Exhibit No.:	
Issue(s):	Big Hollow CTG
Witness:	Christopher A. Stumpf
Type of Exhibit:	Surrebuttal Testimony
Sponsoring Party:	Union Electric Company
File No.:	EA-2025-0238
Date Testimony Prepared:	January 16, 2026

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. EA-2025-0238

SURREBUTTAL TESTIMONY

OF

CHRISTOPHER A. STUMPF

ON

BEHALF OF

UNION ELECTRIC COMPANY

D/B/A AMEREN MISSOURI

St. Louis, Missouri
January, 2026

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OF

CHRISTOPHER A. STUMPF

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I. INTRODUCTION AND PURPOSE OF TESTIMONY

Q. Please state your name and business address.

A. My name is Christopher A. Stumpf. My business address is One Ameren Plaza, 1901 Chouteau Ave., St. Louis, Missouri.

Q. By whom and in what capacity are you employed?

A. I am employed by Union Electric Company, d/b/a Ameren Missouri ("Company" or "Ameren Missouri"), as Vice President – Engineering, Design and Project Management. My responsibilities and those of my work groups include planning and budgeting capital projects, preparing design and procurement specifications associated with such projects, preparing requests for proposals ("RFP") to be sent out for bids, evaluating bids and selection of vendors, and supervising the construction of capital projects.

Q. Are you the same Christopher A. Stumpf that submitted direct testimony in this case?

A. Yes, I am.

Q. To what testimony or issues are you responding?

A. I am responding to the Staff Rebuttal Report's discussion of in-service criteria for the combustion turbine units to be installed at the Big Hollow site. I will also

respond to certain inaccurate or otherwise off-base statements made in the rebuttal testimony of Office of the Public Counsel ("OPC") witness Dr. Geoffrey Marke.

II. IN-SERVICE CRITERIA ISSUES

Q. Staff witness Shawn Lange took issue with the in-service criteria relating to the combustion turbine generator ("CTG") units themselves (I will address issues relating to the selective catalytic reductions ("SCRs") below) attached to your direct testimony. How do you respond?

A. An incorrect draft of the in-service criteria was attached to my direct testimony that did not take into account the criteria previously agreed upon for the Castle Bluff project. The Company agrees that the in-service criteria that were agreed upon for the Castle Bluff units are appropriate. Those criteria are attached as Schedule 2, page 1, to the Staff Rebuttal Report (and are also set forth in Schedule CS-S1 to this testimony) and we agree with them. We have been in communication with the Staff, and it is my understanding that Staff also agrees that those criteria are appropriate, so there is no disagreement on this point. It is my understanding that Mr. Lange will file surrebuttal testimony confirming our agreement.

Q. You mentioned in-service criteria for the SCR units. Where does that issue stand.

A. Staff has confirmed that Staff is in agreement with the SCR in-service criteria which are also included in Schedule CS-S1 and is no longer advocating for adoption of the criteria that appear in Schedule 2, page 2, of the Staff Rebuttal Report. It is my understanding that Staff witness Arandia will file surrebuttal testimony confirming Staff's agreement to the criteria in Schedule CS-S1.

Q. Staff indicated its observation that the Company had not adequately explained why construction of a combined cycle plant is not a viable alternative to capacity-only resources. Could such a plant substitute for the Big Hollow projects?

A. No. Development and construction of a combined cycle plant currently takes at least 7 years to place into commercial operation. We launched development efforts and have recently secured the required engines but even if all goes well, we cannot practically complete such a facility until 2031. As Company witnesses Michels and Meyers' testimonies indicate, we have significant capacity needs well before then. For these same reasons, we would not have been able to reuse the Rush Island site's existing interconnection rights had we located a combined cycle plant there.

III. RESPONSE TO OPC

Q. To what statements made by Geoff Marke are you responding?

A. On page 14 of Geoff Marke's rebuttal testimony, he states that increased costs between the Castle Bluff and Big Hollow CTG projects can "almost entirely be attributed" to "a run on the natural gas market." Dr. Marke bases his comment on an article pertaining to GE Vernova sales growth and particularly cites (with added bolded emphasis) the interest of data centers in GE Vernova's aeroderivative models.

Q. Is Dr. Marke's statement accurate?

A. No, it is not. First, while it is generally true that the markets for labor, materials and equipment are more constrained, the article he cites has no application to Big Hollow units. The Big Hollow units are not GE Vernova aeroderivative model units. Instead, as I explained in detail in my direct testimony, Ameren Missouri has selected GE

Vernova F class frame units. As I also discussed in my direct testimony, the F class frame units were specifically selected for their proven, robust reliability and larger capacity to serve all Ameren Missouri customers, especially given the intended operation of this particular plant. These units are a sound and essential investment to meeting the region's capacity needs and represent less than 20% of the overall project cost estimate.

Q. Then what are the material differences between the cost of the similar Castle Bluff plant and the CTG plant to be built at Big Hollow?

A. The key differences are the need for SCR equipment to meet air quality requirements at the Rush Island site (which were not an issue for Castle Bluff) and the cost of a new gas supply line (a much more extensive lateral connection than was required for Castle Bluff). There is also some increase in cost due to site civil work requirements at the former Rush Island site, there was some increase in the cost of the engines themselves, and it is true that the contractor labor market conditions are tighter now than when contracts for Castle Bluff were entered into. It is these factors that account for the majority of the difference between the Castle Bluff and Big Hollow projects. Overall global market demand on materials and labor continue to rise, but while data center demand may be a contributing factor to these overall global market demands, the other factors noted above are more impactful in terms of the cost of Big Hollow versus Castle Bluff.

Q. Are there other statements made by Dr. Marke to which you wish to respond?

A. Yes. Dr. Marke asserts on page 15 of his rebuttal testimony that the Big Hollow energy center will use "older, smaller aeroderivative models." As earlier noted, we are not using aeroderivative models at all, but it appears that Dr. Marke's reference to

"smaller" and "older" might be meant to imply that the technology we selected is somehow insufficient and that higher capacity "advanced class" turbine models should have been selected. As I stated in my direct testimony, Ameren Missouri can identify very few advanced class engines in simple cycle service to evaluate the reliability of these newer engines especially given the planned operation of the Big Hollow units, while there are hundreds of "F" class engines in operation. From a reliability point of view, which is paramount in my opinion, it would not have been prudent to add risk to the CTG Project by selecting newer technology without sufficient historical performance data for engine starting reliability and maintenance while operating in long-term high cycling operation, as will be the case for the Big Hollow simple cycle CTG installation.

In addition to the proven reliability for the intended operation of this plant, the selected F class engines will have greater operational flexibility and turn-down capability for the high cycling application for which they are intended. Dr. Marke's suggestion that more expensive, larger capacity, and less flexible engines should be used, does not properly take into account the intended operation of the Big Hollow facility. Put simply, the added cost of such units could not be justified for this particular installation, even if we had confidence in their reliability for this type of use, which we don't.

Q. Does this conclude your surrebuttal testimony?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Permission and Approval and Certificate of Public Convenience and Necessity Authorizing it to Construct a New Generation Facility and Battery Energy Storage System	)))))	File No.: EA-2025-0238

AFFIDAVIT OF CHRISTOPHER A. STUMPF

STATE OF MISSOURI)
) ss
CITY OF ST. LOUIS)

Christopher A. Stumpf, being first duly sworn on his oath, states:

My name is Christopher A. Stumpf, and hereby declare on oath that I am of sound mind and lawful age; that I have prepared the foregoing *Surrebuttal Testimony*; and further, under the penalty of perjury, that the same is true and correct to the best of my knowledge and belief.

/s/ Christopher A. Stumpf
Christopher A. Stumpf

Sworn to me this 16th day of January 2026.

Combustion Turbine Unit In-Service Test Criteria
(Nameplate Capacity of ≥ 95 MW)

1. All major construction work is complete.
2. All preoperational tests have been successfully completed.
3. Unit successfully meets all contract operational guarantees.
4. Unit successfully demonstrates its ability to initiate the proper start sequence resulting in the unit operating from zero (0) rpm (or turning gear) to full load when prompted at a location (or locations) from which it is normally operated.
5. If unit has fast start capability, the unit demonstrates its ability to meet the fast start capability.
6. Unit successfully demonstrates its ability to initiate the proper shutdown sequence from full load resulting in zero (0) rpm (or turning gear) when prompted at a location (or locations) from which it is normally operated.
7. Unit successfully demonstrates its ability to operate at minimum load for one (1) hour.
8. Unit successfully demonstrates its ability to operate at or above 95% of nominal capacity for four (4) continuous hours.
9. Unit successfully demonstrates its ability to produce an amount of energy (MWh) within a 72 hour period that results in a capacity factor of at least 50% during the period when calculated by the formula: capacity factor = (MWh generated in 72 hours) / (nominal capacity x 72 hours).
10. Sufficient transmission interconnection facilities shall exist for the total plant design net electrical capacity at the time the unit is declared fully operational and used for service.
11. Sufficient transmission facilities shall exist for the total plant design net electrical capacity from the generating station into the utility service territory at the time the unit is declared fully operational and used for service.
12. If unit has dual fuel capability, the unit successfully demonstrates its ability to start on the back up/secondary fuel as described in Item No. 4.
13. If unit has dual fuel capability, the unit successfully demonstrates its ability to transfer between the two fuels while on line.

SCR In-Service Test Criteria

1. All major construction work is complete.
2. All preoperational tests have been successfully completed.

3. Unit successfully meets all contract operational guarantees.
4. The equipment shall be operational and demonstrate its ability to operate at a NO_x reduction to 2 ppmvd at 15% O_2 or less over a continuous four (4) hour period while the generating unit is operating at or above 95% of its design load.
5. The equipment shall also demonstrate its ability to operate at a NO_x reduction of less than or equal to or less than 2 ppmvd at 15% O_2 over a continuous four (4) hour period while the generating unit is operating at or above 80% of its design load.
6. Continuous emission monitoring systems (CEMS) are operational and demonstrate the capability of monitoring the NO_x emissions to satisfy the parameters listed in items four (4) and five (5) above.