BEFORE THE

LOUISIANA PUBLIC SERVICE COMMISSION

APPLICATION OF ENTERGY LOUISIANA, LLC FOR APPROVAL OF GENERATION AND TRANSMISSION RESOURCES PROPOSED IN CONNECTION WITH SERVICE TO A SIGNIFICANT CUSTOMER PROJECT IN NORTH LOUISIANA, INCLUDING PROPOSED RIDER, AND REQUEST FOR TIMELY TREATMENT	)	**DOCKET NO. U-_____**

DIRECT TESTIMONY

OF

JEREMY HALLAND

ON BEHALF OF

ENTERGY LOUISIANA, LLC

PUBLIC REDACTED VERSION

OCTOBER 2024

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EXHIBIT LIST

I. INTRODUCTION AND BACKGROUND

Q1. PLEASE STATE YOUR NAME AND CURRENT BUSINESS ADDRESS.

A. My name is Jeremy Halland. My business address is 2107 Research Forest Drive, Suite 300, The Woodlands, Texas 77380. I am Manager of Environmental Project Services, including new capital projects, at Entergy Services, LLC ("ESL")[1]—the service company affiliate of Entergy Louisiana, LLC ("ELL" or "the Company").

Q2. ON WHOSE BEHALF ARE YOU FILING THIS DIRECT TESTIMONY?

A. I am submitting this Direct Testimony to the Louisiana Public Service Commission ("Commission" or "LPSC") on behalf of ELL.

Q3. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I earned a Bachelor of Science degree in Meteorology from the University of Oklahoma in May 2005, and a Master of Science in Meteorology from Florida State University in July 2007. My professional experience prior to joining ESL includes approximately four years as a Project Consultant for Jim Clary and Associates, an environmental consulting firm; two years as a Senior Air Quality Specialist at Providence, an engineering and environmental consulting firm; five years as a Senior Environmental

[1] ESL is an affiliate of the Entergy Operating Companies that provides engineering, planning, accounting, legal, technical, regulatory, and other administrative support services to each of the Entergy Operating Companies ("EOCs"). The EOCs are Entergy Arkansas, LLC; Entergy Louisiana, LLC; Entergy Mississippi, LLC; Entergy New Orleans, LLC; and Entergy Texas, Inc.

Specialist at Luminant; three years as Director of Environmental Compliance at Enchanted Rock; and two years as a Senior Compliance Specialist at Kinder Morgan.

Q4. PLEASE DESCRIBE YOUR CURRENT RESPONSIBILITIES.

A. I assumed my current position as Manager of Environmental Project Services at ESL in November 2023. In this role, I oversee the environmental permitting for new power generation facilities with an emphasis on large capital projects. I track federal and state environmental regulatory developments affecting electric utility generators and develop and communicate permitting compliance plans. My career has included significant experience with air permitting and compliance, along with other environmental program areas including surface water, solid waste, and hazardous waste issues.

Q5. HAVE YOU PREVIOUSLY TESTIFIED BEFORE A REGULATORY COMMISSION?

A. Yes. Attached as Exhibit JH-1 is a list of my prior testimony.

Q6. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. My testimony supports ELL's application for approval of, among other things, three new Combined Cycle Combustion Turbine ("CCCT") generators required to serve a new, [redacted] in Richland Parish (the "Project"), as fully described by Company Witnesses Laura Beauchamp and Matt Bulpitt. Two of the CCCTs will be located next to the Customer's site ("Unit 1 and Unit 2"), and one will

be located at a to-be-determined location in the Southeast Louisiana Planning Area ("Unit 3"). I explain the required environmental permits and the Company's compliance efforts with respect to Units 1, 2, and 3.

Q7. HAVE YOU OFFERED ANY EXHIBITS WITH YOUR TESTIMONY?

A. Yes. I have offered JH-1.

II. REQUIRED PERMITS

Q8. PLEASE DESCRIBE THE VARIOUS REGULATORY OVERSIGHT REQUIREMENTS THAT WILL APPLY TO THE SITES.

A. The sites for Units 1, 2, and 3 will be subject to permitting and regulatory oversight by the Commission, the Richland Parish Police Jury, Louisiana Department of Environmental Quality ("LDEQ"), Louisiana Department of Energy and Natural Resources ("LDNR"), the United States Environmental Protection Agency ("EPA"), and the United States Army Corps of Engineers ("USACE"). The LDEQ is primarily responsible for implementing the various federal and state environmental laws applicable to the sites of the CCCTs, such as the Clean Air Act ("CAA"), the Clean Water Act ("CWA"), the Resource Conservation and Recovery Act, and the Louisiana Environmental Quality Act. The EPA is responsible for oversight to ensure that the LDEQ properly implements federal law through federally enforceable state implementation plans, regulations, and permits. The LDNR and USACE are responsible for approving construction standards in navigable waterways relating to navigation safety, fill, dredge, and preservation of jurisdictional wetlands. All of the

environmental issues associated with the construction and operation of Units 1, 2, and 3 would be subject to regulatory requirements imposed and administered by the LDEQ, EPA, USACE, and LDNR in consultation with other state and federal agencies, as required.

a. Air Quality Permits

Q9. WHAT ARE THE PERMITTING REQUIREMENTS ASSOCIATED WITH AIR EMISSIONS FROM THE THREE PROPOSED CCCTS?

A. Because each of the CCCTs sites will be a "major stationary source," as defined under the CAA, the units will be subject to multiple regulations. In particular, the CCCTs will be subject to:

- National Ambient Air Quality Standards ("NAAQS") and Prevention of Significant Deterioration ("PSD") rules;
- Applicable federal New Source Performance Standards ("NSPS") associated with Greenhouse Gas Emissions from new combustion turbines, stationary combustion turbines, and stationary compression ignition or reciprocating internal combustion engines;
- Compliance with federal requirements associated with hazardous air pollutants; and
- Other regulatory requirements associated with air emissions, including continuous monitoring, emissions market allowance obligations, and greenhouse gas emission regulations.

The Company will obtain a PSD Air Permit Title V (Part 70), Operation Permit, and an Acid Rain Permit for the CCCTs encompassing each of the requirements listed above, issued by the LDEQ.

Q10. WILL THE THREE CCCTS BE DESIGNED TO MEET THE BEST AVAILABLE CONTROL TECHNOLOGY REQUIREMENTS?

A. Yes. The CCCTs will employ state-of-the-art emission reduction controls. The units will include Selective Catalytic Reduction ("SCR") and dry low nitrogen oxide ("NOx") combustors to reduce NOx emissions and an Oxidation Catalyst for the control of carbon monoxide ("CO") and volatile organic compound ("VOC") emissions.

In summary, the Company has evaluated control technology performance and costs and selected controls that will meet BACT standards for all affected pollutants (including greenhouse gas pollutants). The controls selected will be in the BACT analysis included in the PSD pre-construction permit application that will be submitted to the LDEQ for Unit 1 and Unit 2 in the near future. ELL will submit a permit application for Unit 3 after a final determination of the site.

Q11. WHEN THE EPA'S PHASE 2 CO_2 EMISSION STANDARD GOES INTO EFFECT ON JANUARY 1, 2032, WHAT IMPACT—IF ANY—WILL IT HAVE ON THE CCCTS?

A. Pursuant to Section 111 of the federal Clean Air Act, the EPA has recently published a new source performance standard ("NSPS") under 40 CFR Part 60 Subpart TTTTa that

applies to fossil fuel-fired electric generating units, including the three CCCTs proposed in this application. This EPA rule imposes a Phase 2 CO_2 emission standard based on the application of CCS for new baseload CCCTs beginning on January 1, 2032. The EPA rule is currently subject to a legal challenge, but ELL's project management and design will allow it to comply with the regulation as written.

As further explained in the Direct Testimony of Company witness, Matthew Bulpitt, Units 1, 2 and 3 will be CCS-enabled. When the EPA's Phase 2 CO_2 emission standard becomes effective, the ability of the CCCTs to generate electricity at full capacity will be limited to a significant degree if CCS technology has not been integrated into the units' operation. Implementing CCS capabilities would reduce the CO_2 emissions from the CCCTs' operation by approximately 95%. With these emission reductions, the CCCTs would be able to operate at full capacity and generate at maximum output and still comply with the just-finalized NSPS TTTTa.

b. Water Quality

Q12. WHAT WATER QUALITY REGULATIONS WILL APPLY TO THE THREE NEW CCCTS?

A. The LDEQ has been delegated enforcement and permitting authority under the CWA, as with the CAA. All industrial facilities that discharge wastewater and some that discharge storm water into waters of the State of Louisiana must obtain a discharge permit under the Louisiana Pollutant Discharge Elimination System ("LPDES"). The LPDES permit is the state counterpart to the CWA's National Pollutant Discharge Elimination System ("NPDES") permit. These permits require treatment or

management of wastewater and/or storm water prior to discharge to maintain designated water quality criteria. A LPDES permit application authorizing discharges from the CCCTs will be submitted for Unit 1 and Unit 2 to the LDEQ in 2025. ELL will submit a permit application for Unit 3 after a final determination of the site.

Q13. WHAT OTHER WATER QUALITY REQUIREMENTS MAY BE APPLICABLE TO THE CCCTS?

A. A construction storm water discharge permit from the LDEQ to authorize storm water discharges from the construction area during construction of the CCCTs will also need to be obtained.

Q14. ARE THERE POTENTIAL ENVIRONMENTAL EFFECTS RELATED TO WATER QUALITY ASSOCIATED WITH THE THREE NEW CCCTS (E.G. USE OF SURFACE AND SUBSURFACE WATER RESOURCES FOR PROCESS USE AND DISCHARGE OF TREATED WASTEWATER, HEATED COOLING WATER, AND STORM WATER TO RECEIVING STREAMS)?

A. Yes. Typical water quality effects for power projects include the use of surface or subsurface water resources for process use and the discharge of treated wastewater, heated cooling water, and storm water to receive streams.

Q15. HOW DOES ELL PROPOSE TO ADDRESS THESE POTENTIAL WATER QUALITY EFFECTS?

A. The LPDES permitting process is predicated on the requirement that discharges from a permitted facility comply with the State's water quality standards. A LPDES permit cannot be issued if it would allow a facility to cause or contribute to violations of water quality standards. The issuance of this permit, and ELL's continued compliance, will minimize any water quality impacts. The CCCTs are being designed in accordance with all water discharge regulatory requirements.

c. Other Issues

Q16. HAS ELL ANALYZED ANY OTHER ENVIRONMENTAL ISSUES WITH RESPECT TO THE THREE CCCTS (*E.G.*, HISTORICAL AND ARCHAEOLOGICAL SITES, IMPACTS ON ENDANGERED SPECIES)?

A. The Company has analyzed information regarding the CCCTs' potential effect upon archaeological and historical resources and threatened and endangered species. The use of the agricultural site for Unit 1 and Unit 2 offers environmental advantages over other greenfield development in these areas. The site for Unit 1 and Unit 2 does not require vegetation clearing, as it consists of active farmland, and impacts to endangered species are not expected. The wetland delineation of the entire property has been completed and identified multiple wetland and canal features within the site's footprint which will require permitting with the U.S. Army Corps of Engineers. In September 2024, a Phase I Cultural Resources intensive pedestrian survey was completed for the Unit 1 and Unit 2 area. There were no cultural resources identified.

The site selection for Unit 3 has not been determined and, therefore, any potential issues associated with endangered species, cultural resources, and wetlands are not yet known; however, once a site for Unit 3 is selected, ELL will perform an analysis similar to the analysis completed for Unit 1 and Unit 2.

Q17. ARE THERE ANY U.S. ARMY CORPS OF ENGINEERS PROJECTS THAT MIGHT BE APPLICABLE TO THE CCCTS?

A. There are no U.S. Army Corps of Engineers projects near the Unit 1 and Unit 2 area that would necessitate the submittal of a Section 408 authorization request. If the Unit 3 location is near an affected USACE project, ESL on behalf of ELL will submit the required authorization request(s) as applicable to the site.

Q18. WHAT USACE PERMITTING MAY APPLY?

A. The CCCT sites require issuance of a Section 404 Individual Permit from the USACE prior to construction. The application was filed by the current landowner, [redacted], in June 2024 for the landowner's footprint which includes the land where Unit 1 and Unit 2 are to be located. The Permit is anticipated to be received in Q1 2025. Wetland mitigation credits will be required to offset the permanently impacted wetland areas.

The site location for Unit 3 has not been determined, and a delineation of the site for wetlands has yet to be completed. Wetland areas will be avoided where feasible, and an appropriate permit will be acquired under Section 404 for permanent impacts.

Q19. WILL THE NEW CCCTS UNREASONABLY IMPAIR VISIBILITY OR VEGETATION?

A. No. In addition to the NAAQS and PSD analysis described earlier, two other air quality modeling impact analyses are being conducted and are anticipated to show negligible impact on other air quality related values. The EPA and the LDEQ require both an Additional Impact Analysis and a Class I Area Analysis be conducted in certain circumstances.

The Additional Impact Analysis is conducted to determine the impairment to visibility and the effects on soils and vegetation. Impacts due to commercial, residential, industrial, and other growth in the vicinity of the CCCTs also must be addressed to the extent they are a result of the proposed action. This analysis is currently being completed for review by the LDEQ. It is anticipated that the results of this analysis will demonstrate that the CCCTs will not have a negative effect on the surrounding area.

The PSD program also requires a more extensive analysis of the air quality related value effects associated with the emissions in "Class I Areas," such as national parks and wilderness areas. This analysis is subject to review by the U.S. Fish and Wildlife Service. There are no Class I Areas within 100 kilometers of the facility. Therefore, a Class I Area Analysis is not anticipated.

Q20. WHAT IS THE STATUS OF PERMITS FOR THE NEW CCCTS?

A. The primary environmental permits include: PSD/Title V air operating permit and Section 404 permit. The Company is developing the air permit application for Units 1

and 2 and anticipates filing the application with LDEQ in November 2024. The air permit for the units addresses the air emissions for the following pollutants: particulate matter ("PM"), including PM with a diameter of 10 microns or less ("PM_{10}") and 2.5 microns or less ("$PM_{2.5}$"), NO_X, carbon monoxide ("CO"), VOC, ammonia ("NH_3"), sulfur dioxide ("SO_2"), sulfuric acid mist ("H_2SO_4"), HAP, and GHG. The wastewater permits will address wastewater discharge with respect to evaporative cooler blowdown, HRSG blowdown, low-volume wastewater, chemical cleaning wastewater, and storm water. The wastewater permit applications will be filed in 2025.

The Section 404 Individual Permit application was filed by the current landowner, [redacted], in June 2024 for the landowner's footprint which includes the land where Unit 1 and Unit 2 are to be located. The Individual Permit is anticipated to be received in Q1 2025. Additional permits are being tracked but are not critical for commencement of construction.

III. CONCLUSION

Q21. PLEASE SUMMARIZE YOUR TESTIMONY.

A. ELL has thoroughly investigated the impact of construction of the CCCTs on community values as it relates to land use, natural resources, and environmental integrity of the surrounding area. The review did not identify any significant issues associated with its construction or operation. ELL will operate in accordance with all applicable environmental regulatory permitting requirements imposed and administered by local, state, and federal agencies during construction and commercial operation.

Q22. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, at this time.

AFFIDAVIT

STATE OF TEXAS

COUNTY OF MONTGOMERY

NOW BEFORE ME, the undersigned authority, personally came and appeared, **Jeremy Halland**, who after being duly sworn by me, did depose and say:

That the above and foregoing is his sworn testimony in this proceeding and that he knows the contents thereof, that the same are true as stated, except as to matters and things, if any, stated on information and belief, and that as to those matters and things, he verily believes them to be true.

Jeremy Halland

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 10th **DAY OF** Oct. **2024**

CINDY A. LOWREY
My Notary ID # 133216269
Expires July 16, 2025

CAL

NOTARY PUBLIC

My commission expires: 7-16-2025

Listing of Previous Testimony Filed by Jeremy Halland

DATE	TYPE	JURISDICTION	DOCKET NO.
June 5, 2024	Direct Testimony	PUCT	PUC No. 56693
July 6, 2024	Direct Testimony	PUCT	PUC No. 56865