Frost Brown Todd LLC
ATTORNEYS

KENTUCKY · OHIO · INDIANA · TENNESSEE · WEST VIRGINIA

Mark David Goss
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February 13, 2009

Via Hand-Delivery

Mr. Jeffrey Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602

Re: In the Matter of: The Application of East Kentucky Power Cooperative, Inc. for a Certificate of Public Convenience and Necessity for the Construction of an Air Quality Control System at Cooper Power Station
Case No. 2008-00472

Dear Mr. Derouen:

Please find enclosed for filing with the Commission in the above-referenced case an original and four copies of the responses of East Kentucky Power Cooperative, Inc. ("EKPC") to the Commission Staff's First Data Request, dated January 30, 2009. Please return a file stamped copy of the above to me in the enclosed self-addressed, stamped envelope.

All parties of record are also being sent a copy of these responses.

Sincerely yours,

Mark David Goss

Enclosures

cc: Parties of Record

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF AN AIR QUALITY CONTROL SYSTEM AT COOPER POWER STATION	)))))))	**CASE NO. 2008-00472**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Robert M. Marshall, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff First Data Request in the above-referenced case dated January 30, 2009, 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.

Robert M. Marshall

Subscribed and sworn before me on this 12th day of February, 2009.

Della E. Damron
Notary Public

My Commission expires: 5/15/2011

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

IN THE MATTER OF:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF AN AIR QUALITY CONTROL SYSTEM AT COOPER POWER STATION	)	**CASE NO. 2008-00472**

CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

Julia J. Tucker, being duly sworn, states that she has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff First Data Request in the above-referenced case dated January 30, 2009, and that the matters and things set forth therein are true and accurate to the best of her knowledge, information and belief, formed after reasonable inquiry.

Julia J. Tucker

Subscribed and sworn before me on this 10th day of February, 2009.

Peggy S. Griffin
Notary Public

My Commission expires: December 8, 2009

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

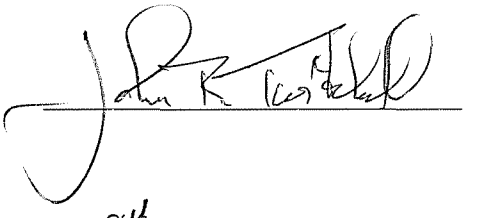
IN THE MATTER OF:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF AN AIR QUALITY CONTROL SYSTEM AT COOPER POWER STATION	))))))	**CASE NO. 2008-00472**

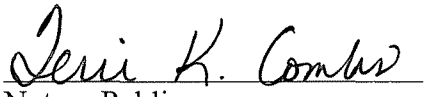
CERTIFICATE

STATE OF KENTUCKY)
)
COUNTY OF CLARK)

John R. Twitchell, being duly sworn, states that he has supervised the preparation of the responses of East Kentucky Power Cooperative, Inc. to the Public Service Commission Staff First Data Request in the above-referenced case dated January 30, 2009, 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.



Subscribed and sworn before me on this 9th day of February, 2009.



Notary Public

My Commission expires: 12/20/12

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

THE APPLICATION OF EAST KENTUCKY POWER COOPERATIVE, INC. FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE CONSTRUCTION OF AN AIR QUALITY CONTROL SYSTEM AT COOPER POWER STATION	))))))	CASE NO. 2008-00472

RESPONSES TO COMMISSION STAFF'S FIRST DATA REQUEST TO EAST KENTUCKY POWER COOPERATIVE, INC. DATED JANUARY 30, 2009

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 1
RESPONSIBLE PERSON: **Robert M. Marshall**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 1. Refer to page 3 of the Direct Testimony of Robert M. Marshall at lines 9-11. Provide detailed descriptions of the "[e]conomic hardships on the EKPC members" and "[t]ransmission and voltage operational issues on the Central Kentucky transmission system" which Mr. Marshall states will occur if Dale 3 and 4 are shut down.

Response 1. EKPC is in need of additional baseload generation, as evidenced by the current construction of two new baseload units, Spurlock 4 and Smith 1. Even after both units are constructed and on-line, EKPC will not have an excess of baseload generation, but will have just enough to meet its load requirements. If Dale Units 3 and 4 were retired, that generation would have to be replaced with a resource that supplies a similar amount of energy. Dale Units 3 and 4 are dependable power supply resources for EKPC's members. The "economic hardships on the EKPC members" statement is referring to the higher costs of new baseload generation that would have to be incurred to replace the energy currently supplied by Dale Units 3 and 4.

Additionally, the generating units at Dale Station provide an important source of reactive power in central Kentucky. The four units at Dale Station provide a combined rated gross reactive output of approximately 120 MVARs. Therefore, retiring the Dale Station units would create a large reactive power deficit. EKPC performed power flow analysis

to determine the potential system impacts of reduced generation at Dale Station due to the retirement of Dale Units 3 and 4. For this analysis, EKPC assumed that the likelihood of continuing to operate Dale Units 1 and 2 was not a viable plan. Therefore, the analysis was performed with 0 MW of generation at Dale Station.

This analysis identified one voltage problem without any contingencies. Additional low voltage problems were identified for six different contingencies. The details for the problems identified are as follows:

Voltage Violations with 0 MW of Total Generation Output at Dale Station						
Peak Season	**Critical Bus**	**Owner**	**Worst-Case Contingency**	**Worst-Case Dispatch**	**Minimum Voltage Requirement**	**Voltage Value from Powerflow**
2011/12 Winter	Perryville 12.5 kV	EKPC	North Springfield-Mackville 69 kV Line (EKPC)	JK Smith CFB #1 off	92.5%	82.8%
2011 Summer	Stanton 12.5 kV	EKPC	Powell County-Stanton 69 kV Line (EKPC)	JK Smith CFB #1 off	92.5%	86.0%
2011/12 Winter	Hardwicks Creek 12.5 kV	EKPC	Powell County-Stanton 69 kV Line (EKPC)	JK Smith CFB #1 off	92.5%	87.0%
2011 Summer	Perryville 12.5 kV	EKPC	North Springfield-Mackville 69 kV Line (EKPC)	JK Smith CFB #1 off	92.5%	89.4%
2011/12 Winter	West Liberty 12.5 kV	EKPC	Skaggs-Crockett 69 kV Line (EKPC)	JK Smith CFB #1 off	92.5%	89.4%
2011/12 Winter	Asahi 12.5 kV	EKPC	Norwood Jct.-Shopville 69 kV Line (EKPC)	JK Smith CFB #1 off	92.5%	90.1%
2011/12 Winter	Hillsboro 25 kV	EKPC	Goddard-Hillsboro 69 kV Line (EKPC)	JK Smith CFB #1 off	92.5%	90.9%
2011/12 Winter	Hunt #1 25 kV	EKPC	Dale 138-69 kV Transformer (EKPC)	Brown #3 off	92.5%	91.6%
2011 Summer	Hunt #1 25 kV	EKPC	Dale 138-69 kV Transformer (EKPC)	Brown #3 off	92.5%	91.8%
2011 Summer	Perryville 12.5 kV	EKPC	None	Base	95.5%	95.1%

In addition to these violations of EKPC voltage criteria, the flows on EKPC's J.K. Smith-Dale 138 kV line and on the 138-69 kV bus tie autotransformer at Dale Station could approach the limits of these facilities for certain system conditions. As a result, EKPC could be required to decrease CT generation at J.K. Smith to reduce power flows on the J.K. Smith-Dale line and/or the Dale 138-69 kV autotransformer. Based on this analysis, EKPC determined that it would encounter "transmission and voltage operational issues on the Central Kentucky transmission system."

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 2
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 2. Refer to page 4 of the Direct Testimony of Julia J. Tucker ("Tucker Testimony") at lines 2-4, which refers to the retirement of Dale Station as exacerbating East Kentucky's problem of being in need of additional baseload capacity.

Request 2a. The consent decree which East Kentucky entered into with the United States Environmental Protection Agency provides, as one option, that Dale Units 3 and 4 be retired. Explain why Ms. Tucker refers to retiring the entire Dale Station.

Response 2a. As reflected in the table in Response 2(b), Dale Units 3 and 4 comprise over 75% of Dale Station's generating capacity. Although the Consent Decree requires only shutting down Dale Units 3 and 4, continuing to operate only Dale Units 1 and 2 is not considered to be a viable plan.

Request 2b. Provide the net generating capacity of each of the Dale units.

Response 2b. Please see the table on the following page.

Net Generating Capacity

Dale 1 – 23 MW
Dale 2 – 23 MW
Dale 3 – 75 MW
Dale 4 – 75 MW

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 3
RESPONSIBLE PERSON: **John R. Twitchell**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 3. Refer to page 4 of the Tucker Testimony at lines 7-10, which indicates that East Kentucky is convinced that "[a]dditional environmental requirements, such as Best Available Retrofit Technology ("BART)" will apply to its Cooper Generating Station at some point in the future. Provide a detailed explanation for why East Kentucky is convinced of this. Include any analyses East Kentucky have performed, or have been performed for East Kentucky, which support this conviction.

Response 3. EKPC's Cooper coal-fired generating units are subject to the Regional Haze rule and Best Available Retrofit Technology (BART) determination guidelines promulgated under 40 CFR Part 51. Based on a final rule 70FR39104-39172, issued by EPA and dated July 6, 2005, Cooper is "BART-eligible" and subject to evaluation to determine whether it is reasonably anticipated to cause or contribute to visibility impairment in any Class I area, as designated by the National Parks System.

Pursuant to a request by the Kentucky Division for Air Quality ("KDAQ"), EKPC submitted, via Kenvirons (its consultant), protocol and subsequent modeling analysis for either BART exemption or BART determination to assess emission controls. This information was needed by KDAQ for inclusion in Kentucky's State Implementation Plan ("SIP")in accordance with the EPA rules.

Included on the attached CD is the modeling analysis that was performed by Kenvirons and submitted on EKPC's behalf to the KDAQ on July 24, 2007. The modeling analysis performed by Kenvirons indicated that predicted visibility impacts were above exemption thresholds and case-by-case BART analysis would be required.

The resulting evaluation of technologies in 2007, which was never intended to be exhaustive, yielded a plan by EKPC to add a wet flue gas desulfurization scrubber and a wet electrostatic precipitator at Cooper if and when the SIP was approved by the EPA. Since that time, technologies have emerged that have proven to be more desirable and more cost effective. Consequently, EKPC is seeking a determination from the KDAQ that the proposed pollution control systems at Cooper meet or exceed BART and permission to amend the Kentucky SIP accordingly.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 4
RESPONSIBLE PERSON: **John R. Twitchell**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 4. Refer to page 18 of the Direct Testimony of John R. Twitchell at lines 13-16. Recognizing that fuel was not a limiting factor in the selection of pollution control equipment, explain why the fuel cost analysis to which Mr. Twitchell refers covers only 10 years when East Kentucky's overall cost analysis covers a period of 20 years.

Response 4. The purpose of the fuel screening in this preliminary design phase was "To identify and narrow a list of candidate fuels for a detailed boiler impact study and the engineering considerations necessary for the scoping and preliminary design phase of the Cooper Retrofit Project (CRP)." The screening identified the boundaries of fuel diversity that should be explored in order to reasonably allow for the greatest fuel flexibility in the design of the project.

As part of the screening, coals were ranked by their 2012 price as projected by Energy Ventures Analysis, Inc. (EVA). Only Powder River Basin (PRB) coal was removed from the reasonable candidate list for cost due to its significant expense for delivery.

Coals/fuel will be purchased based on market conditions and operating limits at any time in the future at Cooper. This screening was not intended to be a fuel cost analysis for the Cooper units.

The statements made on page 18 of the Direct Testimony of John R. Twitchell are intended to demonstrate that the selected technology can remove pollutants to such an extent that there may be an opportunity to achieve a future fuel savings at Cooper. The ten-year period was selected and basic incremental calculations of cost were made only to offer a reference point for that potential impact.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 5
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 5. Refer to Exhibit 3 of East Kentucky's application, the October 31, 2008, Cooper/Dale Study Report ("Cooper/Dale Report"), at pages 3-4, which refers to the December 2007 Power Plant Assessment Study prepared for East Kentucky by Burns and McDonnell Engineering Company, Inc. ("Burns & McDonnell Study"). The text at the top of page 4 refers to "[a] simplified busbar analysis" in the Burns & McDonnell Study that was used "[f]or simple screening only." Describe in detail how this analysis and East Kentucky's analysis, documented in the Cooper/Dale Report, differ.

Response 5. EKPC hired Burns and McDonnell to conduct a plant assessment evaluation for existing facilities and provide conceptual budgetary capital cost, operation and maintenance, and performance data for the options outlined in the CD. Based on that data, Burns & McDonnell conducted a busbar economic evaluation using a model developed by them to consider a variety of cost factors related to the construction and operation of the plant modifications under consideration. Data and information used in this evaluation were gathered from Burns & McDonnell databases, current quotes from vendors/equipment suppliers, and estimates provided by EKPC. A high-level economic profile was built from these results to provide a preliminary comparison of the available options.

Evaluation of the operation and costs of each unit within the broader picture of an integrated system-wide resource plan was not within the scope of Burns & McDonnell's work.

EKPC then used the plant specific information, produced by the Burns & McDonnell study, in a more detailed analysis. The EKPC system was modeled with projected loads, projected unit characteristics for each unit in the fleet, and market prices in the RTSim production cost model on an hourly basis for 20 years. The simulation was performed for a number of scenarios that could occur, such as extreme temperatures, mild temperatures, high fuel prices, low fuel prices, etc. Based on the probabilities of occurrence for each scenario, EKPC developed an expected operating cost for each of the alternatives. The annual fixed incremental capital costs were then added to the operational costs to develop annual expected costs. Those costs were then accumulated on a present worth basis and compared for each alternative.

The Burns & McDonnell scope of work included a busbar analysis comparison of alternatives on a "stand alone" basis. By comparison, the EKPC evaluation examined the performance of those options when integrated with the rest of the EKPC system and tested through a range of conditions and probabilities.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 6
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 6. Refer to the Cooper/Dale Report, at page 19, Section 4.0, and the Burns & McDonnell Study at pages 2-10, Sections 2.2 and 2.2.1. The Burns & McDonnell Study identifies specific economic assumptions included in its analysis, while the Cooper/Dale Report states that it used the RTSim production cost model, which is capable of taking a range of values for each input parameter and running multiple iterations based on the input ranges. Identify all the input parameters and the ranges of values included in East Kentucky's analysis.

Response 6. Section 4.0 identifies the input parameters and the range of values included in the East Kentucky analysis for the year 2012. The following tables identify each of these parameters with the low, medium and high range value by year.

The 2012 Distribution of Monthly Loads is shown on page 19 of the Cooper/Dale Report. The low, medium (mid) and high loads for each of the study years are shown in the following table.

Total Annual Requirements (MWH)	Low	Mid	High
2012	13,433,218	14,730,373	15,884,439
2013	13,757,150	15,069,712	16,262,310
2014	14,064,951	15,395,064	16,613,641
2015	14,375,277	15,715,404	16,953,639
2016	14,707,552	16,065,261	17,336,303
2017	15,014,211	16,399,521	17,682,457
2018	15,353,004	16,744,268	18,058,994
2019	15,706,693	17,116,619	18,453,443
2020	16,084,239	17,511,711	18,892,250
2021	16,461,784	17,906,803	19,331,057
2022	16,839,330	18,301,895	19,769,864
2023	17,216,876	18,696,987	20,208,671
2024	17,594,421	19,092,079	20,647,478
2025	17,971,967	19,487,171	21,086,285
2026	18,349,513	19,882,263	21,525,092
2027	18,727,059	20,277,355	21,963,899
2028	19,104,604	20,672,447	22,402,706
2029	19,482,150	21,067,539	22,841,513
2030	19,859,696	21,462,631	23,280,320
2031	20,237,241	21,857,723	23,719,126

The 2012 Market Price Assumption is shown on page 20 of the Cooper/Dale report. The low, medium (mid) and high market prices for each of the study years are shown in the following table.

Market Purchase (1X16, $/MWh)	low	mid	high
2012	$ 49.89	$ 55.33	$ 60.71
2013	$ 52.59	$ 57.01	$ 61.02
2014	$ 52.62	$ 57.33	$ 63.11
2015	$ 58.07	$ 62.77	$ 69.66
2016	$ 58.38	$ 65.19	$ 71.42
2017	$ 63.07	$ 67.43	$ 74.08
2018	$ 63.73	$ 70.52	$ 81.95
2019	$ 68.08	$ 73.13	$ 78.24
2020	$ 70.89	$ 78.46	$ 88.64
2021	$ 75.04	$ 81.79	$ 89.93
2022	$ 78.85	$ 84.78	$ 94.14
2023	$ 82.19	$ 87.98	$ 95.51
2024	$ 85.64	$ 94.02	$ 104.08
2025	$ 90.32	$ 97.32	$ 108.02
2026	$ 91.73	$ 100.63	$ 111.43

Market Purchase (1X16, $/MWh)	low	mid	high
2027	$ 97.47	$ 106.02	$ 114.46
2028	$ 101.28	$ 109.84	$ 122.72
2029	$ 105.48	$ 115.76	$ 124.33
2030	$ 111.84	$ 121.50	$ 134.02
2031	$ 112.27	$ 126.31	$ 136.63

The distribution for 2012 Natural Gas Prices for Combustion Turbines is shown on page 21 of the Cooper/Dale Report. The low, medium (mid) and high gas prices for each of the study years are shown in the following table.

Natural Gas-CT	Low	Mid	High
2012	7.74	9.59	14.21
2013	7.90	9.71	14.40
2014	7.93	9.75	14.49
2015	8.05	9.90	14.73
2016	8.20	10.16	15.05
2017	8.50	10.45	15.55
2018	8.76	10.77	16.04
2019	9.05	11.12	16.58
2020	9.33	11.57	17.14
2021	9.74	11.98	17.75
2022	10.09	12.41	18.39
2023	10.46	12.86	19.06
2024	10.76	13.33	19.76
2025	11.24	13.83	20.49
2026	11.66	14.34	21.24
2027	12.09	14.87	22.03
2028	12.54	15.42	22.85
2029	13.00	15.99	23.69
2030	13.48	16.58	24.57
2031	13.98	17.19	25.48

The distribution for 2012 Natural Gas Prices for Combined Cycle Plants is shown on page 21 of the Cooper/Dale Report. The low, medium (mid) and high gas prices for each of the study years are shown in the following table.

Natural Gas-Combined Cycle	Low	Mid	High
2012	6.31	7.76	11.50
2013	6.51	8.00	11.85
2014	6.70	8.24	12.21
2015	6.91	8.49	12.59
2016	7.12	8.75	12.97
2017	7.33	9.02	13.36
2018	7.55	9.29	13.76
2019	7.78	9.56	14.17
2020	8.01	9.86	14.60
2021	8.31	10.22	15.15
2022	8.62	10.61	15.70
2023	8.93	11.01	16.27
2024	9.19	11.42	16.87
2025	9.60	11.85	17.49
2026	9.95	12.30	18.14
2027	10.32	12.76	18.81
2028	10.70	13.23	19.50
2029	11.10	13.72	20.23
2030	11.51	14.24	20.98
2031	11.94	14.77	21.75

The distribution for 2012 Coal Price Assumption for CFB Coal delivered to the Smith site is shown on page 22 of the Cooper/Dale Report. (Note: There is a typo in the report, the title says "Smith CAPP" and it should say "Smith CFB".) The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Smith CFB	Low	Mid	High
2012	1.678	2.063	2.496
2013	1.644	2.071	2.551
2014	1.663	2.119	2.645
2015	1.663	2.143	2.712
2016	1.694	2.209	2.837
2017	1.718	2.266	2.957

Smith CFB	Low	Mid	High
2018	1.750	2.334	3.093
2019	1.797	2.425	3.263
2020	1.823	2.491	3.400
2021	1.852	2.564	3.552
2022	1.887	2.646	3.722
2023	1.910	2.712	3.876
2024	1.971	2.835	4.116
2025	1.994	2.906	4.285
2026	2.010	2.965	4.444
2027	2.039	3.048	4.641
2028	2.070	3.133	4.848
2029	2.100	3.220	5.063
2030	2.131	3.310	5.289
2031	2.163	3.402	5.524

The distribution for 2012 Coal Price Assumption for CFB Coal delivered to the Spurlock site is shown on page 22 of the Cooper/Dale Report. The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Spurlock CFB	Low	Mid	High
2012	1.161	1.570	1.895
2013	1.174	1.580	1.929
2014	1.187	1.590	1.967
2015	1.190	1.608	2.002
2016	1.216	1.655	2.079
2017	1.237	1.686	2.153
2018	1.261	1.724	2.229
2019	1.283	1.770	2.310
2020	1.309	1.827	2.398
2021	1.334	1.887	2.490
2022	1.359	1.944	2.586
2023	1.383	1.997	2.685
2024	1.409	2.055	2.788
2025	1.434	2.111	2.896
2026	1.460	2.173	3.007
2027	1.486	2.234	3.123
2028	1.513	2.298	3.243
2029	1.540	2.363	3.368
2030	1.568	2.431	3.497
2031	1.596	2.500	3.632

The distribution for 2012 Coal Price Assumption for CFB Coal delivered to the Cooper site is shown on page 23 of the Cooper/Dale Report. The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Cooper CFB	Low	Mid	High
2012	1.633	2.002	2.404
2013	1.601	2.010	2.458
2014	1.645	2.089	2.590
2015	1.654	2.126	2.673
2016	1.687	2.193	2.800
2017	1.710	2.245	2.917
2018	1.743	2.312	3.054
2019	1.789	2.401	3.222
2020	1.815	2.468	3.360
2021	1.844	2.542	3.511
2022	1.878	2.623	3.679
2023	1.903	2.691	3.837
2024	1.964	2.812	4.075
2025	1.985	2.879	4.241
2026	1.998	2.935	4.395
2027	2.020	3.005	4.574
2028	2.041	3.076	4.761
2029	2.063	3.150	4.955
2030	2.086	3.224	5.157
2031	2.108	3.301	5.368

The distribution for 2012 Coal Price Assumption for CFB Coal delivered to the Dale site is shown on page 23 of the Cooper/Dale Report. The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Dale CFB	Low	Mid	High
2012	1.723	2.124	2.587
2013	1.688	2.132	2.643
2014	1.682	2.149	2.699
2015	1.671	2.161	2.752
2016	1.701	2.226	2.875
2017	1.727	2.287	2.997
2018	1.757	2.356	3.132
2019	1.805	2.450	3.305

Dale CFB	Low	Mid	High
2020	1.830	2.514	3.441
2021	1.859	2.585	3.592
2022	1.895	2.670	3.766
2023	1.916	2.733	3.914
2024	1.978	2.858	4.156
2025	2.004	2.932	4.329
2026	2.021	2.996	4.492
2027	2.059	3.091	4.708
2028	2.098	3.190	4.935
2029	2.137	3.292	5.172
2030	2.178	3.397	5.421
2031	2.219	3.505	5.682

The distribution for 2012 Coal Price Assumption for PC type Coal delivered to the Dale site is shown on page 24 of the Cooper/Dale Report. The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Dale PC	Low	Mid	High
2012	2.091	2.578	3.140
2013	2.049	2.588	3.207
2014	2.041	2.608	3.276
2015	2.028	2.622	3.339
2016	2.064	2.701	3.489
2017	2.095	2.775	3.637
2018	2.133	2.859	3.801
2019	2.191	2.973	4.011
2020	2.221	3.051	4.176
2021	2.256	3.137	4.360
2022	2.300	3.240	4.570
2023	2.325	3.317	4.750
2024	2.401	3.469	5.044
2025	2.432	3.559	5.254
2026	2.453	3.635	5.451
2027	2.499	3.751	5.714
2028	2.546	3.871	5.989
2029	2.594	3.995	6.277
2030	2.643	4.122	6.579
2031	2.692	4.254	6.895

The distribution for 2012 Coal Price Assumption for PC type Coal delivered to the Spurlock site is shown on page 24 of the Cooper/Dale Report. The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Spurlock PC	Low	Mid	High
2012	1.748	2.020	2.419
2013	1.746	2.030	2.451
2014	1.742	2.040	2.484
2015	1.740	2.050	2.515
2016	1.736	2.059	2.546
2017	1.760	2.099	2.620
2018	1.791	2.148	2.705
2019	1.844	2.227	2.829
2020	1.870	2.275	2.913
2021	1.908	2.338	3.018
2022	1.945	2.403	3.127
2023	1.972	2.453	3.221
2024	2.035	2.551	3.379
2025	2.057	2.596	3.471
2026	2.085	2.651	3.575
2027	2.119	2.714	3.694
2028	2.153	2.779	3.816
2029	2.188	2.846	3.942
2030	2.224	2.913	4.073
2031	2.260	2.983	4.208

The distribution for 2012 Coal Price Assumption for Central Appalachian ("CAPP") Coal delivered to the Cooper site is shown on page 25 of the Cooper/Dale Report. The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Cooper CAPP	Low	Mid	High
2012	1.891	2.318	2.784
2013	1.854	2.328	2.847
2014	1.905	2.419	3.000
2015	1.915	2.462	3.095
2016	1.954	2.540	3.243
2017	1.980	2.600	3.378
2018	2.019	2.677	3.537

Cooper CAPP	Low	Mid	High
2019	2.072	2.781	3.732
2020	2.102	2.858	3.891
2021	2.136	2.944	4.067
2022	2.175	3.038	4.260
2023	2.204	3.117	4.444
2024	2.274	3.257	4.719
2025	2.299	3.334	4.912
2026	2.314	3.399	5.090
2027	2.339	3.480	5.298
2028	2.364	3.563	5.514
2029	2.390	3.647	5.739
2030	2.415	3.734	5.973
2031	2.441	3.823	6.216

The distribution for 2012 Coal Price Assumption for Scrubber type Coal ("FGD") delivered to the Cooper site is shown on page 25 of the Cooper/Dale Report. The low, medium (mid) and high coal prices for each of the study years are shown in the following table.

Cooper FGD	Low	Mid	High
2012	1.704	2.089	2.509
2013	1.670	2.098	2.565
2014	1.716	2.180	2.703
2015	1.726	2.218	2.789
2016	1.760	2.289	2.922
2017	1.784	2.342	3.044
2018	1.819	2.412	3.187
2019	1.867	2.505	3.362
2020	1.894	2.575	3.506
2021	1.925	2.653	3.664
2022	1.960	2.737	3.839
2023	1.986	2.808	4.004
2024	2.049	2.935	4.252
2025	2.071	3.004	4.426
2026	2.085	3.063	4.586
2027	2.107	3.136	4.773
2028	2.130	3.210	4.968
2029	2.153	3.286	5.171
2030	2.176	3.365	5.382
2031	2.200	3.445	5.601

The Range of 2012 Emission Prices are shown on page 26 of the Cooper/Dale Report. The low, medium (mid) and high emission prices for each of the study years are shown in the following tables.

SO2	Low	Mid	High
2012	400	900	1,400
2013	360	900	1,400
2014	327	900	1,400
2015	317	950	1,450
2016	292	950	1,450
2017	271	950	1,450
2018	267	1,000	1,500
2019	250	1,000	1,500
2020	250	1,000	1,500
2021	222	1,000	1,500
2022	200	1,000	1,500
2023	182	1,000	1,500
2024	182	1,000	1,500
2025	182	1,000	1,500
2026	182	1,000	1,500
2027	182	1,000	1,500
2028	182	1,000	1,500
2029	182	1,000	1,500
2030	182	1,000	1,500
2031	182	1,000	1,500

NOX	Low	Mid	High
2012	863	1,328	1,565
2013	930	1,549	1,844
2014	974	1,771	2,128
2015	996	1,992	2,418
2016	1,046	2,324	3,167
2017	1,097	2,434	3,317
2018	1,151	2,877	3,921
2019	1,195	2,988	4,071
2020	1,284	3,209	4,373
2021	1,328	3,320	4,659
2022	1,328	3,320	4,892
2023	1,328	3,320	5,136
2024	1,328	3,320	5,393
2025	1,328	3,320	5,663

NOX	Low	Mid	High
2026	1,328	3,320	5,996
2027	1,328	3,320	5,996
2028	1,328	3,320	5,996
2029	1,328	3,320	5,996
2030	1,328	3,320	5,996
2031	1,328	3,320	5,996

Mercury	High	Mid	Low
2012	$ 41,293	$ 33,034	$ 29,731
2013	$ 45,788	$ 36,631	$ 32,968
2014	$ 50,763	$ 40,610	$ 35,861
2015	$ 56,283	$ 45,027	$ 38,544
2016	$ 62,398	$ 49,919	$ 41,424
2017	$ 66,156	$ 55,334	$ 44,512
2018	$ 72,511	$ 59,425	$ 46,339
2019	$ 77,763	$ 62,507	$ 47,250
2020	$ 90,169	$ 69,917	$ 49,666
2021	$ 95,264	$ 72,643	$ 50,022
2022	$ 97,034	$ 73,993	$ 50,952
2023	$ 101,949	$ 76,511	$ 52,686
2024	$ 112,052	$ 82,823	$ 57,032
2025	$ 121,959	$ 88,845	$ 61,179
2026	$ 127,290	$ 91,450	$ 62,973
2027	$ 129,218	$ 91,609	$ 63,082
2028	$ 131,174	$ 91,769	$ 63,192
2029	$ 133,160	$ 91,929	$ 63,303
2030	$ 135,176	$ 92,089	$ 63,413
2031	$ 137,223	$ 92,250	$ 63,524

Ozone	Low	Mid	High
2012	386	483	983
2013	354	442	942
2014	324	405	905
2015	297	371	871
2016	272	340	840
2017	250	312	812
2018	234	286	786
2019	214	262	762
2020	204	255	755
2021	208	260	760

Ozone	Low	Mid	High
2022	212	265	765
2023	216	270	770
2024	220	275	775
2025	224	280	780
2026	228	285	785
2027	232	290	790
2028	232	290	790
2029	232	290	790
2030	232	290	790
2031	232	290	790

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 7
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 7. Refer to the Cooper/Dale Report, at page 41. The paragraph at the top of the page summarizes the 20-year Net Present Value ("NPV") results for Cases B, E, F1, and H1 and states that there is no clear winner from the results of the financial analysis (based on less than a 10 percent difference in the total 20-year NPV cost of two most extreme cases).

Request 7a. Explain whether East Kentucky established an NPV cost difference of less than 10 percent as a criterion for determining there to be a clear winner from the results of its financial analysis, prior to, or after, it had performed that analysis.

Response 7a. The 10 percent differential was an observation made while reviewing the results of the financial analysis; it was not intended as a definitive criterion.

Request 7b. Explain how an NPV cost range of 10 percent, as opposed to a smaller or larger range, was determined to be appropriate.

Response 7b. Given the number of assumptions made and numerous outcomes that occurred, EKPC considered a 10 percent differential in total costs over a 20 year period to be immaterial in the evaluation. Even though one case could be evaluated as

the least expensive option in isolation, factors such as the production time schedule, EKPC's financial condition, system voltage and transmission considerations, and other environmental circumstances had to be considered in determining the best option for EKPC.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 8
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 8. Refer to Table 1-2 in the Burns & McDonnell Study at pages 1-3, which shows Case H (repower Dale w/CFB) to be the lowest-cost case. However, page 41 of the Cooper/Dale Report shows the 20-year NPV for Case H to be greater than the NPVs of Cases B, E and F. Explain why the two analyses arrived at different results.

Response 8. As described in the response to Request 5, the analyses that were conducted by Burns & McDonnell and EKPC were significantly different in scope. The busbar costs predicted by Burns & McDonnell were independent for each site, while the EKPC evaluation considered the incorporation of each alternative into the operations of the company for a 20 year study period. The impact of factors such as the dispatch of units and the variability of weather, power markets (sales and purchases), fuel prices, emission prices was quantified in the EKPC analysis and resulted in a shift in the ranking of alternatives. Because the analysis which EKPC employed considered the incorporation of each alternative into the operations of the Company as a whole, and also considered the other factors described above, it was more comprehensive in scope and provided greater reliability and predictability than any other analytical method which could have been used.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 9
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 9. Refer to the Cooper/Dale Report, which shows that Case E (retire Dale) has the lowest 20-year NPV, $7.6 billion, compared to Case B (scrub Cooper) with a $7.93 billion NPV.

Request 9a. If East Kentucky were to choose Case E, identify the transmission system upgrades that would need to be implemented.

Response 9a. Based upon the results of EKPC's power flow analysis with all generation removed from service at Dale Station (Case E), EKPC developed a transmission expansion plan that met EKPC's minimum system performance requirements. The required projects and their estimated costs in 2007 dollars are listed below.

Transmission Expansion Plan to Address System Problems for 0 MW Generation Output at Dale Station	
Project Description	**Estimated Cost in millions ($2007)**
Construct a 138/69 kV, 100 MVA Substation at Newby, including the facilities needed to connect the Newby Substation to E-ON's Brown Plant-Fawkes 138 kV line.	3.0
Install a 69 kV, 33.17 MVAR capacitor bank at the Dale Substation	0.5
Install a 69 kV, 16.84 MVAR capacitor bank at the Hope Substation	0.3
Install a 69 kV, 12.25 MVAR capacitor bank at the Stanton Substation	0.3
Total Cost	$4.1

Although this plan met EKPC's minimum criteria, it did not provide the same level of system performance compared to the system with the Dale generating units online. Replacing the dynamic reactive resources provided by the generating units with static capacitor banks provided inferior responses to contingency conditions. Voltage collapse studies were not performed assuming the Dale units to be offline. These studies could indicate the need for the addition of dynamic resources (such as static var compensators, distributed static synchronous compensators, etc.) in the area. EKPC estimates the additional expense of these devices to be $10M to $15M.

Request 9b. Provide the estimated cost of the needed transmission upgrades.

Response 9b. Please see the response to a) for the estimated upgrade costs.

Request 9c. Explain whether these upgrades will be needed at some point in the future if East Kentucky proceeds with Case B. If yes, indicate when they will be needed and explain whether the estimated cost of these transmission upgrades was included in the 20-year NPV for Case B.

Response 9c. None of the transmission upgrades identified for Case E will be needed under Case B during the 2009-2026 timeframe.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 10
RESPONSIBLE PERSON: **Julia J. Tucker**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 10. Refer to the Cooper/Dale Report at pages 13-14 and 41. Under Case F1, Dale 3 and 4 would be repowered with General Electric's 7FA combustion turbines operating in combined cycle mode. Explain how the 330 megawatt increase in generating capacity under this scenario is reflected in the RTSim analysis.

Response 10. Under this scenario, the RTSim model would treat these combined cycle units as other resources in EKPC's power supply portfolio, and would dispatch these units in the most economical manner. The full capacity was available for system operations.

EAST KENTUCKY POWER COOPERATIVE, INC.
PSC CASE NO. 2008-00472
FIRST DATA REQUEST RESPONSE

COMMISSION STAFF'S FIRST DATA REQUEST DATED 1/30/09
REQUEST 11
RESPONSIBLE PERSON: **John R. Twitchell**
COMPANY: **East Kentucky Power Cooperative, Inc.**

Request 11. Refer to the Cooper/Dale Report at page 42. Provide the assessment of East Kentucky's alternatives to meet Best Available Retrofit Technology ("BART"), which was filed with the Kentucky Division of Air Quality on July 24, 2007. Include, if necessary, a narrative explanation of how this assessment causes East Kentucky to be convinced that it "[w]ill need to scrub Cooper Station in the near future to meet the BART regulation."

Response 11. In the Kenvirons report prepared for EKPC that was submitted to the KDAQ on July 24, 2007, Section 4.0 "BART Analysis for PM Emissions", identifies and outlines the steps of assessment that were taken to make technology recommendations for meeting Regional Haze requirements.

Step 1 identified Electrostatic Precipitation and Fabric Filtration as the available technologies. Both technologies are proven and each has been implemented on EKPC generation sites, so both passed the screen in Step 2 to "Eliminate Technically Infeasible Options".

Evaluation of Control Effectiveness was the intent of Step 3, and Kenvirons relied on published emission level values for performance, that were calculated utilizing the National Parks System's particulate matter ("PM") speciation model. This evaluation led to the conclusion that a Wet ESP with WFGD was the best option available for EKPC's BART-eligible units. In support of this decision was the fact that EKPC had previously implemented the technology, and it was, at the time, the status quo for pollution control retrofit of EKPC units.

Since that time, dry scrubber technologies have emerged and when used with a Pulse Jet Fabric Filter, have been demonstrated to achieve better emission control for PM than can be achieved by the previously selected technology. This is the reason for EKPC's efforts to amend their portion of the Kentucky SIP.

EKPC is convinced it will need to scrub Cooper Station in the future because the units have been confirmed "BART-eligible", and modeling indicates emission levels from the units are higher than exemption thresholds for PM. There are technologies available to achieve the objectives of the Regional Haze plan and EKPC is required to comply with Kentucky's SIP that has been issued "final" by KDAQ and is now pending final approval by EPA Region 4.