LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY

Response to Sierra Club's Post-Hearing Request for Information
Dated July 18, 2022

Case No. 2021-00393

Question No. 1

Responding Witness: Lonnie E. Bellar

Q-1. In 2011, this Commission found that the cost per KWh of OVEC's generation compared quite favorably to the Company's generation costs.

a) Is the same true today?

b) Which LG&E/KU units generate electricity that cost $[redacted]/MWh or more? Please produce all documents that confirm your answer.

c) Please provide the total operating costs per MWh for all of the coal fired and gas fired operating units operated by LG&E/KU.

A-1. Certain information included in the responses below is confidential and is being provided under seal subject to the terms of the confidentiality petition filed with the Commission in this proceeding regarding the same subject matter on February 11, 2022, particularly with regard to the request for confidential protection for the Companies' response to Sierra Club 1-17 and its subparts.

a) Yes. The Companies routinely economically dispatch OVEC to serve native load customers. The Companies typically economically dispatch OVEC after their own coal units and Cane Run 7 but before Brown Unit 3 and the Companies' simple-cycle combustion turbines.

Another point of comparison is to the Companies' production costs as presented in their 2020 rate cases. For example, as shown in Exhibit WSS-2 (a copy of which is attached for reference), the total Rate RS generation cost on a per kWh basis for KU is $75.36/MWh and $80.89/MWh for LG&E. The total cost of OVEC on a per MWh basis value cited by Sierra Club is lower than those values and consists of comparable components.

In addition, as the Companies demonstrated in their comments filed in this proceeding, only NGCC without CCS could consistently produce the same production profile as OVEC at a lower LCOE than OVEC itself:

Table 4: LCOE ($/MWh)

Generation Resource	Generation Profile				
	Dispatchable			Non-Dispatchable	
	NGCC 85% Capacity Factor	Coal 58% Capacity Factor	SCCT 9% Capacity Factor	Solar 26% Capacity Factor	Wind 28% Capacity Factor
Renewable Portfolio 1	310	360	562	28	533
Renewable Portfolio 2	183	246	522	28	43
NGCC	35-52	43-60	187-204	77-94	73-90
NGCC with CCS	63-82	81-101	390-409	153-172	145-164
SCCT	42-68	49-75	162-188	75-101	72-98
OVEC[55]	48-49	56-61	198-259	89-105	84-100

This is consistent with the Companies' economic dispatch of OVEC typically after its NGCC unit and most (if not all) of its coal units but before dispatching most CT units.

Moreover, OVEC's current energy component charges and near-term projected energy component charges shown in the confidential attachment 11 to the Companies' response to SC 1-17, which attachment Sierra Club discussed at the hearing in this proceeding, are actually ***significantly lower*** than the projected energy component charges for the same years when the Commission approved extending the ICPA in 2011. The Companies provided a projection of OVEC costs for 2010 through 2040 in response to PSC 1-10 in Case Nos. 2011-00099 and 2011-00100, which is attached hereto for reference.[1] The table below compares the OVEC energy component charges projected for the years 2022-2026 in those cases and those cited by Sierra Club in this proceeding:

Comparison of OVEC Energy Component Projections (2011 vs. 2021)

Over Five-Year Period 2022 - 2026

Case No.	2022 ($/MWh)	2023 ($/MWh)	2024 ($/MWh)	2025 ($/MWh)	2026 ($/MWh)
2011-0099 & 2011-00100	37.64	38.77	39.93	41.13	42.36
2021-00393	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

Likewise, OVEC's projected total costs per MWh are actually ***lower*** than projected in 2011 when spread over the same number of MWh. For example,

[1] The projections were confidential at the time but are now sufficiently dated that they do not need to remain confidential.

using 8,750,000 MWh, which ties to the $[redacted]/MWh value cited by Sierra Club in part b of this request for the year 20[redacted]e 2011 projected total OVEC billable cost for 2022 over 8,750,000 MWh would have been much higher: $121.26/MWh. In other words, OVEC is significantly more economical today than the Companies projected in 2011 when the Commission approved extending the ICPA.

Therefore, both relative to the projections on which the Commission approved the ICPA extension in 2011 and compared to current costs, OVEC remains a cost-effective energy source for the Companies' customers.

b) The Companies' Haefling CTs have fuel costs greater than $[redacted]/MWh. See IRP Vol. I Tables 8-6 and 8-7. Also, as the attachment to par[redacted]elow shows, a number of the Companies' CTs have average production costs greater than $[redacted]/MWh.

But the requested comparison is unreasonable and misleading; it asks the Companies to compare the average cost of OVEC (i.e., spreading all OVEC costs, fixed and otherwise spread over a relatively small number of MWh) to the cost of the Companies' units to "generate electricity," which is a purely variable cost that excludes capital cost and fixed O&M cost. That is an apples-to-oranges comparison at best. Even comparing the Companies' average production costs to the average cost of OVEC is not truly apples-to-apples because it includes OVEC costs not included in the Companies' average production cost calculations.

A more apt comparison is the one presented in the response to part a. above, namely comparing the Companies' total generation cost on a per kWh (or MWh) basis to OVEC's total cost on the same energy basis. Such a comparison shows OVEC to be an economical component of the Companies' total generation mix.

c) See attachment provided in Excel format for the variable (fuel) and production (variable and fixed operating and maintenance) costs per MWh by generating coal fired and gas fired units and Company.[2] OVEC's comparable costs are $[redacted] per MWh for variable-only costs and a range between $[redacted] and $[redacted] per MWh including fixed operating and maintenance costs, using the range of energy generation assumed in OVEC's forecast shown in Attachment 11 to SC 1-17.

[2] Figures provided exclude the associated capital costs including depreciation and the return on capital.