**DRAFT**

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

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

**Wednesday, November 2, 2016 – 9:30 a.m.**

Attendance

*Members:*

|  |  |  |
| --- | --- | --- |
| Allen, Thresa | Avangrid Renewables |  |
| Barnes, Bill | Reliant Energy Retail Services |  |
| Bierschbach, Erika | Austin Energy |  |
| Brewster, Chris | City of Eastland |  |
| Carpenter, Jeremy | Tenaska |  |
| Coleman, Diana | OPUC |  |
| Dumas, John | LCRA |  |
| Franklin, Russell | Garland Power and Light |  |
| Goff, Eric | Citigroup Energy |  |
| Greer, Clayton | Morgan Stanley |  |
| Gross, Blake | AEP Service Corporation |  |
| Helton, Bob | GDF Suez |  |
| Kee, David | CPS Energy |  |
| Lange, Clif | South Texas Electric Cooperative |  |
| Lindberg, Ken | Bryan Texas Utilities |  |
| Maduzia, Franklin | Dow Chemical |  |
| Markham, Craig | Enerwise Global Technologies | Alt. Rep for P. Dotson-Westphalen - |
|  |  | Via Teleconference |
| Messer, Tayaun | Brazos Electric Power |  |
| Morris, Sandy | Direct Energy |  |
| Shaw, Marka | Exelon | Alt. Rep for C. Lyons |
| Thurnher, Greg | Shell Energy |  |
| Trefny, Floyd | Nucor | Alt. Rep for M. Smith |
| Wall, Perrin | CenterPoint Energy |  |
| Wilson, Joe Dan | Golden Spread Electric Cooperative | Alt. Rep for M. Moore |
| Woodruff, Taylor | Oncor |  |
|  |  |  |

The following proxy was assigned:

* Brad Schwarz to Blake Gross
* Greg Thurnher to Eric Goff at 12:04 p.m.
* Tayaun Messer to Clif Lange at 3:03 p.m.

*Guests:*

|  |  |  |
| --- | --- | --- |
| Ainspan, Malcolm | NRG | Via Teleconference |
| Allen, Travis | Enbridge | Via Teleconference |
| Ashley, Kristy | CES |  |
| Brandt, Adrianne | CPS Energy |  |
| Bruce, Mark | Cratylus Advisors | Via Teleconference |
| Bryant, Mark | PUCT | Via Teleconference |
| Bunch, Kevin | EDF Trading | Via Teleconference |
| Burke, Tom | Golden Spread Electric Cooperative | Via Teleconference |
| Clemenhagen, Barbara | CES |  |
| Cochran, Seth | DC Energy |  |
| Coleman, Katie | Texas Industrial Energy Consumers |  |
| Cripe, Ramsey | Schneider Engineering |  |
| Denney, Kristi | Potomac Economics |  |
| Downey, Marty | Viridity Energy |  |
| English, Barksdale | Austin Energy |  |
| Graham, Greg | Texas Reliability Entity | Via Teleconference |
| Harvey, Julia | PUCT |  |
| Huang, Feiran | Luminant | Via Teleconference |
| Hellinghausen, Bill | EDF Energy | Via Teleconference |
| Hughes. Lindsey | Competetive Power | Via Teleconference |
| Hyzinski, Thom | Talen Energy | Via Teleconference |
| Jones, Randy | Calpine |  |
| Kroskey, Tony | Brazos Electric Power | Via Teleconference |
| Li, Dapeng | Luminant | Via Teleconference |
| Matos, Chris | Golden Spread Electric Cooperative | Via Teleconference |
| Moeller, Jason | LCRA | Via Teleconference |
| Moore, Sheri | CenterPoint Energy | Via Teleconference |
| Nease, Nelson | NHNPC | Via Teleconference |
| Ordonez, Camilo | Luminant | Via Teleconference |
| Poonawala, Adnan | Just Energy | Via Teleconference |
| Raborn, Glynn | CenterPoint Energy | Via Teleconference |
| Reedy, Steve | Potomac Economics | Via Teleconference |
| Reid, Walter | Wind Coalition | Via Teleconference |
| Rothschild, Eric | GDS | Via Teleconference |
| Sandidge, Clint | Noble Solutions | Via Teleconference |
| Siddiqi, Shams | Crescent Power |  |
| Siegel, Howard |  |  |
| Spankuch, Andrew | SPG Energy | Via Teleconference |
| Sumbera, Darrell | CenterPoint Energy |  |
| Tessema, Biruk | Austin Energy | Via Teleconference |
| Tijerina, Jonathan | CPS Energy |  |
| Turner, Lucas | South Texas Electric Cooperative | Via Teleconference |
| Varnell, John | Tenaska | Via Teleconference |
| Vinson, Paul | CPS Energy |  |
| Wallin, Shane | DME Power |  |
| Watson, Mark | S & P Global Platts | Via Teleconference |
| White, Lauri | AEP | Via Teleconference |
| Whittle, Brandon | Megawatt Analytics |  |
| Wittmeyer, Bob | DME |  |
| Zake, Diana | Lone Star Transmission | Via Teleconference |

*ERCOT Staff:*

|  |  |  |
| --- | --- | --- |
| Albracht, Brittney |  | Via Teleconference |
| Annab, Magie |  | Via Teleconference |
| Bezwada, Neelima |  | Via Teleconference |
| Billo, Jeff |  |  |
| Bivens, Carrie |  |  |
| Blevins, Bill |  | Via Teleconference |
| Bracy, Phil |  | Via Teleconference |
| Butterfield, Lindsay |  | Via Teleconference |
| Chang, Sean |  | Via Teleconference |
| Clifton, Suzy |  |  |
| Dovalina, Julio |  | Via Teleconference |
| Findley, Samantha |  | Via Teleconference |
| Gonzalez, Ino |  |  |
| Hailu, Ted |  | Via Teleconference |
| Hanson, Kevin |  | Via Teleconference |
| Holt, Blake |  | Via Teleconference |
| House, Donald |  | Via Teleconference |
| Huang, Fred |  | Via Teleconference |
| Jones, Dan |  |  |
| Landry, Kelly |  |  |
| Lasher, Warren |  |  |
| Lee, Alex |  | Via Teleconference |
| Maggio, David |  |  |
| Mago, Nitika |  | Via Teleconference |
| Moreno, Alfredo |  | Via Teleconference |
| Ögelman, Kenan |  |  |
| Opheim, Calvin |  | Via Teleconference |
| Pabbisetty, Suresh |  |  |
| Patterson, Mark |  | Via Teleconference |
| Phillips, Cory |  | Via Teleconference |
| Ragsdale, Ken |  | Via Teleconference |
| Roberts, Randy |  | Via Teleconference |
| Rosel, Austin |  | Via Teleconference |
| Ruane, Mark |  |  |
| Shaw, Pamela |  | Via Teleconference |
| Solis, Stephen |  | Via Teleconference |
| Surendran, Resmi |  |  |
| Thompson, David |  | Via Teleconference |
| Townsend, Aaron |  | Via Teleconference |
| Wattles, Paul |  | Via Teleconference |
| Woodfin, Dan |  |  |

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

2016 WMS Chair Jeremy Carpenter called the November 2, 2016 WMS meeting to order at 9:30 a.m.

Antitrust Admonition

Mr. Carpenter directed attention to the Antitrust Admonition, which was displayed.

Agenda Review

There were no changes to the agenda. Mr. Carpenter introduced newly seated WMS Representatives Theresa Allen and Taylor Woodruff.

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

*October 17, 2016*

**Greg Thurnher moved to approve the October 17, 2016 WMS meeting minutes as submitted. Russell Franklin seconded the motion. The motion carried unanimously.**

Technical Advisory Committee (TAC) Update and Assignments

Mr. Carpenter reviewed the disposition of items considered at the October 27, 2016 TAC meeting.

*Market Continuity Update*

Mr. Carpenter reviewed the Market Continuity List of assignments to WMS Working Groups, requested the Working Group Chairs provide an update of their items so that an aggregate list could be presented to TAC, and stated that ERCOT would develop draft language for the initial concepts for Market Participant consideration.

*Incorporation of Other Binding Documents into Protocols/Guides – Next Steps*

Kelly Landry reviewed the list of current Other Binding Documents and the proposed process to incorporate them into the ERCOT Protocols and Market Guides as discussed at TAC. Market Participants expressed concern with a blanket approach to the list, requested that the Protocol Revision Subcommittee (PRS) consider and review each item on the list individually, and requested that ERCOT consider leveraging the Administrative Revision Request process for Other Binding Document forms.

*Proposed Revision Request Process Changes*

Mr. Landry reviewed proposed changes to the Revision Request process that were vetted at TAC including Guide revisions being originally considered at the voting Subcommittee level, and Guide revisions requiring ERCOT Board approval when there is an accompanying Nodal Protocol Revision Request (NPRR). Market Participants expressed support for the proposed changes to the Revision Request process.

ERCOT Operations and Market Items

*CRR Activity Calendar*

Carrie Bivens presented the proposed Congestion Revenue Right (CRR) Activity Calendar, highlighting the dates adjusted for the Long Term Auction Sequences and the format change.

**Mr. Thurnher moved to endorse the CRR Activity Calendar as proposed by ERCOT. Sandy Morris seconded the motion. The motion carried unanimously.**

*Subsynchronous Resonance Study Update*

Jeff Billo provided an update on NPRR562, Subsynchronous Resonance, stating that ERCOT anticipates completing the study by the end of 2016, hosting additional workshops tentatively scheduled for January 13 and 31, 2017, and drafting additional comments to NPRR562 in Q1 of 2017.

*Greens Bayou Study Update*

Resmi Surendran informed Market Participants there are no updates to report.

New Protocol Revision Subcommittee (PRS) Referrals

*There were no referrals to WMS from PRS.*

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

*NPRR798, Additional CRR Accounts Request*

*NPRR799, Updates to Outages of Transmission Facilities*

*NPRR802, Settlements Clean-up*

*NPRR804, Remove Posting Requirement for One-Line Diagram*

WMS took no action on these items.

*NPRR768, Revisions to Real-Time On-Line Reliability Deployment Price Adder Categories*

Kenan Ögelman provided an update on NPRR768, stating that the Public Utility Commission of Texas (PUCT) Docket No. 45624, Application of the City of Garland to Amend a Certificate of Convenience and Necessity for the Rusk to Panola Double-Circuit 345-kV Transmission Line in Rusk and Panola Counties, remains open while additional consideration is given to a related compliance docket, and requested that PRS continue tabling this NPRR until Docket No. 45624 is concluded. WMS took no action on this item.

*NPRR776, Voltage Set Point Communication*

Eric Goff stated that ERCOT has filed Nodal Operating Guide Revision Request (NOGRR) 167, Alignment with NPRR776, Voltage Set Point Communication, and that the QSE Managers Working Group (QMWG) will be reviewing the related Revision Requests at the November 14, 2016 meeting. WMS took no action on this item.

*NPRR777, ERCOT-directed Dispatch of Price-Responsive Distributed Generation (DG)*

Mr. Thurnher provided an update on efforts to improve NPRR777, noting that he was developing proposed revisions with the goal of creating a more coordinated Dispatch for price-responsive DG that would be more responsive to price formation and reliability deployments. Mr. Thurnher stated the focus of NPRR777 now includes an option for price-responsive distributed Resource participation in Security-Constrained Economic Dispatch (SCED), the streamlining of the ERCOT interconnection process, and leveraging current Emergency Response Service (ERS) Resource telemetry requirements for distributed Resources. Market Participants expressed concern with the concepts of revising the definition of Resource, capacity payments, and participation in SCED without addressing related Load shedding issues first. Mr. Carpenter encouraged Market Participants to collaborate with Mr. Thurnher in drafting the proposed revisions. WMS took no action on this item.

RMR Issues (see Key Documents)

*TAC Assignment – RMR Issue: Long Term Solution – Alternatives to NPRR784, Mitigated Offer Cap for Reliability Must-Run (RMR) Units*

*Analysis of Mitigated Offer Cap Curve Proposals for RMR Resources*

David Maggio reviewed two approaches for the Settlement of RMR Units as alternatives to NPRR784. Mr. Maggio provided the assumptions used in the analysis of the two approaches and the results of the analysis, noting that the primary difference between the two approaches is that Approach 1 considered the highest point on the Mitigated Offer Cap curve and Approach 2 considered the highest point on the Step 2 Energy Offer Curve. Mr. Maggio noted that Approach 1 generally resulted in Mitigated Offer Cap values higher than the ~$633/MWh estimated in the NPRR784 proposal, and that Approach 2 generally resulted in values less than ~$633/MWh. Ms. Surendran reminded Market Participants that ERCOT provided the data analysis at the request of WMS; that the analysis is for one constraint, however there could be multiple constraints; and that ERCOT was not considering, recommending or proposing an implementation process. Mr. Ögelman stated that the calculation is an approximation, and requested Market Participants consider the frequency of the calculation, and that doing the calculation more frequently than weekly or calculating for each SCED would be cost prohibitive and implementation would be time-consuming and difficult. Market Participants expressed concern for the high volatility in both approaches.

**Mr. Barnes moved to endorse a methodology for establishing the Mitigated Offer Caps for RMR Units based on Approach 2 as a high-level concept and requested that ERCOT develop implementation options based on Approach 2 and present them to WMS for consideration at a future meeting. Mr. Goff seconded the motion.** Some Market Participants expressed opposition to this approach on the basis that it could create opportunities for the exercise of market power, that it creates incentives for more RMR Units and Resource retirements and that it does not create any new incentives to build new generation. Market Participants opposing this approach suggested that other options be considered, such as localized reserves or Load Zones. Other Market Participants expressed concern with the lower Shift Factor of 2% and requested ERCOT provide additional analysis using higher Shift Factors of 5% and 10%. Mr. Thurnher opined that there are limited options, but that Approach 1 supports the effort to be restorative to Real-Time price and forward transactions.

**Mr. Thurnher moved to amend the motion to endorse the methodology for establishing the Mitigated Offer Caps for RMR Units based on Approach 1 as a high level concept, and requested that ERCOT develop implementation options based on Approach 1 and present to WMS for consideration at a future meeting. Clayton Greer seconded the motion.** There was some opposition based on the Shift Factor cut off. Mr. Thurnher withdrew the amendment to the main motion.

Some Market Participants proposed that this discussion be referred to QMWG for further review. Other Market Participants noted that these concepts have been discussed by working groups for some time and expressed preference that this issue remain at the subcommittee level where a vote can be taken. Market Participants continued discussion of several variations of Approaches 1 and 2 as high level concepts. These variations were generally opposed on the basis that endorsing them, even as high level concepts, would be an endorsement of that approach and that such an endorsement would restrict future discussion of the various approaches. Market Participants then discussed the potential for a more generalized endorsement of the approaches that were reviewed.

**Tayaun Messer moved to table endorsing a methodology for establishing the Mitigated Offer Caps for RMR Units and refer the issue to QMWG. John Dumas seconded the motion.** Beth Garza expressed concern that the motion to table is a deferral mechanism.

**Mr. Thurnher moved to call the question. Mr. Dumas seconded the motion.** Mr. Landry reviewedthe procedural process for the motion to call the question. Mr. Thurnher withdrew the motion.

Some Market Participants opposed tabling the motion and supported the stakeholder effort to move forward with the lowest cost approach to be implemented by June 2017. Market Participants supporting the motion to table objected to the Independent Market Monitor (IMM) comments, opined that additional consideration was needed of the various options, and requested that ERCOT provide additional analysis of the Shift Factors and clearing prices. Ms. Messer withdrew her motion to table.

Ms. Garza responded to the Market Participants’ concerns of market power, stating that she shared the concern that Entities might use the RMR process to extract revenue from the market, but that the IMM is attentive to it. Ms. Garza opined that using an adjustment to the clearing house pricing was an unrealistic solution to the problem since it would require an additional SCED run, that increasing the Shift Factor threshold would eliminate units that would have been used, and that an adjustment to the Mitigated Offer Cap is a rational, low-cost solution to the problem of pricing of RMR Units. Market Participants offered compromise language on the main motion.

**Mr. Barnes amended the main motion as follows: to endorse a methodology for establishing Mitigated Offer Caps for RMR Units based upon the last dispatachable non-RMR Resource and request that ERCOT develop implementation options based upon the last dispatachable non-RMR Resource and present to WMS for consideration at a future meeting. Mr. Goff seconded the motion. The motion carried via roll call vote with nine objections from the Consumer (4) (City of Eastland, OPUC, Dow Chemical, Nucor), Cooperative (4) (LCRA, STEC, Brazos Electric, GSEC), and Investor Owned Utilities (IOU) (Oncor) Market Segments, and five abstentions from the Independent Power Marketers (IPM) (Shell Energy), Independent Retail Electric Provider (IREP) (Enerwise Global Technologies) IOU (2) (Sharyland Utilities, CenterPoint Energy), and Municipal (Garland Power and Light) Market Segments.** *(Please see ballot posted with Key Documents).*

Market Participants requested ERCOT provide analysis of possible methods for determining RMR Unit Mitigated Offer Cap curves by looking at dispatchable non-RMR Resources with Shift Factor cut-offs of 5%, 10% and 15%, buffer values other than $50/MWh, specifically $1/MWh, and using both SCED Step 2 Energy Offer Curves and Mitigated Offer Caps curves.  Market Participants also requested ERCOT to address the feasibility of performing calculations within SCED and ensuring last Dispatch relative to the constraint, list production SCED Shift Factors for the relevant constraints in the analysis, identify the Resource(s) that set the SPu value, and provide a flow diagram of where the Mitigated Offer Cap curves fit into the Real-Time process.

*Concept of Regional Reserves*

Mr. Dumas opined that the concept of regional reserves, as presented by William Hogan, is an alternative solution to the RMR issue. Market Participants discussed the concept of regional reserves. Dan Jones opined that it should first be determined if scarcity exists or if it has been created. Mr. Carpenter referred the concept of regional reserves to QMWG.

Market Credit Working Group (MCWG)

Mr. Barnes reviewed recent MCWG activities.

*NPRR800 Revisions to Credit Exposure Calculations to Use Electricity Futures Market Prices*

Suresh Pabbisetty reviewed NPRR800 and the 10/19/16 Credit Work Group (Credit WG) comments. Market Participants discussed the merits of NPRR800 and the need for additional time to review. WMS took no action on this item.

*Credit Document Review*

Mr. Barnes provided an update on the credit documents.

Metering Working Group (MWG) (see Key Documents)

Darrell Sumbera reviewed recent MWG activities.

*SMOGRR018, EPS Metering for Three-Wire Wye Configurations and IA*

**Franklin Maduzia moved to recommend approval of SMOGRR018 as recommended by MWG in the 10/20/16 MWG Report. Bob Helton seconded the motion. The motion carried unanimously.**

*SMOGRR019, Clarifications and Updates to Paralleling Current Transformers, Instrument Transfer Name Plate Photos and Loss Potential Event Logging Requirements*

**Clif Lange moved to recommend approval of SMOGRR019 as recommended by MWG in the 10/20/16 MWG Report. Mr. Maduzia seconded the motion. The motion carried unanimously.**

Resource Cost Working Group RCWG (see Key Documents)

Paul Vinson reviewed recent RCWG activities, and stated RCWG is awaiting the PUCT decision related to RMR before further developing the WMS requested draft language to require all future RMR agreements be approved by the ERCOT Board. Julia Harvey opined that the PUCT rulemaking regarding this issue is in the early stages and that Market Participants should continue their discussions. Mr. Carpenter requested RCWG draft the Revision Request language for WMS consideration.

*Switchable Generation Resources Concept; Option 1 - Optional Switch and Option 2 - Required Switch and Settlement*

Bill Blevins provided an update on the Switchable Generation Resources concept, and stated that ERCOT is developing a possible alternative following additional discussions with the Midcontinent Independent System Operator (MISO) and the Southwest Power Pool (SPP) to address the related North American Electric Reliability Corporation (NERC) Reliability Standards and Settlement issues. Mr. Blevins noted that he intends to include Mexico’s Independent System Operator in the discussion of this alternative approach. Market Participants expressed concern that agreements between ERCOT and other Reliability Coordinators regarding the management of Switchable Generation Resources would be approved by ERCOT Staff without ERCOT Board review and requested ERCOT bring final recommendations to Market Participants for review. WMS took no action on this item.

*Market Continuity*

Mr. Vinson presented the RCWG Market Continuity Guiding Principles.

QMWG (see Key Documents)

Mr. Goff reviewed recent QMWG activities, including the proposed Ancillary Service enhancement options, and requested WMS provide guidance for further QMWG action. Market Participants debated the various options for Responsive Reserves (RRS). Proponents of further language development opined that options were necessary to make Ancillary Services more cost effective and efficient and that small incremental changes were more likely to proceed successfully through the stakeholder process. Opponents of QMWG developing draft language opined that Ancillary Services are already cost effective and are not a reliability issue but a market issue and that QMWG has other items to consider that are a priority to stakeholders.

**Mr. Greer moved to recommend QMWG develop concepts, benefits and impacts for RRS to include: remove the 50% limit for Load Ratio Share (LRS) in RRS, change the 20% limit on RRS for units to be based on performance and or testing, and include a fast responding service as a subset of RRS. Mr. Barnes seconded the motion. The motion carried with four objections from the Cooperative (4) (LCRA, STEC, Brazos Electric, Dow Chemical) Market Segment and three abstentions from the Cooperative (GSEC), Independent Generator (GDF Suez) and Municipal (Garland Power) Market Segments.**

Supply Analysis Working Group (SAWG)

Brandon Whittle reviewed recent SAWG activities.

*2017 ERCOT Membership*

ERCOT Staff reminded Market Participants of the November 11, 2016 deadline for 2017 ERCOT Membership.

*No Report*

* Congestion Management Working Group (CMWG)
* Demand Side Working Group (DSWG)
* Emerging Technologies Working Group (ETWG)
* Outage Coordination Working Group (OCWG)

Adjournment

Mr. Carpenter adjourned the November 2, 2016 WMS meeting at 3:13 p.m.

1. <http://www.ercot.com/calendar/2016/11/2/77690-WMS> [↑](#footnote-ref-1)