

Mr. Jeff DeRouen Executive Director Kentucky Public Service Commission 211 Sower Boulevard Frankfort, Kentucky 40601

August 19, 2011

# RECEIVED

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PUBLIC SERVICE COMMISSION

LG&E and KU Energy LLC State Regulation and Rates 220 West Main Street PO Box 32010 Louisville, Kentucky 40232 www.lge-ku.com

Rick E. Lovekamp Manager Regulatory Affairs T 502-627-3780 F 502-627-3213 rick.lovekamp@lge-ku.com

RE: The 2011 Joint Integrated Resource Plan of Louisville Gas and Electric Company and Kentucky Utilities Company – Case No. 2011-00140

#### Dear Mr. DeRouen:

Please find enclosed and accept for filing the original and ten (10) copies of the supplemental response of Louisville Gas and Electric Company and Kentucky Utilities Company to Question Nos. 7 – 10 of the Initial Interrogatories of Rick Clewett, Drew Foley, Janet Overman, Gregg Wagner, the Natural Resource Defense Council, and the Sierra Club dated July 15, 2011, in the above-referenced matter.

Under separate cover, counsel will file a response to the Motion to Compel early next week.

Should you have any questions regarding the enclosed, please contact me at your convenience.

Sincerely,

Rick E. Lovekamp

cc: Parties of Record

#### COMMONWEALTH OF KENTUCKY

#### BEFORE THE PUBLIC SERVICE COMMISSION

In	the	Matter	of:
4 4 4		ITECTUCE	V.

THE 2011 JOINT INTEGRATED RESOURCE PLAN	)
OF LOUISVILLE GAS AND ELECTRIC COMPANY	) CASE NO.
AND KENTUCKY UTILITIES COMPANY	) 2011-00140

## LOUISVILLE GAS AND ELECTRIC COMPANY AND

KENTUCKY UTILITIES COMPANY'S
SUPPLEMENTAL RESPONSE TO THE INITIAL INTERROGATORIES OF
RICK CLEWETT, DREW FOLEY, JANET OVERMAN, GREGG WAGNER,
THE NATURAL RESOURCES DEFENSE COUNCIL AND THE SIERRA CLUB
DATED JULY 15, 2011

Filed: August 19, 2011

#### **VERIFICATION**

COMMONWEALTH OF KENTUCKY	)	SS
COUNTY OF JEFFERSON	)	

The undersigned, **Charles R. Schram**, being duly sworn, deposes and says that he is Director – Energy Planning, Analysis and Forecasting for LG&E and KU Services Company, and that he has personal knowledge of the matters set forth in the responses for which he is identified as the witness, and the answers contained therein are true and correct to the best of his information, knowledge and belief.

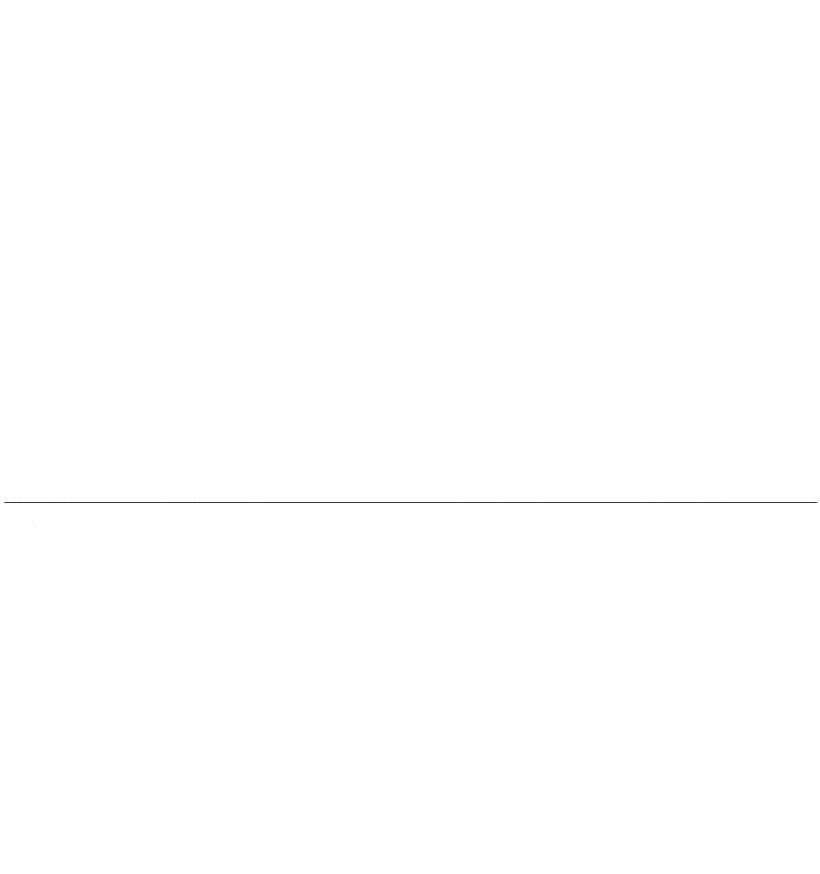
Charles R. Schram

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 19th day of 2011.

Notary Public (SEAL)

My Commission Expires:

<u>November 9, 2014</u>



August 19, 2011 Supplemental Response to the Initial Interrogatories of Rick Clewett, Drew Foley, Janet Overman, Gregg Wagner, the Natural Resources Defense Council and the Sierra Club Dated July 15, 2011

Case No. 2011-00140

#### Question No. 7

Witness: Charles R. Schram/Counsel

Q-7. Refer to page 8-4 of the Resource Plan. For each of the Companies' coal-fired electric generating units, identify in which years over the life of the Resource Plan the Companies intend to carry out "three-to-four week boiler outages," and list each project the Companies plan to carry out during each outage, and the cost of each such project.

#### A-7. July 21, 2011 Objection:

The quoted material referenced in the request for information is from a description of information in the Integrated Resource Plan. That material was provided only for informational purposes. The information requested was not used in the development of the Resource Plan in Integrated Resource Plan and therefore is irrelevant to the issues in this proceeding. Without waiver of this objection, Kentucky Utilities Company and Louisville Gas and Electric Company will file an additional response on August 4, 2011.

#### August 4, 2011 Response:

The quoted material referenced in the request for information is from a description of information in the Integrated Resource Plan. That material was provided only for informational purposes. The information requested was not used in the development of the Resource Plan in Integrated Resource Plan and therefore is irrelevant to the issues in this proceeding. Without waiver of this objection, Kentucky Utilities Company and Louisville Gas and Electric Company will file an additional response on August 4, 2011.

The maintenance plan incorporated in the Companies' 2011 Integrated Resource Plan is attached. The timing of three-to-four week outages is indicated in the attachment. The nature and cost of each outage project is not contemplated in the development of the Resource Plan. The timing of planned outages may change. Therefore, the IRP's analysis supporting the 2016 unit retirements was based on average maintenance cost assumptions that were escalated throughout the planning period.

The maintenance plan is confidential and is the subject of a Petition for Confidential Protection being filed herewith. The Companies will disclose the redacted confidential information to any intervenor with a legitimate interest in such information and as required by the Commission, but only after such an intervenor has entered into a mutually satisfactory confidentiality agreement with the Companies.

#### August 19, 2011 Supplemental Response:

The maintenance plan incorporated in the Companies' 2011 Integrated Resource Plan showing the timing of three-to-four week outages was included in the August 5, 2011 response. A listing of each project contemplated for each outage does not exist for the entire Resource Plan. In the analysis supporting the development of the expansion plan in the 2011 IRP, only the total cost is utilized and a detailed listing of projects is not necessary. The total cost was included in the summary data provided in response to Rick Clewett et al, Initial Interrogatories Question No. 26 ("Interrogatory No. 1-26").

The analysis supporting the development of the expansion plan in the 2011 IRP included a retirement study and an expansion plan analysis. In the retirement study, the Companies assessed the impact of proposed and existing EPA regulations on its generating fleet. In this analysis, the Companies – for each of the units for which controls are needed – compared the difference in present value of revenue requirements ("PVRR") between (a) installing controls and (b) retiring and replacing capacity. The Companies fixed and variable O&M (which includes fixed O&M for planned outages) is summarized in total in the IRP (see table 8.(3)(b)12(e)). In addition, this data was summarized by unit and provided in the response to Interrogatory No. 1-26. The more detailed cost data used to prepare data in the response to Interrogatory No. 1-26 is included in the attachment to this supplemental response. The attachment contains variable O&M, existing fixed O&M, fixed O&M for new controls, capital for new controls, and annual capital. Variable O&M includes the cost of consumables. Existing fixed O&M includes fixed O&M for outages and other routine maintenance. Annual capital includes capital associated with routine maintenance.

The results of the retirement study (i.e., the decisions to retire the Cane Run, Green River, and Tyrone coal units) were incorporated in the expansion plan analysis. The expansion plan analysis did not consider the outage costs because these costs are unchanged for each of the expansion plans considered.

2025	1,361 10,568 10,568 13,394 7,906 11,756 14,633 0 0 0 5,202 14,050 14,050 14,050 14,050 14,050 15,570 16,570 16,570 16,570 17,570	1,361 10,568 10,568 13,394 1,394 1,394 1,405 1,758 1,450 1,430
2024	1,224 9,720 9,720 0 0 13,613 8,090 10,372 13,765 5,005 5,005 5,434 14,617 14,347 14,347 14,347 14,347 14,347 14,347 14,347 14,347 14,347 16,17 1	1,224 2,072 9,720 0 0 0 0 13,613 8,090 10,372 14,617 14,617 14,617 14,617 14,617 14,617 16,483 0 0 0 0 0 0 0 0 0 0 0 0 0
2023	1,207 1,887 9,737 0 0 0 12,355 7,599 10,267 13,792 0 0 5,200 4,989 13,431 14,894 14,894 13,431 14,894 16,899 9,011	1,207 1,887 0,737 0 0 0 0 0 0 0 10,267 13,792 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2022	1,101 1,958 9,050 0 0 0 7,754 11,744	1,101 1,958 9,050 0 0 0 0 0 0 0 0 0 0 0 0 0
2021	868 8,881 1,763 8,881 0 0 10,432 7,303 9,851 13,251 13,251 14,277 14,296 12,906 12,906 12,906 12,906 14,296 12,906 14,296 12,906 14,296 14,296 16,806	8.888 8.881 1.763 0 0 0 0 0 0 0 0 0 0 0 0 0
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2017	818 7,510 0 0 0 0 10,884 6,885 7,339 11,815 11,780 11,780 11,780 13,106 8,002 0	1,324 7,510 1,324 1,324 10 10 10 10 10 10 10 11,884 10 10 10 11,885 11,886 11,886 11,886 11,7
2016	722 6,122 6,122 0 0 0 0 8,509 8,128 11,090 11,090 12,220 12,022 12,02 12	722 6,122 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2015	314 356 3.825 3.825 2.305 4.063 3.770 5.336 6.811 0 0 4.268 3.958 8.456 10.596 7.691 7.691	3.456 3.825 3.825 0 0 0 0 1.865 4,063 4,063 3,070 5,336 6,811 6,811 10,596 10,5
2014	211 343 343 3,653 3,653 3,764 3,764 5,085 6,978 6,978 7,627 7,627 7,627 7,627 7,627 7,627 7,010 6,920 6,920	2,11 3,653 3,653 3,653 3,653 1,884 1,884 2,949 5,085 6,978 6,978 6,978 6,978 6,920 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2013	143 3.583 1.216 1.934 1.934 2.886 2.886 3.010 4.093 7.357 1.747 1.772 6.562 6.562 7.395 7.395 7.395 7.395	1443 3,583 274 274 0 0 0 0 1,216 1,216 1,246 1,347 1,747 1,747 1,747 1,747 0 0 0 0 0 0 0 0 0 0 0 0 0
2012	123 270 272 272 2,222 3,005 3,005 3,406 1,521 1,521 1,521 1,437 6,642 6,583 6,514	2.222 2.722 0 0 0 1,428 3,005 3,005 3,005 1,521 1,521 1,521 1,521 1,521 1,521 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
2011	46 534 1,586 2,386 2,386 4,280 4,280 1,803 2,799 5,641 1,217 1,236 1,236 1,217 5,513 6,523 8,833	46 90 934 934 934 934 934 934 934 934
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2025	5707	7,643 15,558 37,135 0	0 0 1,736	2,434 7,098 1,662	0 3,678	48,253 50,383 53,356 25,274 23,289	0																						Attachment to Supplemental
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2023	2023	7,346 14,954 35,693 0	30,504	31,175 26,045 33,316	0 0 41,982	46,380 48,427 51,284 24,292 22,385	0																						
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0000	7707	6,923 14,092 33,634 0	0 0 28.744	29,377 24,543 31,394	0 0 39,561	43,705 45,634 48,326 22,891 21,094	0		3,049,521	20,686	27.365,808 592,735 31.136,875	1,041,876 29,479,649 1,182,018	29,200,455 B60,380 42,092,434	3,330,067 10,449,840 5,174	71,570 12,930 77,579	362,684 2,754,745 98,784	98,704 98,704 98,784	324,231 1,832,142 27,974	30,951,278	90.753.706	2,251,311 6,367,709	882,679 149,331	16,693 168,859 134,398					35,610 35,610 35,610	
950	8L07	6,738 13,735 32,773 0	0 0 28.020	28,680 23,942 30,659	0 0 38,667	42,729 44,586 47,192 22,321 20,531	0		2,979,416		26.829.005 581.073 30.525.882										2,207,130 6,242,786								
8706	8L07	6,559 13,388 27,387 0	0 0 27.319	28,003 23,359 29,945	0 0 37.786	41,780 43,566 46,089 21,768 19,988	0		2.911,426	19.883	26,303,179 26,303,179 569,721 29,927,822	1,001,423 28,334,953 1,136,124	28,055,380 826,974 39,808,960	3,200,772 9,715,815 4,973	68.791 12,428 74,567	362,144 2,615,798 94,948	94,872 94,948	94,948 311,642 1,716,095	29,386,138	700 040	2,163,890	9,48,408 848,408 143,533	16,045 162,303 129,180	60,726 331,230	3,163,793	0 4,847,635 8,019,041	13,277,377 8,754,986 15,371,124	34,227 34,227 34,227	13,249
7,000	/107	6,385 13,051 26,663 0	26.634	27,342 22,790 29,247	0 0 36,944	40,851 42,669 45,012 21,229 19,458	0		2,844,775	19,492	25,787,282 55,82,524 29,340,699	981,741 27,879,041 1,113,795	38.715.682	3,137,864 9,364,996 4,875	67,439 12,184 73,101	352,305 2,549,068 93,082	93,007 93,007 93,082	93,082 305,517 1,660,859 21,648	28,632,798	944	2,121,439	831,733 831,733 140,712	15,729 159,113 126,641	59,532 324,720	3.073,111	0 4,713,629 7,861,692	13,016,952 8,583,180 15,069,648	33,554 33,554 33,554	12,989
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770	2014	5,893 10,252 24,920 11,893	12,501	20,893 15,797 16,770	5,401 9,759 31,661	35,335 19,937 41,941 15,881 17,958	099		2,654,846 29,809,053 3,686,526 3,606,409	18,368	47,054,656 21,448,547 526,325 24,787,682	925,144 6,388,236 1,049,585	25,929,131 763,983 35,629,013	2,956,967 8,376,541 4,594	63,551 11,481 68,887	324,513 2,359,996 87,716	87,646 87,646 87,716	87,716 287,904 1,505,979	9,554,802 367,200 293,201	204,000 2,499,000 12,456,521	1,999,095	783,784 732,600	14,823 149,940 119,340	56,100 306,000	2,817,589 27,540	4,335,403 2,249,100	7,700,664 2,713,200 3,713,604	52,279,301 562,772 31,620 31,620	12,240
ç	2013	4,238 7,081 17,018	12,006 13,048 18,846	14,225	5,205 9,443 12,821	15,989 19,147 18,454 15,212 17,260	403		2.282,563 28,384,493 3,614,242 3,535,695	18,008	42,492,039 2,940,975 516,005 5,779,978	907,004 6,033,976 1,029,005	749,003 34,489,201	2,696,987 10,466,918 4,504	62,305 11,256 67,536	315,777 2,300,357 85,996	85,927 85,927 85,996	85,996 282,259 1,457,687	11,581,954 120,000 283,286	200,000 2,450,000 11,998,299	508,532	718,416 130,000	14,532 97,000 67,000	300,000	2,737,479 27,000	0 4,216,607 2,205,000	1,565,000 2,660,000 1,680,000	50.168,637 546,274 31,000 31,000	12,000
100	2012	5,192 6,829 23,857 8 301	9,014 14,867	20,133 13,957 14,488	7,223 7,291 18,680	12,313 15,096 20,401 12,275 16,522	401		2,239,404 27,927,261 612,499 680,869	17,480	44,264,902 8,636,238 932,005 2,708,237	553,005 2,839,256 499,006	5,168,257 889,006 30,809,884	3,880,634 10,307,528 4,372	60,489 10,928 65,568	288,569 2,389,228 82,187	81,966 81,966 82,187	280,194 82,187 1,432,052	11,493,123 120,000 281,113	2,147,999 200,000 12,166,102	1,424,176	1,538,648	13,776 76,500 61,500	1,002,000	2,680,425 25,000	0 4,468,995 3,440,000	8,717,080 2,635,000 3,190,000	45.240.904 712.553 30.000 30.000	30,000 12,000
500	2011	4,262 7,062 17,269	11,068 12,445 17,618	12,455 19,907 12,509	5,410 7,278 12,114	17,746 20,189 16,796 14,408	395	5%	2,094,564 27,192,692 7,301,697 2,953,571	16,976	43,015,018 2,832,987 427,006 8,192,987	757,006 7,662,993 1,100,005	2,429,998 427,005 29,812,730	0,330,337 2,282,325 9,124,602 4,244	58,723 10,608 63,648	2,399.428 2,306,779 78,261	78,262 78,262 269,699	78,262 78,262 1,403,393	10,372,662 120,000 274,566	200,000	712,144	781,044 781,044 100,000	13,092 106,500 61,500	0 0 0	2,618,435 25,000	150,000 4,146,232 2,470,000	1,245,000 8,790,000 1,415,000	44,422,267 791,511 20,700 20,700	77,000
ocos	Existing Fixed O&M	Carting I was Carry Brown 2 Brown 3 Care During	Coare Ruis Coare Ruis Ghorer Rui G	Ghent 2 Ghent 3 Ghent 4	en River 3 Gen River 4 Genek 1	Mid Crose 2 Mid Crose 3 Mid Crose 3 Timbb Count 1 Timbb Count 1	fyrone 3	Escalation Rate:	ATION		MILL CREEK COMMUN - GENERA HON MILL CREEK-SOZ UNIT 1 MILL CREEK 2 - GENERATION				RSIDE COMMON YS RUN GT 11 YS RUN GT 12				LUSAE CORPORATE FICHOLOGIA ENS KU GENERATION - COMMON TYRONE LIVIT 3 TYRONE COMMON	REEN RIVER UNIT 3 REEN RIVER UNIT 4 IEEN RIVER COMMON	E W BROWN UNIT 1 E W BROWN UNIT 1 E W BROWN UNIT 2	W BROWN UNI 3 W BROWN STEAM UNITS 1,2,3 SCRUBBER W BROWN-EQUIP COM. COMBUSTION TURBINE UNITS 4, 5, 6 & 7	W BROWN COMBUSTION TURBINE UNIT 5  W BROWN COMBUSTION TURBINE DURIT 6  M BROWN COMBUSTION TURBINE UNIT 7	W BROWN COMBUSTION TURBINE UNIT 8 M BROWN COMBUSTION TURBINE UNIT 9	W BKOWN COMBOSINO I DYBBINE DNI 11 RESOWN-EQUIP ALL COMBUSTION TURBINE UNITS W BROWN CT UNIT 9 GAS PIPELINE	W BROWN CT UNITS 5, 8, 9, 10, & 11 HENT UNIT 1 SCRUBBER HENT UNIT 1	GHENT UNIT 3 GHENT UNIT 3 GHENT UNIT 4		

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2025	2,221 2,779 3,950	7,498 6,655 7,802 6,872	4,801 4,826 6,203 7,272 5,320	1 799 425	203,226	226,106	3,649,995	300,129	300,129	7,184,245	317,625 6,254,250	300,129	288,016 290,708	4,247,560	288,016 290,708 0	5,884,136	0 0 1	351,272	6,753,567 339,159 2,518,120	0 1,602,929	234,181 227,452 2,682,316	1,683,681	238,219 231,489 3,219,317	2,196,457	257,061	4,470,975 189,767 1,728,095	5,799,347 201,880 Attachment
2024	2,177 2,725 3,873	7,351 6,525 7,649 6,737	4,707 4,732 6,081 7,129 5,215	1 764 143	199,241	221,672	3,578,426	294,244 315,355	5,921,821 294,244	7,043,378	311,397	294,244	4,139,205 282,368 285,007	4,164,275	282,368 285,007	5,768,761	0 0	344,384	6,621,144 332,509 2,468,745	1,571,499	229,589 222,992 2,629,721	0	233,548 226,950 3,156,193	2,153,389	252,020 1,244,268	4,383,308 186,047 1,694,211	5,685,634
2023	2,134 2,671 3,797	7,207 6,397 7,499 6,605	4,614 4,639 5,962 6,989 5,113	1 720 652	195,335	2,230,178 217,326	3,508,261	5,509,035 288,474 309,172	5,805,707	502,704 6,905,272 288,474	305,291	288,474 305,291	4,058,044 276,832 279,419	4,082,623	276,832 279,419 0	5,655,648 306,585	000	337,631	6,491,318 325,989 2,420,338	1,540,685	225,088 218,620 2,578,158	0	228,968 222,500 3,094,307	2,111,166	247,079	4,297,361 182,399 1,660,991	5,574,151 194,041
2022	2,093 2,619 3,722	7,065 6,271 7,352 6,476	4,524 4,548 5,845 6,852 5,013	1 605 630	191,505	2,186,449 213,065 219,406	3,439,472	5,479,447 282,818 303,110	282,818	6,769,875 282.818	299,305	282,818 299,305	3,978,475 271,404 273,940	4,002,571	271,404	5,544,753	00	331,011	6,364,037 319,597 2,372,880	1,510,476	220,674 214,333 2,527,606	1,586,570	224,479 218,138 3,033,634	2,069,771	242,234 242,234 1,195,952	4,213,099 178,822 1,628,422	5,464,854 190,236
2021	2,052 2,568 3,649	6,927 6,148 7,208 6,349	4,435 4,459 5,731 6,718 4,914	1 662 704	187,750	2,143,577 208,887 215,104	3,372,031	6,352,399 277,272 297,166	5,580,264	6,637,132	293,436	277,272	3,900,465 266,082 268,569	3,924,089	266,082 268,569 0	5,436,032	00	324,521	6,239,252 313,330 2,326,353	1,480,859	216,347 210,130 2,478,045	1,555,461	220,077 213,860 2,974,151	2,029,187	237,484 1,172,502	4,130,489 175,316 1,596,493	5,357,700 186,506
2020	2,011 2,517 3,578	6,791 6,028 7,067 6,224	4,348 4,371 5,518 6,586 4,818	4 620 706	184,068	2,101,546 204,791 210,886	3,305,913	5,227,842 271,836 291,340	5,470,847	6,506,992 271.836	287,683	271,836	3,823,985 260,865 263,303	3,847,146	260,865	5,329,444	00	5,268,069 318,158	6,116,914 307,187 2,280,739	1,451,822	212,105 206,010 2,429,456	1,524,962	215,762 209,667 2,915,835	1,989,399	232,828 1,149,512	4,049,499 171,878 1,565,189	5,252,647
2019	1,972 2,468 3,508	6,658 5,910 6,928 6,102	4,263 4,286 5,508 6,457 4,724	4 607 020	180,459 193,605	2,060,340 200,776 206,751	3,241,091	6,105,728 266,506 285,627	5,363,575	6,379,404 266,506	282,042 5,553,595	266,506 282,042	3,749,005 255,750 258,140	3,771,772	255,750 258,140 0	5,224,945	00	6,145,166 311,919	5,996,975 301,163 2,236,018	1,423,355	207,946 201,971	1.495.061	211,531 205,556 2,858,661	1,950,391	238,563 228,263 1,126,972	3,970,098 168,508 1,534,499	5,149,654
2018	1,933 2,419 3,439	6,527 5,794 6,792 5,982	4,179 4,202 5,400 6,330 4,631	007	176,921 189,809	196,839	261,280	261,280 260,280 280,027	261,280	254,318	276,512	251,280 276,512	3,675,495 250,735 253,078	757,783,8	250,735 253,078	5,122,495	00	5,024,673 305,803	5,879,387 295,258 2,192,175	1,395,446	203,869 198,010 2,335,117	0	207,384 201,525 2,802,609	1,912,148	223,787 223,787 1,104,875	3,892,252 165,204 1 504,411	175,749
2017	1,895 2,372 3,371	6,399 5,680 6,659 5,865	4,097 4,119 5,294 6,206 4,540		173,452 186,087											5,022,054			5,764,105 289,469 2,149,191		199,871 194,128 2,289,331		203,317 197,574 2,747,656			3,815,934 161,965	
2016	1,858 2,326 2,204	4,266 4,239 6,528 5,750	3,814 4,038 5,190 6,085 4,451	0.00	170,051 170,051 182,438	1,941,504 189,195 194,826	2,036,102 167,423	3,835,709 251,134 179,435	3,790,663	197,542 6,011,455 751 134	265,774	251,134	3,532,772 240,999 40,542	0 3,554,169	240,999	4,923,582	00	5,790,727 293,928	5,651,083 283,793 2,107,050	1,341,259	195,952 190,321 2,244,442	1 408 829	199,331 193,700 2,693,781	0,837,897	222,980 215,097 1,061,971	3,741,112 158,789	4,852,634
2015	1,822 539 0	246 246 1,785 695	3,700 3,760 3,817 5,965 1,091	250	1,476,136 166,716 178,861	30,914	000	246,210 0	246,210	0 1,473,396 246,210	65,141 427,555	246,210	3,463,501 236,273 0	0 3,484,479	236,273 39,747	3,620,281	00	5,677,183 288,165	1,385,069	000	000		000	00	200	000	00
2014	1,191 187 0	241 241 241	605 3,648 3,899 0		354,506 108,965 116,903	0 0	0 0	241,382 0	241,382	0 0 0	000	241,382	0 565,932 38,607 0	0 3,416,156	231,640	000	00	3,710,577	0000	000	000	000	000	00	000	000	00
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2015	0 14,831 40,416	83,047 76,195 87,298 77,575	10,680 4,987 85,575 84,653			13,272	0 36,102 4 314	77,531 5,515		0 71,021 5.174	83,412 3,887	73,665 3,910		2,597 5,090	2,992	00	0 0 7	4,367 25,027 19,125	39,335	000	000	80,591	1
2014	10,412 14,673 27,061	63,126 120,778 62,219 57,942	87,725 12,267 116,061 96,919 58,149		8,233 968 1,211	13,174	0 25,851 1 211	55,515 1,211	700	68,713 50,854 1,211	58,482	49,582 3,760	4,600	34,962	959	4,895	1,998 0 0	59,235 6,375	47,908	57,210	33,3/3 1,735 0	4,600 54,244 3 905	5
2013	18,627 14,437 2,131	5,175 111,301 25,980 16,022	47,160 103,560 43,097 171,220 14,902		15,834 931 1,863	6/8,11 0	2,561	4,575	009	5,588 0	19,280	6,700 13,622 0	2,400	12,006	461	47,064	2,747	776 0	36,368	104,519	3,178 0	2,400 14,902	<b>.</b>
2012	14,665 3,314 0	3,550 79,947 4,775 4,405	9,531 58,276 4,655 154,417		13,322	7,522, 0	1,791	, 0	3,550	76,235 0 0	3,712 0 0	4,475 300 0 0 4 405	4,403	9,051	480	31,678	1,681	00	2,331	4,521	51,425 2,674 5,877	00	•
2011	ois 2,045 215 0	4,012 16,229 4,012 4,012	0 12,717 0 33,115		1,830 0 215	00	215		4,012	12,217 0 0	4,012 0 0	4,012 0 0 0 0 0	4,012	000	00	8,703	3,552 462	000	00	1,175	5,651 294 5,651	00	,
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2025	974 1.611 4,012 0 0 7,189 7,226 7,226 7,250 0 0 4,346 4,317 6,841 1,627 1,627 2,332		
2024	955 1,579 3,934 0 0 0 7,048 7,182 7,102 7,107 7,107 6,707 1,595 2,286 0 0 4,232 6,707 1,595 2,286		
2023	936 1,548 3,857 0 0 0 6,910 7,041 6,983 6,968 0 0 0 4,149 4,149 4,149 6,576 6,576 1,554 2,241 0		
2022	918 3,781 0 0 6,774 6,903 6,831 4,008 5,284 6,447 1,533 2,197		
2021	900 1,488 3,707 0 0 6,642 6,767 6,767 6,697 0 4,015 3,988 5,181 6,332 1,503 1,503		
2020	882 1,459 3,634 0 0 6,511 6,635 6,568 6,568 0 3,910 3,910 3,910 3,196 6,196 6,119 6,112		
2019	865 1,430 3,563 0 0 6,384 6,451 6,457 6,437 0 3,859 3,833 4,980 6,075 1,444 1,444		
 2018	848 1,402 3,493 0 0 6,288 6,377 6,337 6,331 0 0 3,788 3,788 3,788 1,416 2,030		
2017	831 1,375 3,425 0 0 6,136 6,252 6,200 6,187 0 3,709 3,685 4,786 5,885 1,388 1,388 1,990		
2016	815 1,348 3,357 0 0 6,015 6,079 6,079 6,066 0 3,636 3,632 3,612 4,692 5,724 1,361 1,951		
2015	799 1,321 3,292 894 969 1,384 6,009 5,960 5,947 452 631 3,565 3,565 1,334 1,334 1,913		
2014	783 1,295 876 950 1,357 1,357 5,891 5,843 5,843 5,843 6,18 6,18 3,495 3,495 1,308 1,308 1,308		Annual Capital (2011 \$) 16,000 3,000 3,000 22,000 1,000 1,000
2013	768 3.164 859 931 1.331 5.766 5.726 5.726 5.716 3.427 3.427 3.427 5.394 1.283 1.040		Amual C
2012	753 1,245 3,102 913 1,304 5,557 5,663 5,616 5,604 4,26 5,604 3,335 1,257 1,257 1,020		8558988F
2011	738 1,221 8,041 895 1,279 5,552 5,506 5,448 5,552 5,506 5,494 417 883 3,293 3,293 3,293 1,233 1,233 1,767	7%	X
\$000 Annual Canital	Brown 1 Brown 2 Brown 3 Cane Run 4 Cane Run 5 Cane Run 6 Ghent 1 Ghent 2 Ghent 3 Green River 4 Mill Creek 1 Mill Creek 2 Mill Creek 4 Trimble County 1 Trimble County 2 Trimble County 2	*75% TC Escalation Rate:	Details of Annual Capital Brown 1 Brown 3 Cane Run 4 Cane Run 5 Cane Run 6 Ghent 1 Ghent 1 Ghent 3 Gren River 4 Mill Creek 1 Mill Creek 2 Mill Creek 2 Trimble County 1 Trimble County 2 Tyrone 3

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August 19, 2011 Supplemental Response to the Initial Interrogatories of Rick Clewett, Drew Foley, Janet Overman, Gregg Wagner, the Natural Resources Defense Council and the Sierra Club Dated July 15, 2011

Case No. 2011-00140

Question No. 1-8

Witness: Charles R. Schram/Counsel

Q-8. Refer to page 8-4 of the Resource Plan. For each of the Companies' coal-fired electric generating units, identify in which years over the life of the Resource Plan the Companies intend to carry out the "target seven-to-eight year cycle for performing major maintenance." List each project the Companies plan to carry out during each such major maintenance, and the cost of each such project.

#### A-8. July 21, 2011 Objection:

The quoted material referenced in the request for information is from a description of information in the Integrated Resource Plan. That material was provided only for informational purposes. The information requested was not used in the development of the Resource Plan in Integrated Resource Plan and therefore is irrelevant to the issues in this proceeding. Without waiver of this objection, Kentucky Utilities Company and Louisville Gas and Electric Company will file an additional response on August 4, 2011.

## August 4, 2011 Response:

The quoted material referenced in the request for information is from a description of information in the Integrated Resource Plan. That material was provided only for informational purposes. The information requested was not used in the development of the Resource Plan in Integrated Resource Plan and therefore is irrelevant to the issues in this proceeding. Without waiver of this objection, Kentucky Utilities Company and Louisville Gas and Electric Company will file an additional response on August 4, 2011.

The maintenance plan incorporated in the Companies' 2011 Integrated Resource Plan is included as an attachment to Question No. 7. The timing of eight week outages (which occur on seven-to-eight year cycles) is indicated in the attachment. The nature and cost of each outage project is not contemplated in the development of the Resource Plan. The timing of planned outages may change. Therefore, the IRP's analysis supporting the 2016 unit retirements was based on average maintenance cost assumptions that were escalated throughout the planning period.

## August 19, 2011 Supplemental Response:

The maintenance plan incorporated in the Companies' 2011 Integrated Resource Plan showing the timing of eight week outages (which occur on seven-to-eight year cycles) was included in the August 4, 2011 response as an attachment to Question No. 7. The Companies routinely perform major and minor maintenance on its units. 'Major' and 'minor' in this context pertain to the length of the outage. Please see the August 19, 2011 Supplemental Response to Question No. 7.

August 19, 2011 Supplemental Response to the Initial Interrogatories of Rick Clewett, Drew Foley, Janet Overman, Gregg Wagner, the Natural Resources Defense Council and the Sierra Club Dated July 15, 2011

Case No. 2011-00140

#### Question No. 9

Witness: Charles R. Schram/Counsel

Q-9. Refer to page 8-6 of the Resource Plan. For each of the Companies' coal-fired electric generating units, identify in which years during the life of the Resource Plan "boiler outages to replace boiler tube sections" have been scheduled.

#### A-9. July 21, 2011 Objection/August 4, 2011 Response:

The quoted material referenced in the request for information is from a description of information in the Integrated Resource Plan. That material was provided only for informational purposes. The information requested was not used in the development of the Resource Plan in Integrated Resource Plan and therefore is irrelevant to the issues in this proceeding.

#### August 19, 2011 Supplemental Response:

Without wavier of the objection, LG&E and KU anticipate conducting boiler outages which will include routine replacement of boiler tubes at each of the coal-fired electric generating units at various times over the 20-year period that is the subject of the Resource Plan. To the extent such outages are presently scheduled by the establishment of the scope and scale of the outage to be preformed and an associated business decision to conduct the outage and incur the cost of the outage, the following information is provided:

Ghent 2	2012	Mill Creek 2	2012
Brown 3	2012	Mill Creek 3	2011
Brown 1	2012	Mill Creek 4	2011
Ghent 3	2011		

August 19, 2011 Supplemental Response to the Initial Interrogatories of Rick Clewett, Drew Foley, Janet Overman, Gregg Wagner, the Natural Resources Defense Council and the Sierra Club Dated July 15, 2011

Case No. 2011-00140

#### Question No. 10

Witness: Charles R. Schram/Counsel

Q-10. Refer to page 8-7 of the Resource Plan. Identify which of the Companies' coal-fired electric generating units have replaced air heater baskets and in what year they did so.

#### A-10. July 21, 2011 Objection/August 4, 2011 Response:

The quoted material referenced in the request for information is from a description of information in the Integrated Resource Plan. That material was provided only for informational purposes. The information requested was not used in the development of the Resource Plan in Integrated Resource Plan and therefore is irrelevant to the issues in this proceeding.

#### August 19, 2011Supplemental Response:

Without wavier of the objection, the information requested is summarized below:

2010	Mill Creek 3
2010	Mill Creek 4
2011	Ghent 1