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**SOAH DOCKET NO. 473-25-11558
PUC DOCKET NO. 57579**

APPLICATION OF CENTERPOINT	§	BEFORE THE STATE OFFICE
ENERGY HOUSTON ELECTRIC, LLC	§	
FOR APPROVAL OF ITS 2026-2028	§	OF
TRANSMISSION AND DISTRIBUTION	§	
SYSTEM RESILIENCY PLAN	§	ADMINISTRATIVE HEARINGS

DIRECT TESTIMONY OF GNANAPRABHU GNANAM

ON BEHALF OF

ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.

April 8, 2025

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APPLICATION OF CENTERPOINT ENERGY HOUSTON ELECTRIC, LLC FOR APPROVAL OF ITS 2026-2028 TRANSMISSION AND DISTRIBUTION SYSTEM RESILIENCY PLAN	§ § § § §	BEFORE THE STATE OFFICE OF ADMINISTRATIVE HEARINGS
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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Gnanaprabhu Gnanam. My business address is 2705 West Lake Drive, Taylor, Texas 76574.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Electric Reliability Council of Texas, Inc. (ERCOT) as Director of Grid Planning.

Q. PLEASE DESCRIBE YOUR ROLE AT ERCOT.

A. In my current role as director of Grid Planning, I work in ERCOT's Grid Planning Department and am responsible for all aspects of near-term and long-term transmission planning and analysis. I have worked at ERCOT for more than 14 years.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE AND EXPERIENCE PRIOR TO JOINING ERCOT.

A. I have over 28 years of experience in the electric industry, which includes experience in transmission planning, system operations, generator interconnections, and power system software development. Prior to joining ERCOT, I was employed by American Transmission Company LLC (ATC) for nine years. My work at ATC focused primarily on transmission planning, generator interconnection, and operations planning analysis.

Before my employment with ATC, I worked for CYME International T&D and Powertech Labs Inc.—BC Hydro in Canada, during which time I performed power system planning studies and developed power system analysis software.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. My educational background is in electrical engineering. I hold a Bachelor of Engineering in Electrical & Electronics Engineering from Bharathiar University (India) and a Master of Engineering in Electrical Engineering from Memorial University of Newfoundland (Canada). I am a registered Professional Engineer (Wisconsin).

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE ANY REGULATORY AGENCY?

Yes, I submitted written testimony to the Public Utility Commission of Texas (“PUC” or “Commission”) in Docket No. 53529, *Application of the City of Lubbock, Acting by and through Lubbock Power & Light, for Authority to Connect the Remaining Portion of its Load with the Electric Reliability Council of Texas and for Approval of Settlement Agreement*. I also submitted written testimony to the State Office of Administrative Hearings in connection with PUC Docket No. 56548, *Application of CenterPoint Energy Houston Electric, LLC for Approval of its Transmission and Distribution System Resiliency Plan*, PUC Docket No. 56545, *Application of Oncor Electric Delivery Company LLC for Approval of a System Resiliency Plan*, and PUC Docket No. 56954, *Application of Texas-New Mexico Power Company for Approval of its System Resiliency Plan*.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. My testimony: (1) identifies existing requirements under Commission Rules, ERCOT Protocols, ERCOT Planning Guide, and North American Electric Reliability Corporation (NERC) Reliability Requirements that are implicated by the Application of CenterPoint Energy Houston Electric, LLC (“CenterPoint Houston”) for Approval of its Transmission and Distribution System Resiliency Plan (the “Resiliency Plan”) and (2) explains that any Commission order approving the Resiliency Plan or related settlement agreement should require compliance with existing Commission Rules, ERCOT Protocols, ERCOT Planning Guide, ERCOT Operating Guide, and NERC Reliability Requirements, including but not limited to those concerning Outage Coordination, the ERCOT Regional Planning Group (RPG) process, submission of future transmission projects in ERCOT planning and operations models, and studies required under NERC Reliability Requirement FAC 002-4.

Q. WHY HAVE YOU FILED TESTIMONY IN THIS PROCEEDING ON BEHALF OF ERCOT?

A. The Resiliency Plan implicates existing Commission Rules, ERCOT Protocols, ERCOT Planning Guide, ERCOT Operating Guide, and NERC Reliability Requirements. My testimony supports adherence to these existing requirements in connection with any final order concerning the Resiliency Plan in order to ensure the orderly implementation of the reliability measures identified in the Resiliency Plan.

Q. WHAT IS ERCOT’S ROLE IN THIS PROCEEDING?

A. As the independent system operator for the ERCOT power region, ERCOT is tasked with numerous responsibilities under applicable Commission rules, including the duty to “exercise comprehensive authority over the planning of bulk transmission projects that

affect the transfer capability of the ERCOT transmission system” and “supervise and coordinate other planning activities of [transmission service providers],” 16 TAC § 25.361(d), and “coordinate and schedule planned transmission facility outages,” 16 TAC § 25.361(b). As part of the exercise of these responsibilities, ERCOT has adopted Protocols and Planning Guide requirements concerning the coordination of transmission and generator outages and the planning of the regional transmission network. *See* ERCOT Protocols § 3.1 (Outage Coordination), § 3.11 (Transmission Planning). ERCOT is also the Planning Coordinator for the ERCOT interconnection under NERC Reliability Requirement FAC-002-04. ERCOT is therefore required to study the reliability impact of new and existing interconnections of generation and transmission, and coordinate with Transmission Owners with respect to new and “qualified changes.” *See* NERC Reliability Standard FAC-002-04.

Q. WHAT DOCUMENTS AND INFORMATION DID YOU CONSIDER IN THE DEVELOPMENT OF YOUR TESTIMONY?

A. I considered relevant sections of Commission Rules, ERCOT Protocols, ERCOT Planning Guide, ERCOT Operating Guide, and NERC Reliability Standards, as well as the Resiliency Plan, including exhibits.

Q. WAS YOUR TESTIMONY AND ANALYSIS PREPARED BY YOU OR UNDER YOUR DIRECT SUPERVISION?

A. Yes.

III. THE RESILIENCY PLAN

Q. PLEASE DESCRIBE YOUR UNDERSTANDING OF THE RESILIENCY PLAN.

A. Public Utility Regulatory Act (“PURA”) § 38.078 authorizes an electric utility to request Commission approval of a transmission resiliency plan. On April 29, 2024, CenterPoint Houston filed the Resiliency Plan under PURA § 38.078. The Resiliency Plan identifies proposed resiliency-related measures, including “System Hardening” and “Grid Modernization” measures. CenterPoint Houston seeks approval of its Resiliency Plan, including the proposed resiliency measures identified therein.

Q. WHAT TOPICS DO YOU DISCUSS IN THIS SECTION OF YOUR TESTIMONY?

A. The intersection of the Resiliency Plan’s proposed projects with existing Commission Rules, ERCOT Protocols, ERCOT Planning Guides, ERCOT Operating Guide, and NERC Reliability Requirements. The Resiliency Plan contemplates modifications to the existing ERCOT transmission system in connection with the system hardening identified in the Resiliency Plan. The proposed measures implicate ERCOT’s planning authority, the RPG review process under the ERCOT Protocols, and ERCOT’s role as the Planning Coordinator for the ERCOT interconnection under the NERC Reliability Requirements. The measures identified by CenterPoint Houston also implicate existing outage requirements based on CenterPoint Houston’s express indication that outages may be required in order to accomplish many of the system hardening and modernization measures identified in the Resiliency Plan.

Q. HOW DOES THE RESILIENCY PLAN IMPLICATE EXISTING ERCOT OUTAGE COORDINATION REQUIREMENTS?

A. Existing ERCOT Protocols require utilities in ERCOT coordinate transmission outages with ERCOT. Specifically, under ERCOT Protocol Section 3.1, each Transmission

Service Provider (TSP) must submit information about Planned Outages, Maintenance Outages, or Rescheduled Outages to ERCOT in an ERCOT-provided format for the next 12 months updated monthly. ERCOT coordinates in-depth reviews of the 12-month plan with each TSP at least twice per year. While ERCOT would expect utilities, including CenterPoint Houston, to coordinate such outages with ERCOT, the Resiliency Plan does not detail an implementation schedule or coordination efforts with ERCOT. Outages that are inconsistent with ERCOT's existing outage requirements could create risk given that ERCOT may not have studied or approved such outages. Risk could arise from the outages necessary to implement the measures identified in the Resiliency Plan, and in connection with other approved resiliency plans submitted and approved by utilities other than CenterPoint Houston. Ensuring all outages contemplated in the Resiliency Plan comply with existing requirements would minimize reliability risk to the ERCOT grid.

Q. HOW SHOULD OUTAGES ASSOCIATED WITH IMPLEMENTATION OF THE RESILIENCY PLAN BE HANDLED?

A. As part of the potential approval of the Resiliency Plan and/or settlement agreement, CenterPoint Houston should be required to coordinate with ERCOT under the existing requirement framework for any Commission-approved measure necessitating an outage.

Q. HOW IS THE RPG IMPLICATED BY THE RESILIENCY PLAN?

A. As defined in Planning Guide Section 5.2.1(1)(c), certain transmission projects satisfy conditions for RPG review. Requiring RPG review of the qualifying projects made the basis of the Resiliency Plan would ensure that ERCOT and other stakeholders on the RPG, including other utilities, have an opportunity to assess the potential reliability impacts of the proposed projects and determine whether another project or set of projects would better

address such impacts. This RPG review only applies to any RPG-eligible transmission project identified in the Resiliency Plan.

Q. HOW SHOULD THE RPG PROCESS BE COORDINATED?

A. As part of the potential approval of the Resiliency Plan and/or settlement agreement, CenterPoint Houston should be required to follow the existing RPG process with respect to RPG-eligible transmission projects contemplated by the Resiliency Plan.

Q. PLEASE EXPLAIN NERC RELIABILITY STANDARD FAC-002-4 AND ERCOT'S ROLE AS THE PLANNING COORDINATOR.

A. As described in FAC-002-4, a region's Planning Coordinator must study the reliability impact of "qualified changes" to generation, transmission, or electricity end-user Facilities. Under FAC-002-4, a "qualified change" in the ERCOT region is defined to include modifications to existing transmission facilities and that are reported in the Transmission Project and Information Tracking (TPIT) report, including facilities that are classified as Tier 4 under ERCOT Protocols Section 3.11.4.3, Categorization of Proposed Transmission Projects. As Planning Coordinator, ERCOT is required to study any "qualified changes" that may occur as part of the annual planning assessment of the Regional Transmission Plan (RTP), RPG project review process, and the Transmission Interconnection Study (TIS). Transmission projects in the ERCOT Region undergo a formal review by the RPG in accordance with ERCOT Protocol Section 3.11.4, Regional Planning Group Project Review Process.

Q. HOW DOES THE RESILIENCY PLAN IMPLICATE ERCOT'S TRANSMISSION PLANNING AUTHORITY?

A. Transmission topology changes contemplated in the Resiliency Plan implicate ERCOT's transmission planning authority, and may require independent review under Commission rules and the ERCOT Protocols. *See* 16 TAC § 25.101(b)(3); ERCOT Protocols § 3.11.4.3(1)(b). For example, the Resiliency Plan proposes in part that certain transmission facilities be upgraded with respect to physical structure and voltage level, which would necessitate changes to the topology of the ERCOT system. Such changes may require an independent ERCOT review. Visibility and review of such changes is an important part of ERCOT's transmission planning authority processes and procedures.

Q. HOW SHOULD ERCOT'S TRANSMISSION PLANNING AUTHORITY BE CONSIDERED?

A. As part of the potential approval of the Resiliency Plan and/or settlement agreement, CenterPoint Houston should be required to abide by applicable transmission and planning requirements contained in Commission Rules, ERCOT Protocols, ERCOT Planning Guide, ERCOT Operating Guide, and NERC Reliability Requirements.

IV. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

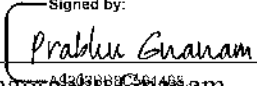
A. Yes.

THE STATE OF TEXAS §

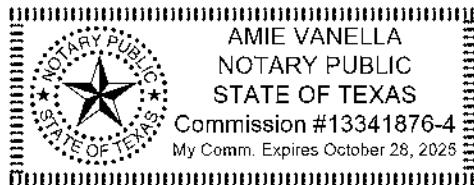
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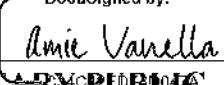
BEFORE ME, the undersigned authority, on this day personally appeared by means of an interactive two-way audio and video communication, Gnanaprabhu Gnanam, who, having been placed under oath by me, did depose as follows:

My name is Gnanaprabhu Gnanam. I am of legal age and a resident of the State of Texas. The foregoing direct testimony offered by me is true and correct, and the facts stated therein are accurate, true, and correct.

Signed by:

Gnanaprabhu Gnanam

SUBSCRIBED AND SWORN TO BEFORE ME by the said Gnanaprabhu Gnanam on this 8th day of April, 2025. This act was an online notarization.



DocuSigned by:

NOTARY PUBLIC
STATE OF TEXAS