**DRAFT**

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

**ERCOT Austin – 7620 Metro Center Drive – Austin, Texas 78744**

**Wednesday, May 2, 2018 – 9:30 a.m.**

Attendance

*Members:*

|  |  |  |
| --- | --- | --- |
| Barnes, Bill | Reliant Energy Retail Services |  |
| Bierschbach, Erika | Austin Energy |  |
| Caraway, Shannon | Solar Prime |  |
| Carpenter, Jeremy | Tenaska Power Services |  |
| Coleman, Diana | OPUC |  |
| Downey, Marty | Electranet Power |  |
| Evans, Mike | Brazos Electric Cooperative |  |
| Goff, Eric | Citigroup Energy |  |
| Greer, Clayton | Morgan Stanley |  |
| Gross, Blake | AEP Service Corporation |  |
| Hauk, Christine | Garland Power and Light | Alt. Rep. for Russell Franklin |
| Johnson, Anthony | CenterPoint Energy |  |
| Kee, David | CPS Energy |  |
| Lange, Clif | South Texas Electric Cooperative |  |
| Lindberg, Ken | Bryan Texas Utilities |  |
| Mauldin, Jamie | City of Eastland |  |
| Morris, Sandy | Direct Energy |  |
| Schwarz, Brad | Sharyland Utilities |  |
| Paez, Richard | Infinite Energy | Alt. Rep. for Steve Madden  Via Teleconference |
| Powell, Christian | LCRA | Alt. Rep. for John Dumas |
| Smith, Mark | Nucor |  |
| Such, Chris | E. ON |  |
| Surendran, Resmi | Shell Energy |  |
| Whittle, Brandon | Calpine Energy Solutions | Alt. Rep. for Clint Sandidge |
| Wilson, Joe Dan | Golden Spread Electric Cooperative |  |
| Woodruff, Taylor | Oncor |  |

The following proxy was assigned:

* Clif Lange to Christian Powell at 12:18 p.m.

*Guests:*

|  |  |  |
| --- | --- | --- |
| Abbott, Kristin | PUCT | Via Teleconference |
| Ainspan, Malcolm | NRG | Via Teleconference |
| Anderson, Kevin | Customized Energy Solutions |  |
| Blevins, Chad | Grid Economics |  |
| Boisseau, Heather | LCRA | Via Teleconference |
| Bryant, Mark | PUCT | Via Teleconference |
| Bunch, Kevin | EDF Energy Services |  |
| Cochran, Seth | DC Energy |  |
| Corona, Connie | PUCT |  |
| Daigneault, Ralph | Potomac Economics |  |
| Detelich, David | CPS Energy | Via Teleconference |
| Eckhoff, Christina | Texas Reliability Entity | Via Teleconference |
| Elliott, Christopher | Bank of America Merrill Lynch | Via Teleconference |
| Garza, Beth | Potomac Economics |  |
| Haley, Ian | Vistra Energy |  |
| Harris, Brenda | Oxy | Via Teleconference |
| Henson, Martha | Oncor |  |
| Henderson, Natasha | USEC |  |
| Huynh, Thuy | Potomac Economics | Via Teleconference |
| Hughes, Darren | LCRA | Via Teleconference |
| Johnson, David | IVG Energy | Via Teleconference |
| Jones, Liz | Oncor |  |
| Juricek, Michael | Oncor | Via Teleconference |
| Kroskey, Tony | Brazos Electric Cooperative | Via Teleconference |
| Nathan, Robert | CPS Energy |  |
| Nease, Nelson | Nelson H. Nease, PC | Via Teleconference |
| Palani, Ananth | Garland Power and Light | Via Teleconference |
| Powell, Christian | LCRA |  |
| Reid, Walter | Wind Coalition |  |
| Ricketts, David | Vistra Energy | Via Teleconference |
| Robinson, Rhonda | Calpine Energy Solutions | Via Teleconference |
| Saini, Ishwar | Macquarie Group | Via Teleconference |
| Siddiqi, Shams | Crescent Power |  |
| Sithuraj, Murali | Austin Energy |  |
| Smith, Caitlin | Jewell and Associates |  |
| Stanfield, Leonard | Invenergy |  |
| Thompson, David | PEC |  |
| True, Roy | ACES Power | Via Teleconference |
| Turner, Lucas | South Texas Electric Cooperative | Via Teleconference |
| Varnell, John | Tenaska | Via Teleconference |
| Wallin, Shane | DME |  |
| Watson, Mark | S & P Global Platts | Via Teleconference |
| Williams, Lori | Bryan Texas Utilities | Via Teleconference |
| White, Lauri | AEP Service Corporation | Via Teleconference |
| Whitworth, Dough | Texas Reliability Entity | Via Teleconference |
| Wittmeyer, Bob | DME |  |

*ERCOT Staff:*

|  |  |  |
| --- | --- | --- |
| Albracht, Brittney |  | Via Teleconference |
| Ballew, Aaron |  | Via Teleconference |
| Bivens, Carrie |  |  |
| Boren, Ann |  | Via Teleconference |
| Boswell, Bill |  | Via Teleconference |
| Bracy, Phil |  |  |
| Chang, Sean |  |  |
| Chen, Jian |  | Via Teleconference |
| Du, Pengwei |  | Via Teleconference |
| Gonzalez, Ino |  |  |
| Guo, Jack |  |  |
| Hanson, Kevin |  | Via Teleconference |
| Hartmann, Jimmy |  | Via Teleconference |
| Kane, Erika |  | Via Teleconference |
| Krein, Steve |  | Via Teleconference |
| Landry, Kelly |  |  |
| Lavas, Jamie |  | Via Teleconference |
| Lee, Alex |  | Via Teleconference |
| Levine, Jon |  | Via Teleconference |
| Maggio, Dave |  |  |
| Mereness, Matt |  | Via Teleconference |
| Mickey, Joel |  |  |
| Moorty, Sai |  | Via Teleconference |
| Morehead, Juliana |  |  |
| Moreno, Alfredo |  | Via Teleconference |
| Opheim, Calvin |  | Via Teleconference |
| Patterson, Mark |  |  |
| Phillips, Cory |  |  |
| Prichard, Lloyd |  | Via Teleconference |
| Ragsdale, Ken |  |  |
| Ruane, Mark |  |  |
| Shaw, Pam |  |  |
| Smith, Nathan |  | Via Teleconference |
| Thomas, Shane |  |  |
| Thompson, Chad |  |  |
| Townsend, Aaron |  | Via Teleconference |
| Tucker, Don |  |  |
| Warnken, Pete |  |  |
| Woodfin, Dan |  |  |
| Wattles, Paul |  |  |
| Xiao, Hong |  | Via Teleconference |

***Unless otherwise indicated, all Market Segments were present for a vote.***

Antitrust Admonition

David Kee directed attention to the Antitrust Admonition, which was displayed.

Agenda Review

There were no changes to the agenda.

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

*April 4, 2018*

**Diana Coleman moved to approve the April 4, 2018 WMS meeting minutes as submitted. Resmi Surendran seconded the motion. The motion carried with one abstention from the Independent Generator (Calpine) Market Segment.**

ERCOT Operations and Market Items (see Key Documents)

*Overview of Concept for Nodal Pricing for Non-Modeled Generators and Registered Distributed Generation (DG)*

Paul Wattles reviewed the concept for using Nodal pricing to provide proper incentives for Non-Modeled Generators and registered DG in transmission constrained areas, including its history, definitions, impacts and benefits. Mr. Wattles presented the draft Nodal Protocol Revision Request (NPRR), Nodal Pricing for Non-Modeled Generators and Distributed Generation Registered with ERCOT for Settlement Purposes. Mr. Wattles reminded Market Participants that NPRR866, Mapping Registered Distributed Generation and Load Resources to Transmission Loads in the Network Operations Model, would need to be implemented first, as it creates the methodology for mapping DG units to the ERCOT Transmission Grid; that the term Non-Modeled Generator is being considered by the Resource Definition Task Force (RTF); and that Wholesale Storage Load (WSL) treatment for a storage facility in which the re-generated energy is provided by a Non-Modeled Generator or registered DG is not addressed in the draft Revision Request. Market Participants and ERCOT Staff discussed the issues of enhanced reporting, potential changes in hedging instruments, treatment of pricing based on quantity distributed, and unintended consequences. Mr. Kee referred the issue to the Demand Side Working Group (DSWG) and Qualified Scheduling Entity (QSE) Managers Working Group (QMWG).

*February 10th High Dispatch Limit (HDL)/ Low Dispatch Limit (LDL) Override*

Sean Chang reviewed the February 10, 2018 HDL/LDL override event and stated it occurred because the Resource Limit Calculator logic caused Security-Constrained Economic Dispatch (SCED) to give base points above the High Ancillary Service Limit (HASL) for approximately one hour. Mr. Chang stated that in this incident the Resource had significant Regulation Service and Responsive Reserve (RRS) responsibilities and that when the Resource was fully deployed on Regulation, SCED could not dispatch the Resource below the HASL. Although this logic has been around since Nodal Go-Live, Mr. Chang stated that ERCOT is currently exploring potential solutions to correct the Resource Limit Calculator logic. Dave Maggio stated that ERCOT hoped to develop solutions that avoided the situation from occurring. Mr. Kee referred the issue to QMWG.

*Low System-Wide Offer Cap (LCAP) Methodology Explanation*

Pam Shaw reviewed the scarcity pricing mechanism; identified the potential interactions and impacts of the LCAP, Value of Lost Load (VOLL), and the Operating Reserve Demand Curve (ORDC) if the cumulative Peaker Net Margin (PNM) exceeds $315,000/Megawatts (MW) year; and presented potential solutions if there were insufficient Ancillary Service offers in the Day-Ahead Market (DAM). Ms. Shaw stated that this was an unlikely event, that ERCOT wanted Market Participants to understand the current methodology if the event occurred, and that ERCOT did not intend to take make changes at this time. Market Participants and ERCOT Staff discussed the methodology. Mr. Kee requested QMWG conduct a deep dive to understand potential issues if this event occurred.

*Next Steps 4-Coincident Peak (4-CP) Reconciliation*

Mark Ruane reminded Market Participants of the four potential solutions to clarify the treatment of 4-CP discrepancies following implementation of NPRR830, Revision of 4-Coincident Peak Methodology, which were presented at the April 4, 2018 WMS meeting; and requested Market Participant input. Market Participants that supported Option 1 stated no change was needed due to the incremental adjustment amounts. Other Market Participants that supported Option 3 opined that inclusion of Southern Cross Transmission or other large Direct Current Tie (DC Tie) Operators could impact adjustments amounts significantly and stated that Option 3 provided the most accurate calculation. Mr. Ruane stated ERCOT would draft a Revision Request and proceed through the Stakeholder process

New Protocol Revision Subcommittee (PRS) Referrals

*System Change Request (SCR) 796, Change Validation Rules to Preclude Certain Transactions at Resource Nodes within Private Use Networks*

Carrie Bivens summarized the issue of virtual transactions at certain generation Resource Nodes within Private Use Networks, reviewed the proposed solution, and reminded Market Participants that neither SCR796 nor Other Binding Document Revision Request (OBDRR) 003, Change Validation Rules to Preclude Certain Transactions at Resource Nodes within Private Use Networks, change Real-Time price development.

**Clayton Greer moved to endorse SCR796 as submitted. Bill Barnes seconded the motion. The motion carried with one abstention from the Independent Power Marketer (IPM) (Shell) Market Segment.**

OBDRR003, Change Validation Rules to Preclude Certain Transactions at Resource Nodes within Private Use Networks

Ms. Bivens summarized the interim solution between approval of OBDRR003 and implementation of SCR796, reviewed the Revision Request timeline, and requested WMS approve OBDRR003 following approval of SCR796 since it contains grey boxed language that is implicitly dependent on SCR796. WMS took no action on this item.

QMWG

Eric Goff summarized recent CMWG activities, including review of Revision Requests assigned to QMWG.

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

*NPRR807, Day-Ahead Market Price Correction*

*NPRR848, Separate Clearing Prices for RRS*

*NPRR850, Market Suspension and Restart*

*NPRR862, Updates to Address Revisions under PUCT Project 46369*

*NPRR863, Creation of Primary Frequency Response Service Product and Revisions to Responsive Reserve*

WMS took no action on these items.

NPRR838, Updated O&M Cost for RMR Resources

Mr. Gonzalez provided an update on NPRR838 and stated that the concept to develop an appropriate value or fixed number to be applied for the Reliability Must-Run (RMR) Unit’s Operations and Maintenance (O&M) costs that would be used for the mitigated price at that location, was supported by the Independent Market Monitor (IMM), ERCOT and RCWG; however, RCWG members requested vetting of the appropriate value or fixed number by QMWG. Mr. Kee referred the issue to QMWG.

*NPRR845, RMR Process and Agreement Revisions*

Mr. Goff stated that NPRR845 was discussed extensively at two previous QMWG meetings, and that Market Participants supported additional clarifications regarding claw-back of incentive factor payments for capital costs that were later revised to no longer be capital costs as a result of changes to the RMR contract. Mr. Kee requested that QMWG and ERCOT draft clarifications and to them bring forward for consideration at the June 6, 2018 WMS meeting.

*NPRR856, Treatment of OFFQS Status in Day-Ahead Make Whole and RUC Settlements*

Mr. Goff reviewed NPRR856 and the 4/9/18 ERCOT comments. Market Participants offered additional revisions to clarify the definition of QSE-Committed Interval.

**Mr. Greer moved to endorse NPRR856 as amended by the 4/9/18 ERCOT comments and as revised by WMS. Marty Downey seconded the motion. The motion carried unanimously.**

Resource Cost Working Group (RCWG) (see Key Documents)

Ino Gonzalez reviewed recent RCWG activities including the Houston Ship Channel price liquidity issue and presented the proposed solutions to address missing data. Market Participants discussed the proposed solutions and expressed support for Option 2 as interim solution and requested further vetting of impacts to long term contracts to consider Option 3 as a long term solution.

*Verifiable Cost Manual Revision Request (VCMRR) 021, Related to NPRR847, Exceptional Fuel Cost Included in the Mitigated Offer Cap*

*Urgent Status*

*Language Consideration*

Market Participants and ERCOT Staff reviewed the merits of VCMRR021. Mr. Gonzalez reviewed the timeline for implementation of NPRR847, Exceptional Fuel Cost Included in the Mitigated Offer Cap, and VCMRR021.

**Mr. Greer moved to grant VCMRR021 Urgent status. Mr. Barnes seconded the motion. The motion carried unanimously.**

**Mr. Greer moved to recommend approval of VCMRR021 as submitted and to forward VCMRR021 and the Impact Analysis to the Technical Advisory Committee (TAC). Brandon Whittle seconded the motion. The motion carried unanimously.**

Impact Analysis Review

*VCMRR020, Delay the Fuel Adder Sunset Related to VCMRR014, Revise Fuel Adder Factor for Coal and Lignite Resources*

Market Participants and ERCOT Staff reviewed the Impact Analysis for VCMRR020.

**Mr. Greer moved to endorse and forward to TAC the 4/4/18 WMS Report and the Impact Analysis for VCMRR020. Jeremy Carpenter seconded the motion. The motion carried unanimously.**

Congestion Management Working Group (CMWG) (see Key Documents)

Ian Haley reviewed recent CMWG activities and stated that the May 14, 2018 CMWG meeting is cancelled.

*Methodology for Setting Maximum Shadow Prices for Network and Power Balance Constraints*

Mr. Maggio reviewed potential issues with the current generic maximum shadow prices for base case transmission constraints, specifically regarding the Panhandle Generic Transmission Constraint (GTC); reviewed the potential impacts; and stated ERCOT proposed changing the generic value from $5,000/Megawatt Hour (MWh) to $9,251/MWh for all base case violations. Mr. Maggio reviewed the stakeholder process for changes to the methodology.

**Mr. Greer moved to waive notice in order to consider revisions to the Methodology for Setting Maximum Shadow Prices for Network and Power Balance Constraints. Shannon Caraway seconded the motion. The motion carried with two abstentions from the Cooperative (LCRA, STEC) Market Segment.**

**Mr. Greer moved to endorse the concepts for revisions to the Methodology for Setting Maximum Shadow Prices for Network and Power Balance Constraints as presented by ERCOT in its** [**May 2, 2018 presentation**](http://www.ercot.com/content/wcm/key_documents_lists/138539/11._Proposed_Change_to_the_Generic_Maximum_Shadow_Price_for_Base_Case_Constraints_-_5-2-18_-_WMS.pptx) **to WMS. Mr. Barnes seconded the motion. The motion carried with four abstentions from the Consumer (2) (Dow Chemical, Nucor) and Cooperative (2) (LCRA, STEC) Market Segments.**

Market Credit Working Group (MCWG) (see Key Documents)

Mr. Barnes reviewed recent MCWG activities, including an update on the Retail Electric Provider (REP) default process.

DSWG (see Key Documents)

Mark Patterson reviewed recent DSWG activities.

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

Pete Warnken reviewed recent SAWG activities, including the 2018 Summer Seasonal Assessment of Resource Adequacy (SARA) Report.

Outage Coordination Working Group (OCWG)

*High Impact Transmission Elements (HITE) List*

Martha Henson reviewed the timeline and submission process regarding development of the annual HITE List, encouraged participation in identifying outages expected to cause significant congestions impacts, and reminded Market Participants that the revisions to the HITE List Methodology would be considered at the May 3, 2018 Reliability and Operations Subcommittee (ROS) Meeting. Mr. Kee requested OCWG provide updates to WMS as the HITE List was developed.

Day-Ahead Market (DAM) Price Correction Options (NPRR807) (see Key Documents)

Ms. Bivens reviewed the history of NPRR807, summarized the Nodal Protocol language that requires ERCOT to correct DAM prices in specific events, presented the potential impacts if prices have to be revised, reminded Market Participants of the ERCOT solution codified in NPRR807, and requested Market Participant input. ERCOT Staff and Market Participants discussed the merits of NPRR807 and potential pricing scenarios and outcomes contemplated by NPRR807. Some Market Participants opined that ERCOT has proposed revisions that limit the actions impacted parties can take to recover in the event ERCOT is required to revise prices. Juliana Morehead responded that the relevant revisions to NPRR807 proposed by Market Participants are duplicative of the current Alternative Dispute Resolution (ADR) process and therefore unnecessary. Market Participants and ERCOT Staff further debated the issues and additional revisions. Ms. Surendran requested interested Market Participants and ERCOT Staff further vet the issues and provide clarifications for consideration at the June 6, 2018 WMS meeting.

Other Business

There was no Other Business.

*No Report*

* Emerging Technologies Working Group (ETWG)
* Metering Working Group (MWG)

Adjournment

Mr. Kee adjourned the May 2, 2018 WMS meeting at 2:35 p.m.

1. <http://www.ercot.com/calendar/2018/5/2/138538-WMS> [↑](#footnote-ref-1)