COMMONWEALTH OF KENTUCKY BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:	
ELECTRONIC 2021 JOINT INTEGRATED RESOURCE PLAN OF LOUISVILLE GAS AND ELECTRIC COMPANY AND KENTUCKY) CASE NO. 2021-00393
UTILITIES COMPANY)

RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY AND
KENTUCKY UTILITIES COMPANY TO
KENTUCKY INDUSTRIAL UTILITY CUSTOMERS, INC.
POST HEARING REQUESTS FOR INFORMATION
DATED JULY 18, 2022

FILED: AUGUST 8, 2022

VERIFICATION

MMONWEALTH OF KENTUCKY) (
)
COUNTY OF JEFFERSON)

The undersigned, **Stuart A. Wilson**, being duly sworn, deposes and says that he is Director, Energy Planning, Analysis & 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.

Stuart A. Wilson

Subscribed and sworn to before me, a Notary Public in and before said County and State, this 2NA day of ANAST 2022.

Notary Public ID No.

My Commission Expires:

LOUISVILLE GAS AND ELECTRIC COMPANY KENTUCKY UTILITIES COMPANY

Response to Kentucky Industrial Utility Customers, Inc.
Post Hearing Request for Information
Dated July 18, 2022

Case No. 2021-00393

Question No. 3-1

Responding Witness: Stuart A. Wilson

- Q.3-1 Please provide the present value revenue requirements by year of the IRP Preferred Plan compared to the present value revenue requirements of the Plan discussed at the hearing where a natural gas combined cycle plant without CCS replaces the combustion turbine peaking units.
- A.3-1 The table below shows a comparison of the optimal generation portfolios, present value revenue requirements ("PVRR"), annual nominal revenue requirements, and CO₂ emissions in the Base Load, Base Fuel scenario. The optimal portfolios are consistent with the Companies' response to Commission Staff's Second Request for Information, Question No. 1. The revenue requirements for the scenario in which NGCC requires CCS are consistent with the Companies' update in JI 2-35 to Table 9-1 in Volume I. The CO₂ emissions for the scenario in which NGCC requires CCS are consistent with the Companies' response to JI 2-54.

Optimal Portfolios, Revenue Requirements, and CO₂ Emissions (Base Load, Base Fuel Prices)

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			Revenue Requirements		CO ₂ Emissions		
	Optimal	Portfolios	(\$M)		(million sl	(million short tons)	
		NGCC		NGCC		NGCC	
	NGCC	Does Not	NGCC	Does Not	NGCC	Does Not	
	Requires	Require	Requires	Require	Requires	Require	
Year	CCS	CCS	CCS	CCS	CCS	CCS	
PVRR			3,809	3,729			
2022			1,028	1,028	29.0	29.0	
2023			1,010	1,010	29.3	29.3	
2024			1,001	1,001	29.4	29.4	
2025			1,016	1,016	28.3	28.3	
2026			1,045	1,045	28.2	28.2	
2027			1,083	1,083	27.9	27.9	
2028	440 MW SCCT 500 MW Solar	513 MW NGCC	1,178	1,176	26.6	25.7	
2029			1,179	1,177	26.1	25.2	
2030			1,195	1,196	26.0	25.1	
2031			1,218	1,217	26.0	25.1	
2032			1,244	1,247	26.3	25.3	
2033			1,277	1,280	26.0	25.1	
2034	880 MW SCCT 1,600 MW SCCT	1,026 MW NGCC	1,522	1,485	21.2	20.2	
2035	100 MW Battery		1,499	1,479	21.4	20.5	
2036	100 MW Battery	100 MW Battery	1,548	1,527	21.5	20.3	