**APPROVED**

**Minutes of the Wholesale Market Subcommittee (WMS) Meeting**

**Webex Only**

**Wednesday, November 3, 2021– 9:30 a.m.**

Attendance

*Members:*

|  |  |  |
| --- | --- | --- |
|  |  |  |
| Barnes, Bill | Reliant Energy Retail Services |  |
| Burke, Tom | Invenergy |  |
| Carpenter, Jeremy | Tenaska Power Services |  |
| Claiborn-Pinto, Shawnee | OPUC |  |
| Cochran, Seth | DC Energy |  |
| Detelich, David | CPS Energy |  |
| Downey, Marty | Jupiter Power |  |
| Evans, Mike | Brazos Electric Cooperative |  |
| Farhangi, Anoush | Demand Control 2 |  |
| Foster, Ashley | Down Chemical Company |  |
| Franklin, Russell | Garland Power & Light  |  |
| Greer, Clayton | Morgan Stanley |  |
| Gross, Blake | AEP Service Corporation |  |
| Haley, Ian | Luminant Generation |  |
| Johnson, Anthony | CenterPoint Energy |  |
| Lange, Clif | South Texas Electric Cooperative |  |
| Lindberg, Ken | Bryan Texas Utilities  |  |
| Nguyen, Andy | Lower Colorado River Authority | Alt. Rep. for John Dumas |
| Mauldin, Jamie | City of Eastland |  |
| Roberts, Bobby | TNMP |  |
| Sandidge, Clint | Calpine Energy Solutions |  |
| Simpson, Lori | Exelon |  |
| Sithuraj, Murali | Austin Energy | Alt. Rep. for Erika Bierschbach |
| Smith, Mark | Nucor |  |
| Surendran, Resmi | Shell Energy |  |
| Velasquez, Ivan | Oncor |  |
| Wilson, Joe Dan | Golden Spread Electric Cooperative |  |

*Guests:*

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| --- | --- | --- |
|  |  |  |
| Ainspan, Malcolm | NRG |  |
| Aldridge, Ryan | AB Power Advisors  |  |
| Alford, Anthony | CenterPoint Energy |  |
| Anderson, Connor | AB Power Advisors |  |
| Anderson, Kevin | Customized Energy Solutions |  |
| Ashley, Kristy | Customized Energy Solutions |  |
| Bailey, Robert | NRG |  |
| Bell, Brad | Solar Proponent |  |
| Benson, Mariah | PUCT |  |
| Bivens, Carrie | Potomac Economics |  |
| Blakey, Eric | Just Energy |  |
| Boisseau, Heather | Lower Colorado River Authority |  |
| Brandin, Sam | Plus Power |  |
| Bruce, Mark | Cratylus Advisors |  |
| Bunch, Kevin | EDF Trading North America  |  |
| Bunyan, Michael | Jupiter Power |  |
| Chalenski, David | Shell Energy |  |
| Chamberlin, Jennifer | CPower Energy Management |  |
| Coleman, Diana | CPS Energy |  |
| Cox, Jason | EDF Energy |  |
| Cripe, Ramsey | Schneider Engineering |  |
| Daigneault, Ralph | Potomac Economics |  |
| Donohoo, Kenneth | EPE Consulting |  |
| Dreyfus, Mark | MD Energy Consulting |  |
| Duensing, Allison | Saracen Energy |  |
| Evans, Ryan | ACES Power |  |
| Ford, Bart | Tenaska Power Services |  |
| Foreman, Mark | Tenaska Power Services |  |
| Goff, Eric |  |  |
| Goodlett, Adam | OPUC |  |
| Graham, Sophie | Adapt 2 Solutions |  |
| Hanson, Kevin | National Grid |  |
| Hayden, Jolly | GDS Associates |  |
| Henson, Martha | Oncor |  |
| Horstmyer, Reid | Dynasty Power |  |
| Hubbard, John | TIEC |  |
| Huynh, Thuy | Potomac Economics |  |
| Jones, Randy | Mountaineer Consulting |  |
| Kee, David | CPS Energy |  |
| Kilroy, Taylor | TPPA |  |
| Krajecki, Jim | Customized Energy Solutions |  |
| Kroskey, Tony | Brazos Electric Cooperative |  |
| Lasher, Warren | Lasher Energy |  |
| Loizou, Harris | National Grid Renewables |  |
| Lotter, Eric | GridMonitor |  |
| Marsh, Tony | Legends Unity |  |
| Martin, Loretto | NRG |  |
| Matt, Kevin | NRG |  |
| Mendoza, Albert | Occidental |  |
| McClellan, Suzi | Good Company Associates |  |
| McKeever, Debbie | Oncor Electric Delivery |  |
| Miller, Alexandra | EDFR |  |
| Musher, Danny | Key Capture Energy |  |
| Park, Soo-Seon | Shell |  |
| Powell, Christian | Pedernales Electric Cooperative |  |
| Promubol, Jim | Shell Energy |  |
| Rainwater, Kim | Lower Colorado River Authority |  |
| Ramaswamy, Ramya | PUCT |  |
| Ramirez, Richard | LCRA |  |
| Reedy, Steve | CIM View Consulting |  |
| Reid, Mike | Air Liquide |  |
| Reid, Walter | Advanced Power Alliance |  |
| Rich, Katie | Golden Spread Electric Cooperative |  |
| Richmond, Michele | TCPA |  |
| Ritch, John | Gexa Energy |  |
| Sager, Brenden | Austin Energy |  |
| Sams, Bryan | Calpine |  |
| Schumate, Walt |  |  |
| Siddiqi, Shams | Crescent Power Consulting |  |
| Singh Rastogi, Rama | PUCT |  |
| Smith, Caitlin | Jupiter Power  |  |
| Tan, Paul | Saracen Energy |  |
| Thomas, Wayne | BTU |  |
| Townsend, Aaron | Potomac Economics |  |
| Trevino, Melissa | Occidental Chemical |  |
| True, Roy | ACES Power |  |
| Turner, Lucas | South Texas Electric Cooperative |  |
| Uy, Manny | Hunt Energy |  |
| Varnell, John | Tenaska Power Services |  |
| Villasana, Kristi | NBU |  |
| Walke, Pranil | Calpine |  |
| Wan, Josephine | Austin Energy |  |
| Wilks, Greg | Just Energy |  |
| Williams, Lori | BTU |  |
| Williams, Wes | BTU |  |
| Wittmeyer, Bob | Longhorn Power |  |
| Xie, Fei | Austin Energy |  |
| Zhang, Wen | Enverus |  |
| Zhou, Emily | Potomac Economics |  |
| Zhou, Feng | Plus Energy Storage |  |

*ERCOT Staff:*

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| --- | --- | --- |
|  |  |  |
| Albracht, Brittney |  |  |
| Anderson, Troy |  |  |
| Billo, Jeff |  |  |
| Boren, Ann |  |  |
| Bracy, Phil |  |  |
| Chen, Jian |  |  |
| Cheng, Yong |  |  |
| Chu, Zhengguo |  |  |
| Clifton, Suzy |  |  |
| Comstock, Read |  |  |
| Covington, Austin |  |  |
| Deller, Art |  |  |
| Dinopol, Ohlen |  |  |
| Dovalina, Julio |  |  |
| Du, Pengwei |  |  |
| Dwyer, Davida |  |  |
| Folks, Matt |  |  |
| Gaddam, Maruthi |  |  |
| Garcia, Freddy |  |  |
| Gonzalez, Ino |  |  |
| Gore, Amy |  |  |
| Haesler, Jameson |  |  |
| Hailu, Ted |  |  |
| Harris, Connie |  |  |
| Hilton, Keely |  |  |
| Huang, Fred |  |  |
| Jenkins, Darrell |  |  |
| Jin, Julie |  |  |
| Kane, Erika |  |  |
| Kettlewell, Bill |  |  |
| Khodabakhsh, Fred |  |  |
| Lee, Alex |  |  |
| Li, Weifeng |  |  |
| Madam, Vamsi |  |  |
| Maggio, David |  |  |
| Mago, Nitika |  |  |
| Martinez, Adriana |  |  |
| Matlock, Robert |  |  |
| McGuire, Josh |  |  |
| McQuary, Aaron |  |  |
| Mereness, Matt |  |  |
| Moreno, Alfredo |  |  |
| Patterson, Mark |  |  |
| Phillips, Cory |  |  |
| Pritchard, Lloyd |  |  |
| Raish, Carl |  |  |
| Roberts, Randy |  |  |
| Rosel, Austin |  |  |
| Ruane, Mark |  |  |
| Shanks, Magie |  |  |
| Sharma, Sandip |  |  |
| Shaw, Pamela |  |  |
| Simien, Teresa |  |  |
| Singh, Vijay |  |  |
| Spells, Vanessa |  |  |
| Taylor, Sean |  |  |
| Tomlin, Dale |  |  |
| Troublefield, Jordan |  |  |
| Warnken, Pete |  |  |
| Wiley, Leslie |  |  |
| Woodfin, Dan |  |  |
| Xiao, Hong |  |  |
| Zapanta, Rizaldy |  |  |

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

Antitrust Admonition

Resmi Surendran directed attention to the Antitrust Admonition, which was displayed.

Agenda Review

Ms. Surendran reviewed items scheduled for a vote and noted changes to the agenda.

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

*October 6, 2021*

Market Participants reviewed the October 6, 2021 WMS meeting minutes. Ms. Surendran noted this item could be considered for inclusion in the [Combined Ballot.](#Combined_Ballot)

New Protocol Revision Subcommittee (PRS) Referrals (see Key Documents)

*Nodal Protocol Revision Request (NPRR) 1096, Require Sustained Six Hour Capability for ECRS and Non-Spin*

Nikita Mago summarized NPRR1096 and discussion at the October 19, 2021 Non-Spinning Reserve (Non-Spin) Service Workshop, noted that ERCOT had completed additional analysis and anticipated further clarifications, and requested that the Wholesale Market Working Group (WMWG) review the issues after the Reliability Operations Subcommittee (ROS) developed their recommendations. Ms. Surendran noted this item could be considered for inclusion in the [Combined Ballot.](#Combined_Ballot)

*NPRR1099, Managing Network Operations Model Resource Nodes*

Alfredo Moreno summarized NPRR1099, changes anticipated with NPRR1016, Clarify Requirements for Distribution Generation Resources (DGRs) and Distribution Energy Storage Resources (DESRs), and impacts to Congestion Revenue Rights (CRRs). Market Participants requested review of the issues by the Congestion Management Working Group (CMWG). Ms. Surendran noted this item could be considered for inclusion in the [Combined Ballot.](#Combined_Ballot)

Securitization – Implementation of PURA Chapter 39, Subchapter M (see Key Documents)

Mark Ruane summarized the securitization process pursuant to the Debt Obligation Order (DOO) issued in Public Utility Commission of Texas (PUCT) Docket No. 52321, Application of Electric Reliability Council of Texas, Inc. for a Debt Obligation Order Pursuant to Chapter 39, Subchapter M, Winter Storm Uri Default Balance Financing and N, Winter Storm Uri Uplift Financing, of the Public Utility Regulatory Act (PURA), presented Next Steps and the implementation timeline for both Subchapter M and N, and reviewed concepts for the Subchapter M Implementation NPRR.

WMS Revision Requests (see Key Documents)

*Language Review*

*Verifiable Cost Manual Revision Request (VCMRR) 032, Calculation of Average Running Hours per Start when Determining the Variable O&M for QSGRs*

Market Participants reviewed VCMRR032. Ms. Surendran noted this item could be considered for inclusion in the [Combined Ballot.](#Combined_Ballot)

WMWG (see Key Documents)

David Detelich reviewed WMWG activities, including Revision Requests and the 2022 ERCOT Ancillary Services Methodology.

Revision Requests Tabled at Protocol Revision Subcommittee (PRS), Referred to WMS (see Key Documents)

*NPRR981, Day-Ahead Market Price Correction Process*

*NPRR1058, Resource Offer Modernization for Real-Time Co-Optimization*

*NPRR1067, Market Entry Qualifications, Continued Participation Requirements, and Credit Risk Assessment*

*NPRR1070, Planning Criteria for GTC Exit Solutions*

*NPRR1084, Improvements to Reporting of Resource Outages and Derates*

*NPRR1088, Applying Forward Adjustment Factors to Forward Market Positions and Un-applying Forward Adjustment Factors to Prior Market Positions*

*NPRR1092, Remove RUC Offer Floor*

*Other Binding Document Revision Request (OBDRR) 026, Change Shadow Price Caps to Curves and Remove Shift Factor Threshold*

WMS took no action on these items.

*NPRR1091, Changes to Address Market Impacts of Additional Non-Spin Procurement*

Mr. Detelich summarized NPRR1091 discussion at the October 25, 2021 WMWG meeting. Market Participants discussed the intent to implement NPRR1091 with minimal system changes to maximize efficiencies and implement with NPRR1093, Load Resource Participation in Non-Spinning Reserve, and NPRR1101, Create Non-Spin Deployment Groups made up of Generation Resources Providing Off-Line Non-Spinning Reserve and Load Resources that are Not Controllable Load Resources Providing Non-Spinning Reserve, and offered clarifications to NPRR1091. Ms. Surendran noted this item could be considered for inclusion in the [Combined Ballot.](#Combined_Ballot)

Market Credit Working Group (see Key Documents)

Brenden Sager reviewed MCWG activities

CMWG (see Key Documents)

Katie Rich reviewed CMWG activities.

*Nodal Operating Guide Revision Request (NOGRR) 215, Limit Use of Remedial Action Schemes*

WMS took no action on this item.

ERCOT Operations and Market Items (see Key Documents)

*2022 Ancillary Services Methodology Discussion*

Ms. Mago presented the proposed ERCOT Methodologies for Determining Minimum Ancillary Service Requirements for 2022 and reviewed the analyses and drivers for the changes in methodologies. Some Market Participants expressed concern for the changes proposed for Non-Spin, opined that the procurement amounts set in advance accommodate the risk, additional procurement of reserves is unpredictable and difficult to hedge, and requested ERCOT provide cost/benefit analyses of additional Non-Spin procurement at the November 17, 2021 Technical Advisory Committee (TAC) meeting.

**Clayton Greer moved to waive notice to consider the ERCOT recommendation re 2022 Ancillary Service Methodology. Murali Sithuraj seconded the motion. The motion failed via roll call ballot with six objections from the Consumer (4) (City of Eastland, Nucor, OPUC, Dow), Cooperative (GSEC) and Independent Retail Electric Provider (IREP) (Demand Control) Market Segments and five abstentions from the Independent Generator (3) (Exelon, Jupiter Power, Luminant), Independent Power Marketer (IPM) (DC Energy), and Municipal (CPS) Market Segments***. (Please see ballot posted with Key Documents.)*

*2021 Q3 Unregistered Distributed Generation (DG) Report*

Fred Khodabakhsh presented the 3rd Quarter 2021 Unregistered DG Report.

*2021 Q3 Settlement Stability Report*

Austin Covington presented the 3rd Quarter 2021 Settlement Stability Report.

*Potential Price Corrections*

ERCOT Staff summarized the Generic Transmission Constraint (GTC) modeling error that impacted the Day-Ahead Market (DAM) and the potential price corrections for Operating Days (ODs) September 30, 2021 and October 6 through 12, 2021, noted the data error had been resolved, referenced the October 29, 2021 Market notice, and stated that the issue would be discussed at the November 17, 2021 TAC meeting.

*Fast-Frequency Response (FFR) Advancement Project*

Dave Maggio summarized activities in preparation for the anticipated FFR project go-live in December 2021, including discussions at the Protocol Revision Subcommittee (PRS) Meetings, the October 27, 2021 Implementation Details for FFR Workshop, and the October 29, 2021 Market notice, and provided an update on recent ERCOT Market Operations Test Environment (MOTE) testing submissions. Some Market Participants expressed concern in meeting the anticipated go-live date in consideration of the recent release of technical requirements, required system changes and impacts to vendors, and requested ERCOT consideration in moving the project implementation date to a February or March 2022 release. Mr. Maggio noted delaying the FFR project would impact other ERCOT projects, however he offered to review the issues internally and stated that ERCOT Staff would provide an update at the November 10, 2021 PRS meeting.

Revision Requests Tabled at WMS (see Key Documents)

*VCMRR031, Clarification Related to Variable Costs in Fuel Adders*

WMS took no action on this item.

Combined Ballot

**Ian Haley moved to approve the Combined Ballot as follows:**

* **To approve October 6, 2021 WMS meeting minutes as submitted**
* **To request PRS continue to table NPRR1096 for further review by WMWG after review by ROS**
* **To request PRS continue to table NPRR1099 for further review by CMWG**
* **To recommend approval of VCMRR032 as submitted**
* **To recommend approval of NPRR1091 as revised by WMS**

**Mr. Greer seconded the motion. The motion carried unanimously via roll call vote.** *(Please see ballot posted with Key Documents.)*

Supply Analysis Working Group (SAWG) (see Key Documents)

Mr. Haley reviewed SAWG activities.

Other Business (see Key Documents)

*NPRR1073 Implementation Update*

Davida Dwyer summarized NPRR1073, Market Entry/Participation by Principals of Counter-Parties with Financial Obligations implementation details, including the requirement for Qualified Scheduling Entities (QSEs) and Congestion Revenue Right Account Holders (CRRAHs) to submit a completed one-time Notice of Report of Principles to ERCOT by December 15, 2021, noted that the form was located on the ERCOT website on the Registration and Qualification landing page, and stated that a Market notice would be sent on November 4, 2021.

*Settlement Issues*

Mr. Greer expressed concern for recent changes to Load activity based on price and the lack of regulation to manage that activity and discussed potential settlement changes. Market Participants discussed various issues and requested WMWG review the following:

* Review converting one hour DAM settlements to 15 minute settlements
* Review reducing Security-Constrained Economic Dispatch (SCED) run time from five minutes
* Review adjusting the Real-Time Reliability Deployment Price Adder to address price suppression caused by early deployment of reserves as directed by the PUCT

*2022 ERCOT Membership/Segment Representative Elections*

Suzy Clifton reminded Market Participants that the membership date of record was advanced to Friday November 5, 2022 in consideration of the ERCOT Board of Directors vote to move the 2022 Annual Meeting of the Corporate Members to December 10, 2021, noted a Market Notice was sent on October 30, 2021, and stated that 2022 Segment Representative Elections for TAC and Subcommittees would begin on Monday, November 8, 2021.

*Review Open Action Items*

Market Participants reviewed the Open Action Items.

*No Report*

* Demand Side Working Group (DSWG)
* Market Settlement Working Group (MSWG)
* Metering Working Group (MWG)
* Resource Cost Working Group (RCWG)

Adjournment

Ms. Surendran adjourned the November 3, 2021 WMS meeting at 2:16 p.m.

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

https://www.ercot.com/calendar/event?id=1600786059617 [↑](#footnote-ref-1)