



**DRAFT GENERAL SESSION MINUTES OF THE
TECHNOLOGY AND SECURITY COMMITTEE MEETING
OF ELECTRIC RELIABILITY COUNCIL OF TEXAS, INC.**

8000 Metropolis Drive (Building E), Suite 100, Boardroom B
Austin, Texas 78744
December 2, 2024, 8:30 a.m.

Pursuant to notice duly given and after determination that a quorum was present, the meeting of the Technology and Security (T&S) Committee of the Board of Directors (Board) of Electric Reliability Council of Texas, Inc. (ERCOT) convened on the above-referenced date.

Meeting Attendance:

Committee Members:

Director	Affiliation/Role (if any)	Voting Category
Aguilar, Carlos	N/A; present beginning at Item 5.1.	Voting
Capuano, Linda	N/A; present beginning at Item 5.2.	Voting
England, Julie	N/A	Voting
Swainson, John (Chair)	N/A	Voting

Other Board Members:

Director	Affiliation/Role (if any)	Voting Category
Flores, Bill	N/A	Voting
Heeg, Peggy	N/A; present through Item 5.1 and part of Item 5.2 only.	Voting
Gleeson, Thomas	PUCT Chair	Non-Voting
Vegas, Pablo	N/A	Non-Voting

Officers and Guests:

Officer/Guest	Role
Collins, Keith	ERCOT Vice President of Commercial Operations
Day, Betty	ERCOT Vice President of Security and Compliance and Chief Compliance Officer
Ebbs, Penney	ERCOT Regulatory Specialist
Glotfelty, Jimmy (via WebEx)	PUCT Commissioner
Gwinn, Diane	ERCOT Director, Corporate IT Services
Hobbs, Kristi	ERCOT Vice President of System Planning and Weatherization



Horton, Shana	ERCOT Corporate Counsel
Jackson, Kathleen	PUCT Commissioner
Lassiter, Jason	ERCOT Director, Physical Security & Facilities
Mannepalli, Ajay	ERCOT Senior Director, IT Architecture and Strategy
Miller, Joseph	President, BWXT Advanced Technologies
Parakkuth, Jayapal	ERCOT Senior Vice President and Chief Information Officer
Rickerson, Woody	ERCOT Senior Vice President and Chief Operating Officer
Rydell, Brandt	ERCOT Assistant General Counsel
Seely, Chad	ERCOT Senior Vice President, General Counsel, and Corporate Secretary; present through Item 5.1 and part of Item 5.2 only.
Spafford, Meredith	ERCOT Regulatory Specialist
Tirupati, Venkat	ERCOT VP Dev Ops & Grid Transformation
White, Jennifer	Chief of Staff to Commissioner Kathleen Jackson, Public Utility Commission of Texas (PUCT)
Woodfin, Dan	ERCOT Vice President of System Operations

Call General Session to Order (Agenda Item 1)

John Swainson, T&S Committee Chair, determined that a quorum was present and called the T&S Committee meeting to order at approximately 8:32 a.m.

PUCT Chair Thomas Gleeson called the PUCT meeting to order at approximately 8:33 a.m. In attendance with PUCT Chair Gleeson were PUCT Commissioners Kathleen Jackson and Jimmy Glotfelty (via WebEx).

Chair Swainson highlighted the Antitrust Admonition and addressed the following Agenda Items in the order below.

Notice of Public Comment, if Any (Agenda Item 2)

Chair Swainson announced that on the agenda for the meeting, which was posted publicly on November 21, 2024, ERCOT had provided instructions for members of the public who were interested in commenting in person and that to date no individuals had expressed interest in commenting, which Shana Horton confirmed.

October 9, 2024 General Session Meeting Minutes (Agenda Item 3)

Chair Swainson entertained a motion to approve the October 9, 2024 General Session Meeting Minutes (Minutes).

Julie England moved to approve the Minutes as presented. Chair Swainson seconded the motion. The motion passed by unanimous voice vote with no abstentions.

Annual Committee Self-Evaluation Survey Results (Agenda Item 4)

Chair Swainson reported the results of the Annual Committee Self-Evaluation Survey. He highlighted that “timely resolution of issues” was the lowest-scoring parameter with a rating of 4 out of 5. He noted the Committee is still evolving but off to a good start. There was no further discussion.



Emerging Technologies (Agenda Item 5)

Nuclear Technologies Today & Tomorrow (Agenda Item 5.1)

Chair Swainson introduced invited guest Joseph Miller of BWXT Advanced Technologies to make his presentation on Emerging Technologies – Nuclear Technologies Today & Tomorrow. Mr. Miller began by describing the prevalence, growth, and general processes used by the three types of nuclear reactors: Large Light Water-Cooled Reactors (LLWRs), Small Modular Reactors (SMRs), and Microreactors. He characterized demand worldwide as high and increasing quickly. Nuclear has the highest capacity factor of any energy source – i.e., how much of the time it creates power – and generates clean electricity with very low lifecycle emissions. There was discussion of recent heavy investment and government buy-in, accelerating development of this technology to a commercial scale. Upon a question from Ms. England, Mr. Miller opined nuclear waste disposal will be a prominent issue during the next presidential administration and it can be done safely and completely once disposal facilities are licensed. Mr. Flores asked about commercializing technology developed for the Department of Defense (DoD). Mr. Miller expects this to occur by 2030, depending upon investment. In response to a question from Mr. Aguilar about potential staffing challenges, Mr. Miller shared his belief that the positive national conversation about nuclear energy has created a groundswell of interest in related careers.

Summary of the Report from the Nuclear Reactor Working Group submitted to the Governor of Texas (Agenda Item 5.2)

Chair Swainson introduced PUCT Commissioner Jimmy Glotfelty to make his presentation on the Summary of the Report from the Nuclear Reactor Working Group submitted to the Governor of Texas. Mr. Glotfelty explained the Governor asked the PUCT to look into what the state can do to advance new nuclear reactors to address the need for more dispatchable resources. Mr. Glotfelty described the group's goal to draw a roadmap to advance Texas's decision-making to give the state a competitive advantage in deploying nuclear technology. Mr. Glotfelty expects much will be done in the next legislative session. Committee members and other attendees discussed potential legislative creation of an authority in charge of moving the group's objectives forward; appointment of a nuclear permitting officer; options for disposal of nuclear waste; and a legislatively created Texas Nuclear Energy Fund.

Committee Briefs (Agenda Item 6)

Projects and Technology Update (Agenda Item 6.1)

JP Parakkuth provided the Projects and Technology update. He reported his team is not expecting any labor issues heading into a busy project year. Ms. England asked about recruiting and hiring. Mr. Parakkuth confirmed there are no significant gaps in IT, but some temporary contractors will need to be hired for Real-Time Co-optimization (RTC), for example. He confirmed the bump in internal labor devoted to regulatory projects increases in 2025 due to the RTC project.

Next, Mr. Parakkuth laid out application releases for this cycle, including a major one in TX Set, which had a smooth cutover with over 100 Market Participants.



There were no additional questions or discussion.

Real-Time Co-Optimization Implementation Update (Agenda Item 6.2)

Mr. Parakkuth presented the RTC Update. He reported all projects have gated for execution, meaning they are past the requirements and design phases and implementation is underway. With an initial budget of \$49.9 million (MM), he calculated the estimated cost at completion at only \$34.6MM. As reasons for the underrun, Mr. Parakkuth cited acceleration of the schedule and lowering labor costs by about \$8MM, as well as hardware and software improvements, which added another \$8-9MM in savings. Mr. Parakkuth also noted the confidence of the delivery team increased significantly due to successes of other recent projects. Mr. Aguilar asked if the budget numbers included adjustments requested by the Independent Market Monitor (IMM). Mr. Parakkuth replied that adjustments to a parameter already built in (e.g., share of the curve) are accounted for, but other change requests are not. Mr. Parakkuth stated his team is only two board meetings away from announcing development is complete.

Next, Mr. Parakkuth reviewed RTC+B 2025 Objective Key Results (OKRs), giving thresholds, target completion dates, and stretch completion dates.

There were no questions or additional discussion following the presentation.

Grid Transformation Update (Agenda Item 6.3)

Venkat Tirupati presented the Grid Transformation Update. Mr. Tirupati listed broad themes considered over the past year and reported moving on to specific initiatives with associated work products and timelines. He highlighted the four initiatives that will be complete by the end of the year (i.e., one proof of concept and three white papers). Next, Committee members discussed how to apply this research, connecting it to specific value propositions and operational needs. The Committee requested Mr. Tirupati map the work to the overall strategy. Mr. Tirupati stated 2025 is about moving from ideas to implementation.

Future Agenda Items (Agenda Item 7)

Mr. Parakkuth presented the Future Agenda Items. Ms. England suggested another round of “*What is RTC?*” Ms. Capuano seconded this idea. Chair Swainson also suggested a topic on geothermal energy.

Ms. England asked about the next round of the Aggregated Distributed Energy Resource (ADER) Task Force. Mr. Parakkuth stated it is in the last phase of pilot, which will evolve into a set of Nodal Protocol Revision Requests (NPRRs) that will help Inverted-Based Resources (IBRs) integrate into the grid at scale. Woody Rickerson offered to address how it impacts transmission from a technology standpoint.

Other Business (Agenda Item 8)

No other business was discussed at this time.

Executive Session; Vote on Matters from Executive Session; Adjournment (Agenda Items 9-10)



Chair Swainson adjourned General Session at approximately 10:17 a.m. and convened Executive Session at approximately 10:31 a.m.

PUCT Chair Gleeson adjourned General Session of the PUCT at approximately 10:17 a.m. and did not reconvene after Executive Session.

There were no voting items from Executive Session.

Chair Swainson adjourned the meeting upon the conclusion of Executive Session at approximately 11:40 a.m.

Committee materials and presentations from the meeting are available on ERCOT's website at <https://www.ercot.com/committees/board/tech-security>.

Chad V. Seely
Corporate Secretary

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