal environments regulations.

Response 26. Please refer to the 2022 IRP, Section 9, pages 177-216 (attached with Response 15), which outlines EKPC's compliance status and plans for Cooper Station. EKPC is in compliance with currently applicable state and federal environmental regulations.

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REQUEST 27

RESPONSIBLE PARTY: Brad Young and Jerry Purvis

Request 27. Provide a copy of Cooper Station's environmental upgrade capital budgets to support current and future environmental compliance regulations.

Response 27. The following table includes Cooper Station’s capital budgets (projects) to support current environmental compliance regulations. EKPC cannot speculate on costs that would be associated with unpromulgated environmental regulations.

Description	2023 Capital Budget	2024 Capital Budget	2025 Capital Budget	2026 Capital Budget	Applicable Regulation	Anticipated Completion	Estimated Project Costs
Cooper Baghouse Cages & Bags	\$0	\$3,895,893	\$0	\$0	40 CFR Part 63 40 CFR 52 40 CFR 97	31-Dec-24	\$3,895,893
Cooper Landfill Leachate System 480 Volt Electric	\$0	\$336,000	\$0	\$0	40 CFR 257 401 KAR Chap. 46	31-Dec-24	\$336,000
Cooper SCR - Top Catalyst Layer Replacement 2024/25	\$0	\$0	\$1,189,494	\$0	40 CFR Part 52 40 CFR 97	31-Dec-25	\$1,189,494
Cooper Property Acquisition for Soil Borrow	\$0	\$810,944	\$0	\$0	41 CFR 257 401 KAR Chap. 46	31-Dec-24	\$810,944
Cooper U1 LP Cooling Water Supply Pump	\$90,000	\$266,198	\$0	\$0	40 CFR 70 40 CFR 71	31-Dec-25	\$356,198

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REQUEST 28

RESPONSIBLE PARTY: Joe VonDerHaar

Request 28. Explain whether fuel conversion was evaluated for Cooper Station. If so, provide a copy of each analysis, including any modeling, that was utilized to evaluate environmental compliance through fuel switching for Cooper Station.

Response 28. The CFI project would not be impacted by a fuel conversion at Cooper. The remainder of the projects in this environmental surcharge case are not significant enough in cost to warrant a fuel conversion of Cooper Station units.

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REQUEST 29

RESPONSIBLE PARTY: Jerry Purvis

Request 29. Provide a detailed summary of EKPC's environmental monitoring program to include the tracking of environmental allowance transactions for Cooper Station.

Response 29. All of EKPC's allowance transactions are tracked via EPA's Clean Air Markets Division. Each year an allowance true-up is performed to ensure adequate allocations exist to cover emissions for the previous calendar year for various market programs. All allocation transactions can be viewed at <https://campd.epa.gov>

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REQUEST 30

RESPONSIBLE PARTY: Mark Horn and Julia J. Tucker

Request 30. Provide EKPC's written environmental policies and procedures for both Cooper Station and Spurlock Station, as related to and including the following:

- a. Least cost principles utilized to maximize the use of coal.
- b. The monitoring of the emission's market.
- c. The forecasting of emission allowance values.
- d. Procedure for the sales and purchase of emission allowances.
- e. Procedures utilized to incorporate emission allowances in dispatch and fuel procurement.

Response 30. a. EKPC utilizes least cost principles to procure coal as a reliable and low-cost fuel that has a physical inventory on-site to mitigate supply disruptions. EKPC utilizes these same least cost principles for other fuels, such as fuel oil, and fuel-related commodities along with transportation, as part of the standard procurement process. Supply and transportation agreements are based on procuring on an evaluated basis. The evaluation model is quantitative and other qualitative parameters are also taken into account. These least cost principles serve to maximize

EKPC's fleet's ability to be optimized and competitive in the overall generation stack. As a result, Kentucky has historically benefited from some of the lowest costs for electricity in the nation.

b. EKPC regularly monitors the emission allowance market. EKPC receives a daily report from ACES with reported prices quoted from broker sources. EKPC also typically receives an e-mail daily from a national broker that provides current market pricing emission allowances. Near the beginning of each month, the Fuel & Emissions department distributes a report to EKPC staff that includes current market prices for NO_x and SO₂ allowances from a daily publication called Argus Air Daily. In addition, EKPC periodically communicates with national brokers that provide commentary on the emissions allowance market as current or pending regulatory policies may have a direct impact on market pricing.

c. For forecasting emission allowance values, EKPC uses information from national brokers and national publications that both monitor market trends and regulatory policies that directly affect the pricing for SO₂ and NO_x allowances. Holistically, these resources allow EKPC to monitor and review up-to-date information to formulate a strategy and take prudent action that benefits the Owner-Members across EKPC's footprint in Kentucky.

d. EKPC has policy, strategy, and procedures for the sales and purchase of emission allowances. All are reviewed at least annually and have been formally approved so that any purchase or sale is made to meet regulatory environmental requirements. Any potential emission allowance transaction involves a review by multiple departments within EKPC.

e. EKPC receives emissions allocations to use and satisfy environmental compliance obligations in various Clean Air Act trading programs. The allowances themselves are not incorporated into

dispatch and fuel procurement because they are commodities for these other EPA programs. EKPC adds the current market price for emissions allowances into its dispatch costs when pricing units for operation. The total \$/MWh to operate a unit includes the appropriate emissions allowances costs.

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REQUEST 31

RESPONSIBLE PARTY: Joe VonDerHaar

Request 31. From January 2017 through July 2023, provide a performance profile for each of the Cooper Station Generating Units that includes:

- a. Equivalent availability factor.
- b. Equivalent forced outage rate.
- c. North American Reliability Corporation (NERC) Generation Availability Data System (GADS) reports.
- d. List of the top 10 major availability detractors.
- e. Capacity factor.
- f. Heat rate.
- g. Variable production costs \$/MWH.
- h. Rated maximum load capability.
- i. Rated dependable minimum load capability.

Response 31.

a. Please refer to the file titled *PSC DRI Response 31* for Cooper Station's Equivalent availability factor.

b. Please refer to the file titled *PSC DRI Response 31* for Cooper Station's Equivalent forced outage rate.

c. See attached confidential GADs Reports titled:

NERC GADs Cause Code - CONFIDENTIAL

NERC GADs Event Report - CONFIDENTIAL

NERC GADs Fuel Cooper - CONFIDENTIAL

NERC GADs Generation Report Cooper - CONFIDENTIAL

NERC GADs GORP Report - CONFIDENTIAL

NERC GADs HOURS SUMMARY Cooper - CONFIDENTIAL

NERC GADs OPERATION SUMMARY Cooper - CONFIDENTIAL

NERC GADs OUTAGE_STATISTICS - CONFIDENTIAL

NERC GADs PERFORMANCE Reports - CONFIDENTIAL

NERC GADs PERFORMANCE SUMMARY Cooper - CONFIDENTIAL

NERC GADs STATION_OPERATION_SUMMARY Cooper - CONFIDENTIAL

NERC GADs STATISTICS – CONFIDENTIAL

d. Confidential GADS data identifies Cause Codes for forced outages. Using those codes, EKPC identified the number of hours in each category. EKPC then ranked the Cause Codes with the highest number of hours for that category. The remainder of the Cause Codes were the result of smaller issues.

Cooper 1

- Air Heater (regenerative)- 207 hours

- Waterwall (Furnace Wall)- 133 hours
- Main Stop Valves- 92 hours
- Emergency generator trip devices- 70 hours
- Induced draft fan motors and drives- 58 hours

Cooper 2

- Reagent uploading and transfer systems- 114 hours
 - Induced draft fan motors and drives- 58 hours
 - Bottom ash rotary conveyer and motor- 57 hours
 - Boiler Screen (water tubes only)- 51 hours
 - Circulating water pump motors- 14 hours
- e. Please refer to the file titled *PSC DRI Response 31* for Cooper Station's Capacity Factor.
- f. Please refer to the file titled *PSC DRI Response 31* for Cooper Station's Heat Rate.
- g. Please see response to Request 2, above.
- h. Please refer to the file titled *PSC DRI Response 31* for Cooper Station's Rated maximum load capability.
- i. Cooper Station rated dependable minimum load capabilities are:
- Cooper 1- 100 Net MW
- Cooper 2- 108 Net MW

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REQUEST 32

RESPONSIBLE PARTY: Joe VonDerHaar

Request 32. From January 2017 through July 2023, provide a summary of any forced outages at each of EKPC's generating facility and provide the associated root cause analysis for each.

Response 32. Please refer to the file titled *PSC DRI Response 32-CONFIDENTIAL* for the summary of forced outages from January 2017 through July 2023.

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REQUEST 33

RESPONSIBLE PARTY: Michelle Carpenter

Request 33. From January 2017 through July 2023, provide an analysis of the impact a forced outage has had on fuel cost and purchased power costs for EKPC.

Response 33. Please see page 3 of this response and corresponding Excel file *PSC DRI Response 33* for an analysis of substitution power costs disallowed in the fuel adjustment clause (FAC) recovery mechanism from January 2017 through July 2023. These disallowances represent the cost of substitution power purchased on the market in excess of the cost of fuel that would have been used by units on forced outages that extended beyond six hours in duration. Therefore, disallowances incurred per month vary depending upon the number of and duration of forced outages that occurred, and the market price of replacement power at the time of the forced outages. During the analysis period, December 2022 was the month most affected by forced outage disallowances. In December 2022, PJM declared Performance Assessment Interval events on December 23 and December 24 as a result of the high demand for electricity and loss of generation caused by the extremely cold temperatures experienced during Winter Storm Elliott. EKPC had units that experienced forced outages during these events due to natural gas constraints

and mechanical issues. The cost of market power was exceptionally high during these forced outages, which resulted in total disallowances of \$18.7 million for the month.

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REQUEST 34

RESPONSIBLE PARTY: Jerry Purvis

Request 34. Provide the status of each Spurlock Station Units' environmental compliance under the EPA Mercury and Air Toxics Standard.

Response 34. EKPC Spurlock Station is in compliance with EPA MATS rule. Please refer back to the 2022 EKPC IRP pages 179-180. In addition, refer to the EKPC MATS filing to EPA presented in question and Response 43. EKPC owner members have invested over \$1.6 billion dollars in environmental control equipment that essentially meets or exceeds air quality standards for MATS, CSAPR, and its Title V permits.

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REQUEST 35

RESPONSIBLE PARTY: Jerry Purvis

Request 35. Provide the status of each Spurlock Station Units' environmental compliance under the EPA Cross State Air Pollution Rule.

Response 35. Please refer back to the 2022 EKPC IRP pages 181-182, attached with Response 15. EKPC is in compliance with the Spurlock Title V air permit and its provisions regarding the CSAPR rule. EKPC owner members invested over \$1.6 billion dollars in environmental control equipment at its coal fired and natural gas fired plants that clearly demonstrates excellent performance with regards to the SO_x and NO_x emissions.

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REQUEST 36

RESPONSIBLE PARTY: Jerry Purvis

Request 36. Provide the status of each Spurlock Station Units' environmental compliance under the EPA Greenhouse Gas Regulations.

Response 36. EPA promulgated GHG reporting final regulations on December 9, 2016. At this time, EKPC is only obligated to report its GHG emissions under that reporting rule. In May 2023, EPA proposed a GHG NSPS for new, modified and existing sources. Spurlock Station is not subject to the NSPS until EPA finalizes it. EPA projects a final NSPS to be promulgated in 2024. For more on the GHG reporting rule, please refer to: <https://www.epa.gov/ghgreporting>.

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REQUEST 37

RESPONSIBLE PARTY: Jerry Purvis

Request 37. Provide the status of each Spurlock Station Units' environmental compliance under the EPA NAAQS for ozone.

Response 37. EKPC is operating in the counties that are in attainment with the Ozone NAAQs. See reference https://www3.epa.gov/airquality/greenbook/anayo_ky.html.

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REQUEST 38

RESPONSIBLE PARTY: Jerry Purvis

Request 38. Provide the status of each Spurlock Station Units' environmental compliance under the EPA NAAQS for PM2.5

Response 38. EKPC is operating in the counties that are in attainment, thus compliance with PM2.5 NAAQs. See

<https://www3.epa.gov/pm/designations/1997standards/final/statemaps/Kentucky.html>

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REQUEST 39

RESPONSIBLE PARTY: Jerry Purvis

Request 39. Provide the status of each Spurlock Station Units' environmental compliance under the EPA Start-up, Shutdown Malfunction Exemptions.

Response 39. EPA issued a final rule on May 22, 2015. EKPC complies with its Title V and the provisions set forth by EPA and Kentucky in its operating air quality permits. When and if EKPC has a startup, shutdown or a malfunction event, EKPC follows the regulatory process by submitting the DEP4014 form and is in compliance.

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REQUEST 40

RESPONSIBLE PARTY: Jerry Purvis

Request 40. Provide the status of each Spurlock Station Units' environmental compliance under the EPA Coal Combustion Residual Regulations.

Response 40. EKPC is in compliance with the 2015 CCR rule, as amended (40 CFR Part 257, Subpart D). EKPC has two existing regulated CCR units at Spurlock Station – the Spurlock Station CCR Landfill (Spurlock Landfill) and the Spurlock Station CCR Surface Impoundment (Spurlock Ash Pond) (which is currently undergoing closure) – as well as the under-construction Peg's Hill CCR Landfill (Peg's Hill Landfill), which is scheduled to begin receiving waste in September 2023. The compliance status of each of these three CCR units under the CCR rule is described in the most recent *Annual CCR Groundwater Monitoring & Corrective Action Report* for each respective unit, all dated January 31, 2023, copies of which are provided herewith. For more information and detailed historical documentation on the compliance of the Spurlock Station CCR units with the CCR rule, please see the EKPC CCR compliance web site at: https://www2.ekpc.coop/CCR_Rule_Compliance_Data_and_Information.html

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REQUEST 41

RESPONSIBLE PARTY: Jerry Purvis

Request 41. Provide the status of each Spurlock Station Units' environmental compliance under the USEPA Effluent Limitation Guidelines.

Response 41. Each Spurlock Station Unit is in compliance with requirements imposed by the currently applicable EPA ELG's. ELG's are applied by the state permitting authority – the Kentucky Division of Water - to develop certain effluent limitations set forth in the facility's KPDES permit. The effluent limitations in the facility's currently operative KPDES permit are set forth in Section 1, pp. 4-20. Compliance with KPDES permit effluent limitations is demonstrated by analysis of the facility's discharges, with the data reported to the Division of Water on DMR's. Spurlock Station's most recent DMR's are attached (Spurlock DMR data) hereto and additional DMR data can be found at echo.epa.gov/effluent-charts.

EKPC is in compliance with its Kentucky Pollution Discharge Elimination System, its current and existing KPDES water permit. For more see Response 44. EKPC meets compliance by demonstration in each DMR monthly under the NPDES delegated program to Kentucky Division of Water.

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REQUEST 42

RESPONSIBLE PARTY: Jerry Purvis

Request 42. Provide the status of each Spurlock Station Units' environmental compliance under the USEPA Clean Water Act impacting Cooling Water Intakes under section 316b of the Clean Water Act.

Response 42. As explained in the IRP at pp. 193 – 194 (Please refer to Response 15 for the attached IRP), Spurlock Station's existing closed-cycle recirculating cooling water system is BTA for both impingement and entrainment under Clean Water Act Section 316b. The facility's KPDES permit referenced in the IRP response remains in effect, and for the reasons set forth in the IRP, EKPC does not anticipate that the next KPDES permit renewal will impose any additional or different requirements with respect to the facility's cooling water system under Clean Water Act Section 316b. Additional information regarding the station's Clean Water Act Section 316b compliance is set forth in the facility's KPDES permit at pp. 37-38 (Please refer to Response 41 for the attached Spurlock Station KPDES Permit). In summary, Spurlock Station is currently in compliance with Section 316b of the Clean Water Act, and anticipates that it will remain in compliance.

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REQUEST 43

RESPONSIBLE PARTY: Jerry Purvis

Request 43. Provide the following for the Spurlock Generating Units:

- a. Legal SO₂, NO_x, and Hg emission limits for each unit.
- b. Actual and planned SO₂, NO_x, and Hg emissions for the audit period.
- c. A comparison of the actual SO₂, NO_x, and Hg quantities emitted from each unit with the monthly limits for each unit for the past twelve months.
- d. The average pound per Metric Million British Thermal Unit (MMBtu) emission rate separately for SO₂, Hg, and NO_x for each unit for the last 12 months.

Response 43.

- a. EKPC operates Spurlock Station per Title V permit V-15-063 R1. For SO₂, NO_x and Hg emissions limits refer to page 3 of 155 for Unit 1, pages 11-12 of 155 for Unit 2, pages 19-21 of 155 for Unit 3 and pages 35-37 of 155 for Unit 4 of the permit attached in this filing.
- b. See response to 43d for actual monthly SO₂ and NO_x emissions as well as hourly Hg emissions for Q1-2023. It is unclear what audit period is being referenced for any future year planned emissions. EKPC does not pre-plan future emissions.

- c. Spurlock Station does not have monthly mass-based emission limits for SO₂, NO_x, and Hg. EKPC is required under its Title V permit to submit quarterly reports to the KDAQ and MATS Semiannual Reports to EPA, which address SO₂, NO_x, and Hg emissions and their limits. Please refer to the submitted quarterly and MATS semiannual reports attached in this filing.
- d. See attachment (Spurlock Monthly Emissions 2022 and 2023 files). Hg emissions are provided on an hourly basis for Q2-Q4 of 2022 and Q1 of 2023 (see attachment Spurlock hourly MATS Emissions files). All referenced data is available publicly at <https://campd.epa.gov>

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REQUEST 44

RESPONSIBLE PARTY: Jerry Purvis

Request 44. Provide the most recent Spurlock Station environmental compliance reports.

Response 44. The compliance status of each of the three CCR units at Spurlock Station under the CCR rule is described in the most recent *Annual CCR Groundwater Monitoring & Corrective Action Report* for each respective unit, all dated January 31, 2023, copies of which are provided in Response 40.

The status of Spurlock Station's compliance with its Title V permit is determined through the required annual air compliance report submitted to KDAQ and EPA. Please refer to the annual report attached herewith.

The status of Spurlock Station's compliance with its KPDES permit is determined through the required DMRs. Please refer to Response 41 for those reports.

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REQUEST 45

RESPONSIBLE PARTY: Jerry Purvis

Request 45. Provide Spurlock Station's plan to meet current State and Federal environments regulations.

Response 45. Please refer to the 2022 IRP, Section 9, pages 177-216 (attached with Response #15), which outlines EKPC's compliance status and plans for Spurlock Station. EKPC is in compliance with currently applicable state and federal environmental regulations.

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REQUEST 46

RESPONSIBLE PARTY: Brad Young and Jerry Purvis

Request 46. Provide a copy of Spurlock Station's environmental upgrade capital budgets to support current and future environmental compliance regulations.

Response 46. The following table includes Spurlock Station’s capital budgets (projects) to support current environmental compliance regulations. EKPC cannot speculate on costs that would be associated with unpromulgated environmental regulations.

Description	2023 Capital Budget	2024 Capital Budget	2025 Capital Budget	2026 Capital Budget	Applicable Regulation	Anticipated Completion	Estimated Costs	Project
Spurlock CCR/ELG Compliance Water Mass Balance Pond	\$458,000	\$0	\$0	\$0	40 CFR 257 40 CFR Part 423	1-Jan-23		\$458,000
Spurlock CCR ELG Operations Control Facility	\$0	\$800,000	\$100,000	\$0	40 CFR 423	31-Dec-24		\$900,000
Spurlock FGD Limestone Slurry/Reagent Storage Tank	\$0	\$0	\$0	\$1,600,000	40 CFR 52 40 CFR 97	31-Dec-26		\$1,600,000

Spurlock FGD Phys-Chem Equalization Tank	\$0	\$0	\$0	\$4,600,000	40 CFR 52 40 CFR 97	31-Dec-26	\$4,600,000
Spurlock Landfill - Area D Phase 2 Construction	\$282,000	\$15,275,973	\$0	\$0	40 CFR 257 401 KAR Chap. 46	25-Oct-24	\$15,557,973
Spurlock Landfill - Area D Phase 3 Construction	\$0	\$202,006	\$16,312,607	\$0	40 CFR 257 401 KAR Chap. 46	31-Dec-25	\$16,514,613
Spurlock Landfill Haul Road Paving Phase 2	\$126,000	\$37,250	\$3,367,108	\$0	40 CFR 257 401 KAR Chap. 46	30-Nov-25	\$3,530,358
Spurlock Unit 3 & 4 Cooling Tower Concentrated Acid Tank	\$252,586	\$75,000	\$0	\$0	40 CFR 70 40 CFR 71	31-Dec-24	\$327,586
Spurlock Unit 3 and Unit 4 - Dust Suppression for BC3, BC4, PC3 and PC4 Conveyors	\$0	\$185,000	\$0	\$0	40 CFR 70 40 CFR 71	31-Dec-24	\$185,000
Spurlock Vac Truck Air Compressor	\$0	\$550,000	\$0	\$0	40 CFR 257 401 KAR Chap. 46	31-Dec-24	\$550,000
Spurlock WWT - Ash Reliability Improvements	\$0	\$1,266,000	\$0	\$0	40 CFR 257 40 CFR Part 423	31-Oct-24	\$1,266,000

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REQUEST 47

RESPONSIBLE PARTY: Joe VonDerHaar

Request 47. Explain whether fuel conversion was evaluated for Spurlock Station. If so, provide a copy of all analyses, including modeling, which were utilized to evaluate environment compliance through fuel switching at Spurlock Station.

Response 47. There has been no evaluation or modeling for environmental projects in this application related to a fuel conversion at Spurlock Station.

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REQUEST 3

RESPONSIBLE PARTY: Brad Young

Request 48. Provide copies of all analyses, including modeling, which were utilized to support EKPC's environmental compliance alternatives at Spurlock Station.

Response 48. EKPC did provide data concerning the decision to expand the Spurlock Station Landfill. See Response 6 and 7. EKPC considers the remainder of the environmental projects at Spurlock Station routine. Analysis, including modeling, does not exist for the remaining environmental projects in question at the Spurlock Station.

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REQUEST 4

RESPONSIBLE PARTY: Jerry Purvis

Request 49. Provide a detailed summary of EKPC's environmental monitoring program to include the tracking of environmental allowance transactions for Spurlock Station.

Response 49. All of EKPC's allowance transactions are tracked via EPA's Clean Air Markets Division. Each year an allowance true-up is performed to ensure adequate allocations exist to cover emissions for the previous calendar year for various market programs. All allocation transactions can be viewed at <https://campd.epa.gov>

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REQUEST 5

RESPONSIBLE PARTY: Joe VonDerHaar

Request 50. From January 2017 through July 2023, provide a performance profile for each of the Spurlock Generating Units outlining the following:

- a. Equivalent availability factor.
- b. Equivalent forced outage rate.
- c. NERC GADS reports.
- d. List of the top 10 major availability detractors.
- e. Capacity factor.
- f. Heat rate.
- g. Variable production costs \$/MWH.
- h. Rated maximum load capability.
- i. Rated dependable minimum load capability.

Response 50.

- a. Please refer to the file titled PSC DR1 Response 50 for Spurlock Station's Equivalent availability factor.

b. Please refer to the file titled PSC DR1 Response 50 for Spurlock Station's Equivalent availability factor.

c. See attached confidential GADs Reports titled:

NERC GADs Cause Code - CONFIDENTIAL

NERC GADs Event Report - CONFIDENTIAL

NERC GADs Fuel Report Spurlock - CONFIDENTIAL

NERC GADs Generation Report Spurlock - CONFIDENTIAL

NERC GADs GORP Report - CONFIDENTIAL

NERC GADs HOURS SUMMARY Spurlock - CONFIDENTIAL

NERC GADs OPERATION SUMMARY Spurlock - CONFIDENTIAL

NERC GADs OUTAGE_STATISTICS - CONFIDENTIAL

NERC GADs PERFORMANCE Reports - CONFIDENTIAL

NERC GADs PERFORMANCE SUMMARY Spurlock - CONFIDENTIAL

NERC GADs STATION_OPERATION_SUMMARY Spurlock - CONFIDENTIAL

NERC GADs STATISTICS – CONFIDENTIAL

d. Confidential GADS data identifies Cause Codes for forced outages. Using those codes, EKPC identified the number of hours in each category. EKPC then ranked the Cause Codes with

the highest number of hours for that category. The remainder of the Cause Codes were the result of smaller issues.

Spurlock 1

1. Forced derates related to supplying steam to industrial steam customer when Spurlock 2 was unavailable. All equipment on Spurlock 1 is in service and available. (632 hours)
2. Cooling tower Issues. A new cooling tower was constructed in 2020 that mitigated issue. (329 hours)
3. Air Heater Fouling. Required routine air heater washes and good maintenance programs on basket replacements (117 hours)
4. Condenser tube leaks. Condenser re-tube project planned for fall 2023. (117 hours)
5. Crushers/mills (46 hours)
6. Remaining Cause Codes were a summation of smaller issues with pumps, fans & piping.

Spurlock 2

1. Lower water wall tube leaks - slopes replaced in 2018. (572 hours)
2. Platen Pendent super heater leaks (609 hours) Section replaced in 2021.
3. ID Fans (158 hours)
4. Air Heater (90 hours)

5. Exciter Issues (66 hours)
6. Remaining Cause Codes were a summation of smaller issues with slag/ash removal systems, safety valves, pulverizers, pumps & valves

Gilbert 3

1. Platen superheater (229 hours)
2. Cold reheat steam piping. One event. (184 hours)
3. Coal feeders (61 hours)
4. Generating tubes (56 hours)
5. Bag failure and rebagging (50 hours)
6. Remaining Cause Codes were a summation of smaller issues with safeties, valves, pumps and wet coal.

Spurlock 4

1. Platen superheater (751 hours)
2. Primary air duct (218 hours)
3. Flue gas solids separator piping and valves. (168 hours)
4. Generator double testing. One event on GSU, proactive testing before placing back in service. (122 hours)
5. Baghouse systems (94 hours)

6. Remaining Cause Codes were a summation of smaller issues with safeties, valves, pumps and wet coal.
- e. Please refer to the file titled *PSC DRI Response 50* for Spurlock Station's Capacity factor.
 - f. Please refer to the file titled *PSC DRI Response 50* for Spurlock Station's Heat rate.
 - g. Please see response to Request 1, above.
 - h. Please refer to the file titled *PSC DRI Response 50* for Spurlock Station's Rated maximum load capability.
 - i. Spurlock 1 Rated dependable minimum load capability was 145 MW
Spurlock 2 Rated dependable minimum load capability was 260 MW
Gilbert 3 Rated dependable minimum load capability for was 140 MW
Spurlock 4 Rated dependable minimum load capability was 180 MW