**APPROVED**

**Minutes of the Technical Advisory Committee (TAC) Meeting – Webex Only**

**Tuesday, August 22, 2023 – 9:30 a.m.**

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| *TAC Representatives:* |  |  |
| Barnes, Bill | Reliant Energy Retail Services (Reliant) |  |
| Blakey, Eric | Pedernales Electric Cooperative (PEC) | Alt. Rep. for Christian Powell |
| Bonskowski, Ned | Luminant Generation (Luminant) |  |
| Carpenter, Jeremy | Tenaska Power Services (Tenaska) |  |
| Cochran, Seth | DC Energy |  |
| Dreyfus, Mark | City of Eastland |   |
| Fehrenbach, Nick | City of Dallas |  |
| Franklin, Russell | Garland Power & Light (GP&L) |  |
| Gaytan, Jose | Denton Municipal Electric (DME) |  |
| Goff, Eric | Residential Consumer |  |
| Gross, Blake | AEP Service Corporation | Alt Rep. Richard Ross |
| Hanson, Kevin | National Grid Renewables (NG Renewables) |  |
| Harpole, Jay | AP Gas & Electric (APG&E) |  |
| Helton, Bob | ENGIE |  |
| Hendrix, Chris | Demand Control 2 |  |
| Jolly, Emily | LCRA |  |
| Kee, David | CPS Energy |  |
| Kent, Garret | CMC Steel Texas (CMC Steel) |  |
| Loving, Alicia | Austin Energy |  |
| Martin, Collin | Oncor Electric Delivery (Oncor) |  |
| Mercado, David | CenterPoint Energy (CNP) |  |
| Nix, Keith | Texas-New Mexico Power Company (TNMP) |  |
| Packard, John | South Texas Electric Cooperative (STEC) | Alt. Rep. for Clif Lange |
| Pokharel, Nabaraj | Office of Public Utility Counsel (OPUC) |  |
| Powell, Christian | Pedernales Electric Cooperative (PEC) |  |
| Ross, Richard | AEP Service Corporation  |  |
| Sams, Bryan | Calpine Corporation (Calpine) |  |
| Schmitt, Jennifer | Rhythm Ops |  |
| Smith, Bill | Air Liquide |  |
| Smith, Caitlin | Jupiter Power |  |
| Surendran, Resmi | Shell Energy North America (SENA) |  |
| Wise, Mike | Golden Spread Electric Cooperative (GSEC) |  |

The following proxy was assigned:

* Eric Goff to Nabaraj Pokharel for NPRR1186 only

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| *Guests:* |  |  |
| Abbott, Kristin | Austin Energy |  |
| Ainspan, Malcolm | NRG |  |
| Aldridge, Ryan | AB Power Advisors |  |
| Anderson, Connor | AB Power Advisors |  |
| Barati, Camron | Potomac Economics |  |
| Basaran, Harika | PUCT |  |
| Batra-Shrader, Monica | Enchanted Rock |  |
| Bell, Brad | Solar Proponent |  |
| Benson, Mariah | PUCT |  |
| Berry, Danny | LCRA |  |
| Bertin, Suzanne |  |  |
| Bezwada, Neelima | Potomac Economics |  |
| Bivens, Carrie | Potomac Economics |  |
| Blackburn, Don | Hunt Energy Network |  |
| Blakey, Eric | PEC |  |
| Block, Laurie | LBlock Consulting, LLC |  |
| Brown, Chris | PUCT |  |
| Bruce, Mark | Cratylus Advisors |  |
| Burkhead, Brett | Calpine |  |
| Caldart, Carlos |  |  |
| Callender, Hudson | CPS Energy |  |
| Campo, Curtis | Garland Power & Light |  |
| Childress, John |  |  |
| Claiborn-Pinto, Shawnee | PUCT |  |
| Clark, Jack | NextEra |  |
| Clifford, Brigid | PG Renewables |  |
| Coleman, Diana | CPS Energy |  |
| Conant, Portia | Yes Energy |  |
| Cook, Kristin | Southern Power |  |
| Cooksey, Matthew | OPUC |  |
| Cortez, Sarai | Trailstone Group  |  |
| Cripe, Ramsey | Schneider Engineering |  |
| Dazzo, Nicholas | Spearmint Energy |  |
| DeLeon, Seth | DME |  |
| Detelich, David | CPS Energy |  |
| Dollar, Zachary | PUCT |  |
| Donohoo, Ken | OwlERC, LLC |  |
| Duensing, Allison | Sarac Energy |  |
| Esparza, David |  |  |
| Fogarty, Audrey | Jupiter Power |  |
| Ghoshal, Orijit | esVolta |  |
| Godly, Kevin | Rev Renewables |  |
| Goff, Eric | Tesla | NPRR1186 Only  |
| Greer, Clayton | Cholla Petroleum |  |
| Gross, Blake | AEPSC |  |
| Gupta, Udit | Light Source BP |  |
| Hale, Josh | Southern Power  |  |
| Haley, Ian | Morgan Stanley |  |
| Hall, Matthew | Invenergy |  |
| Harriman, Chien | Eolian Energy |  |
| Headrick, Bridget | CES |  |
| Heck, Prudence | Spearmint Energy |  |
| Henson, Martha | Oncor |  |
| Hinkson, David | CPS Energy |  |
| Holt, Blake | LCRA |  |
| Hubbard, John Russ | TIEC |  |
| Hudis, Gabriella | Gabel Associates |  |
| Hughes, Lindsey | Broad Reach Power |  |
| Huynh, Thuy | Potomac Economics |  |
| Ingraham, Deborah | Acciona |  |
| Jewell, Michael | Jewell and Associates |  |
| Jones, Randy | Jupiter Power |  |
| Keefer, Andrew | DME |  |
| Kilroy, Taylor | TPPA |  |
| King, Robert | Good Company Associates |  |
| Kirby, Brandon | GEUS |  |
| Kleckner, Tom | RTO Insider |  |
| Korde, Kshitij | NG Renewables |  |
| Koz, Brian |  |  |
| Kremling, Barry | GVEC |  |
| Lacek, Mollie | Talen Energy |  |
| Lee, Jim | CNP |  |
| Lewis, William | Payless Power |  |
| Llaver, Fernando |  |  |
| Lotter, Eric | GridMonitor |  |
| Lu, Bo | Broad Reach Power |  |
| Macaraeg, Tad | Stem |  |
| Macias, Jesse | AEP Texas |  |
| Martin, Loretto | NRG |  |
| Mathews, Michael | BTU |  |
| Mayers, Sharon |  |  |
| Maynez, Andrew | Orsted |  |
| McClellan, Suzi | Good Company Associates |  |
| McIntyre, Ken | Plus Power |  |
| McKeever, Debbie | Oncor |  |
| Mojok, Sarah |  |  |
| Morris, Sandy | WETT |  |
| Mote, Mitch |   |  |
| Musher, Danny | Key Capture Energy |  |
| Nicholson, Tyler | PUCT |  |
| Noyes, Theresa | LCRA |  |
| Nguyen, Andy | Constellation Energy Generation |  |
| Ok, Brendan | PUCT |  |
| Okenfuss, James | SENA |  |
| Oliver, Jon | PUCT |  |
| O’Niell, Nic | Austin Energy |  |
| Orr, Rob | Lone Star Transmission |  |
| Pfefferle, Ryan | Oxy |  |
| Pietrucha, Doug | Texas Advanced Energy |  |
| Pyka, Greg | Schneider Engineering |  |
| Ramaswamy, Ramya | PUCT |  |
| Ratliff, Shannon | Policy Design |  |
| Reinhart, Patrick | CNP |  |
| Reedy, Steve | CIM View |  |
| Reimers, Andrew | Lancium |  |
| Rich, Katie | GSEC |  |
| Richmond, Michele | Competitive Power  |  |
| Riley, Owen | Spearmint Energy |  |
| Ritch, John | NextEra Energy |  |
| Rodrigo, Dilhan | TC Energy |  |
| Sager, Brenden | Austin Energy |  |
| Sandidge, Clint | Calpine |  |
| Scott, Kathy | CNP |  |
| Sersen, Juliana | Baker Botts |  |
| Shaffer, Jarred | Office of Texas Governor Greg Abbott |  |
| Siddiqi, Shams | Crescent Power Consulting |  |
| Smith, Chase | Southern Power |  |
| Smith, Mark | Mark Smith Law, LLC |  |
| Smith, Stephanie | Eolian Energy |  |
| Snyder, Bill | AEP |  |
| Stephenson, Zach | TEC |  |
| Striedel, James | GDS |  |
| Swigonski, Frank | Pine Gate Renewables |  |
| Teng, Shuye | LCRA |  |
| Townsend, Paul |  |  |
| True, Roy | ACES  |  |
| Uy, Manny | Hunt Energy |  |
| Varnell, John | Tenaska |  |
| Velasquez, Ivan | Oncor |  |
| Walcavich, Colin | NG Renewables |  |
| Walker, Floyd | PUCT |  |
| Wall, Perrin | CNP |  |
| Watson, Mark |  |  |
| Wattles, Paul |  |  |
| Wellborn, Laura | Jupiter Power |  |
| White, Lauri | AEP |  |
| Williams, Wes | Bryan Texas Utilities |  |
| Wittmeyer, Bob | Longhorn Power |  |
| Wu, Tiffany | PUCT |  |
| Wyman, Constance |  |  |
| Xie, Fei | Austin Energy |  |
| Zang, Hailing | TC Energy |  |
| Zhang, Matt | Austin Energy |  |
| Zhang, Wen | Potomac Economics |  |
|  |  |  |
|  |  |  |
| *ERCOT Staff:* |  |  |
| Albracht, Brittney |  |  |
| Anderson, Troy |  |  |
| Arth, Matt |  |  |
| Azeredo, Chris |  |  |
| Bigbee, Nathan |  |  |
| Billo, Jeff |  |  |
| Boren, Ann |  |  |
| Carswell, Cory |  |  |
| Castillo, Leo |  |  |
| Chen, Jian |  |  |
| Chu, Zhengguo |  |  |
| Clifton, Suzy |  |  |
| Cyphers, Darrell |  |  |
| Day, Betty |  |  |
| Devadhas Mohanadha, Thinesh |  |  |
| Dwyer, Davida |  |  |
| Fernandez, Jenifer |  |  |
| Flint, Alison |  |  |
| Fohn, Doug |  |  |
| Garcia, Freddy |  |  |
| Gnanam, Prabhu |  |  |
| Gonzales, Ino |  |  |
| Gross, Katherine |  |  |
| Hahne, Cynthia |  |  |
| Hailu, Ted |  |  |
| Heinrich, Holly |  |  |
| Herrera, Shane |  |  |
| Holden, Curry |  |  |
| Horton, Shana |  |  |
| Jenkins, Darrell |  |  |
| King, Ryan |  |  |
| Lee, Alex |  |  |
| Levine, Jonathan |  |  |
| Luker, Bryan |  |  |
| Maggio, Dave |  |  |
| Mago, Nitika |  |  |
| Mereness, Matt |  |  |
| Moorty, Sai |  |  |
| Ögelman, Kenan |  |  |
| Parakkuth, Jayapal |  |  |
| Phillips, Cory |  |  |
| Ragsdale, Kenneth |  |  |
| Rainwater, Kim |  |  |
| Raish, Carl |  |  |
| Roberts, Randy |  |  |
| Rosel, Austin |  |  |
| Shaw, Pamela |  |  |
| Solis, Stephen |  |  |
| Springer, Agee |  |  |
| Stice, Clayton |  |  |
| Thomas, Shane |  |  |
| Tirupat, Venkat |  |  |
| Troublefield, Jordan |  |  |
| Wasik-Gutierrez, Erin |  |  |
| Woodfin, Dan |  |  |
| You, Haibo |  |  |
| Yousefian, Mahnoush |  |  |
| Zerwas, Rebecca |  |  |

*Unless otherwise indicated, all Market Segments participated in the votes.*

Caitlin Smith called the August 22, 2023 meeting to order at 9:30 a.m.

Antitrust Admonition

Ms. Smith directed attention to the displayed Antitrust Admonition and noted that the Antitrust Guidelines are available for review on the ERCOT website.

Approval of TAC Meeting Minutes (see Key Documents)[[1]](#footnote-2)

*July 25, 2023*

Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

Review of ERCOT Market Impact Statements/Opinions and Independent Market Monitor (IMM) Opinion (see Key Documents)

Ann Boren presented the ERCOT Market Impact Statements and ERCOT opinions for Revision Requests to be considered by TAC. Carrie Bivens presented the IMM opinions for Revision Requests to be considered by TAC. In response to the IMM concerns regarding Nodal Protocol Revision Request (NPRR) 1186, Improvements Prior to the RTC+B Project for Better ESR State of Charge Awareness, Accounting, and Monitoring, Kenan Ögelman stated that although the concerns of the impacts to the Real-Time Co-optimization (RTC) & Single-Model ESR (“RTC+B”) project are legitimate, ERCOT needs an interim State of Charge (SOC) solution before implementing the project.

Protocol Revision Subcommittee (PRS) Report (see Key Documents)

Martha Henson reviewed PRS activities and presented Revision Requests for TAC consideration.

*NPRR1164, Black Start and Isochronous Control Capable Identification*

Market Participants reviewed the Business Case for NPRR1164 and a proposed reference clarification to the definition of Black Start Capable Resource. Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

*NPRR1171, Requirements for DGRs and DESRs on Circuits Subject to Load Shedding*

Market Participants reviewed the Business Case for NPRR1171 and the 8/18/23 ERCOT comments to correct baseline language. Market Participants and ERCOT Staff discussed transmission and distribution utility mobile generation implementation issues, the appropriate forum to address the issues, and requested this be added as a TAC action item. In response to ERCOT Staff requests, Bryan Sams offered to develop a problem statement to help determine if a workshop and/or additional NPRR is needed to address the issues. Ms. Smith confirmed the TAC action item and noted that NPRR1171 could be considered in the [Combined Ballot](#Combined_Ballot_2).

*NPRR1174, Market Participant’s Return of Settlement Funds to ERCOT Following Receipt of Overpayment*

Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

*NPRR1175, Revisions to Market Entry Financial Qualifications and Continued Participation Requirements*

Market Participants offered administrative clarifications to NPRR1175. In response to Market Participants’ questions, Katherine Gross confirmed the applicability of the background check fee to a principal of multiple Market Participants, and that a “complaint” contemplated in the language is limited to financial matters from existing organizations. Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

*NPRR1185, HDL Override Payment Provisions for Verbal Dispatch Instructions*

Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

*NPRR1186, Improvements Prior to the RTC+B Project for Better ESR State of Charge Awareness, Accounting, and Monitoring – URGENT*

Ms. Smith yielded the chair and Ms. Boren moderated the NPRR1186 discussion. Ken McIntyre, Randy Jones, and Audrey Fogarty reviewed the 8/21/23 Joint Commenters comments. Nitika Mago responded to Market Participants’ questions and concerns and noted that the proposed approach in the 8/21/23 Joint Commenters comments is not helpful to establishing SOC. Opponents continued to express concerns with the Ancillary Service duration limits within NPRR1186 as well as enforcing performance at the Energy Storage Resource (ESR) level rather than the Qualified Scheduling Entity (QSE) level, stressed the importance of parameterizing as much of NPRR1186 as possible, and urged continued work between ERCOT and Market Participants on additional improvements in subsequent NPRR(s). Market Participants reviewed the Business Case for NPRR1186. Ms. Boren reviewed the bifurcated effective date for NPRR1186.

**Bob Helton moved to recommend approval of NPRR1186 as recommended by PRS in the 8/10/23 PRS Report, with a recommended effective date of upon system implementation for all sections, with the exception of the grey-boxed paragraph (4) of Section 8.1, QSE and Resource Performance Monitoring, which will be effective no earlier than three months after system implementation of NPRR1186. Bill Barnes seconded the motion. The motion carried with three objections from the Consumer (City of Dallas), Independent Generator (Jupiter Power), and Independent Retail Electric Provider (IREP) (Demand Control 2) Market Segments and five abstentions from the Consumer (2) (CMC Steel and Air Liquide), Independent Power Marketer (IPM) (Tenaska), and IREP (2) (Rhythm Ops and APG&E) Market Segments.** *(Please see ballot posted with Key Documents.)*

Ms. Smith confirmed the TAC action item to follow up issues related to NPRR1186, including the values of “y”, compliance, and duration requirements.

*NPRR1189, Updates to Language to Clarify the Allowable Regulation Ancillary Service Trades*

Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

Revision Requests Tabled at TAC (See Key Documents)

*Other Binding Document Revision Request (OBDRR) 046, Related to NPRR1188, Implement Nodal Dispatch and Energy Settlement for Controllable Load Resources*

TAC took no action on this item.

*NPRR1173, Changes Consistent With the Options Available to an MOU and EC Entering Retail*

*Competition in the ERCOT Market*

Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

OBDRRs (See Key Documents)

*OBDRR048, Implementation of Operating Reserve Demand Curve (ORDC) Multi-Step Price Floor*

Mr. Ögelman provided an overview of OBDRR048. TAC Representatives of the Consumer Market Segment voiced their continued opposition to this modification to the ORDC. In response to Market Participants’ questions, Ms. Boren reviewed the implementation timeline for OBDRR048.

**Ned Bonskowski moved to recommend approval of OBDRR048 as submitted and the 8/11/23 Impact Analysis. Mr. Helton seconded the motion. The motion carried with seven objections from the Consumer (6) (City of Eastland, City of Dallas, CMC Steel, Air Liquide, Residential Consumer, and OPUC) and IREP (Demand Control 2) Market Segments and one abstention from the IREP (Rhythm Ops) Market Segment.** *(Please see ballot posted with Key Documents.)*

Retail Market Subcommittee (RMS) Report (See Key Documents)

Debbie McKeever reviewed RMS activities and presented a Revision Request for TAC consideration. Ms. McKeever reminded Market Participants of the TAC discussion regarding Business and Residential Annual validations at the July 25, 2023 TAC meeting, and presented benefits of the annual validation process and limitations in accessing Advanced Meter System (AMS) data in the Smart Meter Texas Portal (SMTP).

*Retail Market Guide Revision Request (RMGRR) 174, Related to NPRR1173, Changes Consistent With the Options Available to an MOU and EC Entering Retail Competition in the ERCOT Market*

Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

Reliability and Operations Subcommittee (ROS) Report (see Key Documents)

Chase Smith reviewed ROS activities, including highlights of the discussions on Nodal Operating Guide Revision Request (NOGRR) 245, Inverter-Based Resource (IBR) Ride-Through Requirements; noted that additional comments are anticipated from both Market Participants and ERCOT; and stated that ROS will consider NOGRR245 and Urgent status at the September 7, 2023 ROS meeting. Mr. Smith presented Revision Requests for TAC consideration.

*NOGRR215, Limit Use of Remedial Action Schemes*

Market Participants reviewed the Business Case for NOGRR215, noted the bifurcated effective date, and offered a proposed correction to references to Section 4.1.1.7, Minimum Deliverability Criteria, located within Sections 11.1, Introduction, and 11.2, Remedial Action Schemes. Ms. Smith noted this item could be considered in the [Combined Ballot](#Combined_Ballot_2).

*NOGRR249, Communication of System Operating Limit Exceedances*

*NOGRR250, Related to NPRR1171, Requirements for DGRs and DESRs on Circuits Subject to Load Shedding*

*Resource Registration Glossary Revision Request (RRGRR) 033, Related to NPRR1164, Black Start and Isochronous Control Capable Identification*

*RRGRR035, Related to NPRR1171, Requirements for DGRs and DESRs on Circuits Subject to Load Shedding*

Ms. Smith noted that these items could be considered in the [Combined Ballot](#Combined_Ballot_2).

Wholesale Market Subcommittee (WMS) Report (see Key Documents)

Eric Blakey reviewed WMS activities, including the August 14, 2023 Resource Cost Working Group (RCWG) and Wholesale Market Working Group (WMWG) Joint Workshop on Reliability Unit Commitment (RUC) and Verifiable Costs.

Credit Finance Sub Group (CFSG) Report (see Key Documents)

Brenden Sager reviewed CFSG activities.

Large Flexible Load Task Force (LFLTF) Report

Agee Springer reviewed LFLTF activities. Mr. Springer summarized NPRR1191, Registration, Interconnection, and Operation of Customers with Large Loads; Information Required of Customers with Loads 25 MW or Greater, and the related Planning Guide Revision Request (PGRR) 111, NOGRR256, and RRGRR036; and the discussion at the August 16, 2023 NPRR1191 and Related Revision Requests Workshop. Mr. Springer requested Market Participants provide comments by August 28, 2023, for discussion at the September 6, 2023 LFLTF meeting. Market Participants discussed reviewing the scope of LFLTF. Ms. Smith confirmed the TAC Action item to review the LFLTF scope/charter to see if revisions need to be made and make sure that priorities are being addressed.

Formation of RTC+B Task Force (RTCBTF) (see Key Documents)

*Charter*

*Task Force Leadership*

Matt Mereness presented the draft RTCBTF charter for TAC consideration. Ms. Smith noted the creation of the RTCBTF, and charter could be considered in the [Combined Ballot](#Combined_Ballot_2). Mr. Mereness encouraged Market Participants to attend the September 8, 2023 RTCBTF meeting and consider Vice-Chair leadership opportunities.

ERCOT Reports (see Key Documents)

*2024 Ancillary Service Methodology Discussion Kick Off*

Ms. Mago announced the 2024 Ancillary Service Methodology Discussion Kick Off at the September 20, 2023 Performance, Disturbance, Compliance Working Group (PDCWG) meeting, presented the methodology review timeline to improve efficiencies, and encouraged Market Participants to attend the September and October 2023 working group meetings to provide feedback on the 2023 Ancillary Service Methodology.

Other Business

There was no additional business.

Combined Ballot

**David Kee moved to approve the Combined Ballot as follows:**

* **To approve the July 25, 2023, TAC Meeting Minutes as presented**
* **To recommend approval of NPRR1164 as recommended by PRS in the 8/10/23 PRS Report as revised by TAC**
* **To recommend approval of NPRR1171 as recommended by PRS in the 8/10/23 PRS Report as amended by 8/18/23 ERCOT comments**
* **To recommend approval of NPRR1174 as recommended by PRS in the 8/10/23 PRS Report**
* **To recommend approval of NPRR1175 as recommended by PRS in the 8/10/23 PRS Report as revised by TAC**
* **To recommend approval of NPRR1185 as recommended by PRS in the 8/10/23 PRS Report**
* **To recommend approval of NPRR1189 as recommended by PRS in the 8/10/23 PRS Report**
* **To recommend approval of NPRR1173 as recommended by PRS in the 6/14/23 PRS Report**
* **To recommend approval of RMGRR174 as recommended by RMS in the 8/1/23 RMS Report**
* **To recommend approval of NOGRR215 as recommended by ROS in the 8/3/23 ROS Report as revised by TAC; with a recommended effective date of 10/1/23 for all sections except grey-boxed paragraph (3) of Section 11.1 and paragraph (1) of Section 11.2 and which will be effective upon system implementation**
* **To recommend approval of NOGRR249 as recommended by ROS in the 8/3/23 ROS Report**
* **To recommend approval of NOGRR250 as recommended by ROS in the 8/3/23 ROS Report**
* **To recommend approval of RRGRR033 as recommended by ROS in the 8/3/23 ROS Report**
* **To recommend approval of RRGRR035 as recommended by ROS in the 8/3/23 ROS Report**
* **To form the RTC+B Task Force and approve the charter as presented**

**Kevin Hanson seconded the motion. The motion carried unanimously.** *(Please see ballot posted with Key Documents.)*

Ms. Smith adjourned the August 22, 2023 TAC meeting at 1:45 p.m.

1. Key Documents referenced in these minutes may be accessed on the ERCOT website at:

<https://www.ercot.com/calendar/08222023-TAC-Meeting-_-Webex> [↑](#footnote-ref-2)