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| **APPROVED****Minutes of the Technical Advisory Committee (TAC) Meeting****ERCOT Austin – 7620 Metro Center Drive – Austin, Texas 78744****Thursday, July 28, 2016 – 9:30 a.m.**Attendance*Members:*

|  |  |  |
| --- | --- | --- |
| Adair, Marshall | Residential Consumer |  |
| Allen, Thresa | Iberdrola Renewables |  |
| Bailey, Dan | Garland Power and Light |  |
| Barnes, Bill | Reliant Energy Retail Services |  |
| Blakey, Eric | Just Energy |  |
| Boyd, Phillip | City of Lewisville |  |
| Brandt, Adrianne | CPS Energy |  |
| Cobos, Lori | Topaz |  |
| Coleman, Diana | OPUC |  |
| Cunningham, Lance | Denton Municipal Electric |  |
| Emesih, Valentine | CenterPoint Energy |  |
| English, Barksdale | Austin Energy |  |
| Flowers, BJ | Sharyland Utilities |  |
| Frazier, Amanda | Luminant |  |
| Goff, Eric | Citigroup Energy |  |
| Greer, Clayton | Morgan Stanley |  |
| Hastings, David | SESCO |  |
| Helton, Bob | GDF Suez |  |
| Lange, Clif | STEC |  |
| Meehan, Colin | First Solar |  |
| Messer, Tayaun | Rayburn Country |  |
| Pridgeon, Marcus | CMC Steel Texas |  |
| Ross, Richard | AEPSC |  |
| Sandidge, Clint | Noble Americas Energy Solutions |  |
| Thurnher, Greg | Shell Energy |  |

The following proxies were assigned:* Chris Brewster to Phillip Boyd
* Kyle Minnix to Tayaun Messer
* Sandy Morris to Clint Sandidge
* Bill Smith to Marcus Pridgeon
* Randa Stephenson to Tayaun Messer

*Guests:*

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| --- | --- | --- |
| Abbott, Kristin | PUCT | Via Teleconference |
| Bell, Wendell | TPPA |  |
| Ashley, Kristy | CES |  |
| Bonskowski, Ned | TXU | Via Teleconference |
| Bryant, Mark | PUCT | Via Teleconference |
| Burke, Tom | GSEC |  |
| Carpenter, Jeremy | Tenaska |  |
| Checkley, Jim | CTT |  |
| Coleman, Katie | TIEC |  |
| Corona, Connie | NRG |  |
| Cripe, Ramsey | Schneider Engineering |  |
| Denney, Kristi | Potomac Economics |  |
| Donohoo, Ken | Oncor |  |
| Downey, Marty | Viridity Energy |  |
| Dyer, Jake | TCAP |  |
| Elliott, Christopher | BA/ML | Via Teleconference |
| English, Rock | Luminant | Via Teleconference |
| Fernandes, John | RES Americas | Via Teleconference |
| Gross, Blake | AEPSC |  |
| Henson, Martha | Oncor |  |
| Hoatson, Tom | LS Power | Via Teleconference |
| Hurst, Jay | Schneider Engineering | Via Teleconference |
| Ingraham, Deborah | Texas Electric Cooperative | Via Teleconference |
| Jacobs, Kaci | TXU | Via Teleconference |
| Jones, Randy | Calpine |  |
| Kee, David | CPS Energy |  |
| Juricek, Michael | Oncor | Via Teleconference |
| Kleckner, Tom | RTO Insider |  |
| Kremling, Barry | GVEC |  |
| Kroskey, Tony | Brazos | Via Teleconference |
| Lyons, Chris | Exelon | Via Teleconference |
| McMillin, Michael | TIEC |  |
| Nease, Nelson |  | Via Teleconference |
| Ordonez, Camilo | Luminant | Via Teleconference |
| Owens, Frank | Cross Texas Transmission | Via Teleconference |
| Peters, Patrick | CenterPoint Energy |  |
| Ring, Paul | Energy Choice Matters | Via Teleconference |
| Robertson, Jennifer | LCRA |  |
| Sams, Bryan | NRG |  |
| Scott, Kathy | CenterPoint Energy |  |
| Siddiqi, Shams | Crescent Power |  |
| Smith, Caitlin | CleaResult |  |
| Staples, Boone | Tenaska |  |
| Taylor, Jennifer | E.ON | Via Teleconference |
| Tijerian, Jonathan | CPS Energy |  |
| Trenary, Michelle | Tenaska Power Services |  |
| Turner, Lucas | STEC | Via Teleconference |
| Walker, Mark | NRG |  |
| Watson, Mark |  | Via Teleconference |
| White, Lauri | AEP Texas |  |
| Whitehurst, Stacy | TNMP |  |
| Whittle, Brandon | Megawatt Analytics |  |
| Wittmeyer, Bob | DME |  |
| Zerwas, Rebecca Reed | NRG |  |

*ERCOT Staff:*

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| --- | --- | --- |
| Albracht, Brittney |  |  |
| Anderson, Connor |  | Via Teleconference |
| Barcak, Chad |  | Via Teleconference |
| Bivens, Carrie |  | Via Teleconference |
| Bivens, Danny |  |  |
| Boren, Ann |  |  |
| Borkar, Sandeep |  | Via Teleconference |
| Boswell, Bill |  | Via Teleconference |
| Bracy, Phil |  |  |
| Butterfield, Lindsay |  | Via Teleconference |
| Chang, Sean |  | Via Teleconference |
| Chen, Jian |  | Via Teleconference |
| Chu, Zhengguo |  | Via Teleconference |
| Clifton, Suzy |  | Via Teleconference |
| Coon, Patrick |  | Via Teleconference |
| Daniels, Stephen |  | Via Teleconference |
| Day, Betty |  | Via Teleconference |
| Du, Pengwei |  | Via Teleconference |
| Hailu, Ted |  | Via Teleconference |
| Hanson, Kevin |  | Via Teleconference |
| Holt, Blake |  | Via Teleconference |
| Huang, Fred |  | Via Teleconference |
| Hui, Hailong |  | Via Teleconference |
| Jin, Julie |  | Via Teleconference |
| Krein, Steve |  | Via Teleconference |
| Landry, Kelly |  | Via Teleconference |
| Lazarus, Dana |  | Via Teleconference |
| Maggio, Dave |  | Via Teleconference |
| McCafferty, Cary |  | Via Teleconference |
| Mereness, Matt |  | Via Teleconference |
| Morehead, Juliana |  | Via Teleconference |
| Opheim, Calvin |  | Via Teleconference |
| Phillips, Cory |  |  |
| Shaw, Pamela |  | Via Teleconference |
| Teixeira, Jay |  |  |
| Thurman, Kathryn |  | Via Teleconference |
| Townsend, Aaron |  | Via Teleconference |
| Wattles, Paul |  | Via Teleconference |
| White, Steve |  |  |

*Unless otherwise indicated, all Market Segments were present for a vote.*2016 TAC Vice Chair Adrianne Brandt called the July 28, 2016 TAC meeting to order at 9:30 a.m.

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| Antitrust AdmonitionMs. Brandt directed attention to the displayed Antitrust Admonition. |

Approval of TAC Meeting Minutes (see Key Documents)*May 26, 2016***Bob Helton moved to approve the May 26, 2016 TAC meeting minutes as submitted. BJ Flowers seconded the motion. The motion carried unanimously.** |

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| ERCOT Board of Directors (ERCOT Board) UpdateMs. Brandt reported the disposition of Revision Requests considered at the June 14, 2016 ERCOT Board meeting, and noted that potential topics for ERCOT Board-requested education sessions would be discussed in Other Business. |
| Protocol Revision Subcommittee Report (see Key Documents)Amanda Frazier presented Revision Requests for TAC consideration, and reported the PRS rejection of Nodal Protocol Revision Request (NPRR) 784, Mitigated Offer Caps for RMR Units, and the withdrawal of NPRR780, Revise North 345kV Hub Definition.*NPRR747, Revision of Voltage Control Requirements**NPRR767, Commitment by RUC for Long Lead Time Resource**NPRR770, Addition of Outaged Resource Capacity to the Ancillary Services Capacity Monitor**NPRR771, Clarifications to New ESI ID Creation Process**NPRR774, Remove Duplicate Language to Calculate Seasonal Transmission Loss Factors**NPRR781, Updates to Nodal Protocol Section 18, Load Profiling, to Align with Current Market Processes***Mr. Helton moved to recommend approval of NPRR767 as recommended by PRS in the June 16, 2016 PRS Report; and to recommend approval of NPRR747, NPRR770, NPRR771, NPRR774, and NPRR781 as recommended by PRS in the respective July 14, 2016 PRS Reports. Bill Barnes seconded the motion. The motion carried unanimously.***NPRR779, Clarifies References to Texas Reliability Entity and Independent Market Monitor***Richard Ross moved to table NPRR779. Mr. Barnes seconded the motion. The motion carried unanimously.***System Change Request (SCR) 789, Update NMMS Topology Processor to PSSE 34 Capability*Ms. Frazier related PRS’ review of the Impact Analysis for SCR789 and ongoing discussion as to whether to continue to bring software updates forward as SCRs or to request that ERCOT have a recurring allocation in its software budget. **Mr. Ross moved to recommend approval of SCR789 as recommended by PRS in the 6/16/16 PRS Report. Valentine Emesih seconded the motion. The motion carried unanimously.***NPRR696, Price Correction Process Following a SCED Failure*Market Participants debated the merits of NPRR696. Mr. Barnes opined that it is better policy to retain the last accurate price for one 15-minute Settlement interval after the failure of Security-Constrained Economic Dispatch (SCED).**Mr. Barnes moved to recommend approval of NPRR696 as recommended by PRS in the 7/14/16 PRS Report. Clif Lange seconded the motion. The motion carried via roll call vote with seven objections from the Consumer (5) (OPUC, Residential, City of Lewisville, City of Eastland, Air Liquide) and Independent Power Marketer (IPM) (2) (Citigroup, Shell) Market Segments; and four abstentions from the Independent Retail Electric Provider (IREP) (Direct Energy) and Investor Owned Utility (IOU) (3) (CenterPoint Energy, Sharyland Utilities, Luminant) Market Segments.** *(Please see ballot posted with Key Documents.)[[1]](#footnote-1)**NPRR738, ERS Performance Calculations During TDSP Outages***Barksdale English moved to recommend approval of NPRR738 as recommended by PRS in the 6/16/16 PRS Report. Mr. Ross seconded the motion.** ERCOT Staff confirmed that NPRR738 satisfies compliance concerns related to under frequency Load shedding and Emergency Response Service (ERS). **The motion carried with one objection from the IPM (Morgan Stanley) Market Segment.***Reconsideration of NPRR781*Ms. Brandt suggested that NPRR781 be reconsidered in light of the pending related Load Profiling Guide Revision Request (LPGRR) 057, Alignment with NPRR781, Updates to Nodal Protocol Section 18, Load Profiling, to Align with Current Market Processes, still being considered by the Profiling Working Group (PWG).**Clayton Greer moved to reconsider NPRR781. Ms. Flower seconded the motion. The motion carried unanimously.****Eric Goff moved to table NPRR781. Ms. Flower seconded the motion. The motion carried unanimously.** |
| Appeal of NPRR784, Mitigated Offer Caps for RMR Units (see Key Documents)Mr. Barnes presented the NRG appeal of NPRR784; Katie Coleman presented the August 2016 PRS position. Supporters of NPRR784 opined that it provides effective price signals, and consistent and appropriate pricing for Reliability Must-Run (RMR) Units given their out-of-market status; will reduce RMR uplift costs to Loads; and is consistent with the generally understood intent that the use of RMR Units should be limited.Opponents of NPRR784 countered that it introduces RMR Units into the market at a higher-than-necessary price; is punitive to Loads; provides incentives for the retirement of Resources by providing scarcity pricing in non-scarcity conditions; and prevents RMR Units from solving other constraints than the one at issue. The Independent Market Monitor (IMM) expressed support for NPRR784, opining that the language represents a significant improvement over the status quo, can be implemented quickly and economically, and provides desirable market incentives. Mr. Barnes moved to grant the NRG appeal of NPRR784. Mr. Greer seconded the motion. The motion failed via roll call vote, with 12 objections from the Consumer (6) (OPUC, Residential, City of Lewisville, City of Eastland, CMC Steel Texas, Air Liquide), Cooperative (4) (STEC, Rayburn Country, Brazos, LCRA), IREP (Direct Energy) and IOU (Luminant) Market Segments, and four abstentions from the IOU (3) (CenterPoint Energy, Sharyland, AEPSC) and Municipal (Denton) Market Segments. All Market Segments were present for the vote. *(Please see ballot posted with Key Documents.)[[2]](#footnote-2)*Due to lack of a subsequent passing vote, the appeal of NPRR784 was deemed rejected by TAC pursuant to Section 21.4.8, Technical Advisory Committee Vote.  |
| Reliability and Operations Subcommittee (ROS) Report (see Key Documents)Boone Staples reviewed recent ROS activities and presented revision requests for TAC consideration.*Nodal Operating Guide Revision Request (NOGRR) 150, Alignment with NPRR747, Revision of Voltage Control Requirements* Mr. Staples requested that NOGRR150 be tabled pending ERCOT Board approval of NPRR747. **Mr. Helton moved to table NOGRR150. Greg Thurnher seconded the motion. The motion carried unanimously.***NOGRR155, Voltage Ride-Through Requirements Clarification* **Mr. Helton moved to approve NOGRR155 as recommended by ROS in the 7/7/16 ROS Report. Mr. Greer seconded the motion. The motion carried unanimously.***Resource Registration Glossary Revision Request (RRGRR) 009, Adding Voltage Limit Sets, Relay Loadability, MLSE, and GMD Data* **Mr. Helton moved to recommend approval of RRGRR009 as recommended by ROS in the 7/7/16 ROS Report and as amended by the 7/20/16 ERCOT comments. Mr. Emesih seconded the motion. The motion carried unanimously.***Planning Guide Revision Request (PGRR) 046, Addition of Geomagnetically Induced Current (GIC) Model Building Requirements* **Mr. Helton moved to recommend approval of PGRR046 as recommended by ROS in the 7/7/16 ROS Report. Mr. Emesih seconded the motion. The motion carried with one abstention from the Municipal (Austin Energy) Market Segment.** |
| Appeal of NOGRR149, Revision to Definition of Transmission Operator (see Key Documents)Ton Anson reported that efforts to address questions posed at the April 28, 2016 TAC meeting are continuing. Ms. Frazier requested that another update be provided at the September 29, 2016 TAC meeting.**Ms. Frazier moved to table the appeal of NOGRR149. Mr. Lange seconded the motion. The motion carried unanimously.** |
| Wholesale Market Subcommittee (WMS) Report (see Key Documents)Jeremy Carpenter reviewed recent WMS activities. |
| Commercial Operations Subcommittee (COPS) Report (see Key Documents)Michelle Trenary reviewed recent COPS activities. |
| Retail Market Subcommittee Report (see Key Documents)Kathy Scott reviewed recent RMS activities and presented a revision request for TAC consideration. ERCOT Staff offered to follow up in response to Mr. Goff’s question regarding out-of-state renewables, in-state renewables, and impacts to the Electricity Fact Label renewable content calculator.*Retail Market Guide Revision Request (RMGRR) 138, Revision to Oncor’s Requirement for REPs to Send Prepay ESI ID Lists***Ms. Flowers moved to approve RMGRR138 as recommended by RMS in the 6/7/16 RMS Report and the Impact Analysis. Mr. Emesih seconded the motion. The motion carried unanimously.** |
| ERCOT Operations, Planning, and IT Report (see Key Documents)*July 7, 2016 EMS Event*Steve White presented information regarding the July 7, 2016 Energy Management System (EMS) event. Market Participants expressed appreciation for ERCOT efforts to restore critical systems in less than two hours, but expressed concern for communications during the event. Ms. Brandt directed WMS to work with ERCOT Staff to develop a communications issues list and recommendations. |
| Other Business (see Key Documents)*TAC Updates for August Board*Ms. Brandt reported that TAC leadership would report at the August 9, 2016 ERCOT Board meeting progress on RMR discussions and 2016 TAC goals. Regarding RMR, Market Participants discussed the formation of ERCOT Load forecasts; various anticipated NPRRs regarding RMR; and that NPRR788, RMR Study Modifications, should be taken up at a joint meeting of ROS and WMS.*Annual TAC/TAC Subcommittee Structural and Procedural Review*Ms. Brandt announced that the annual TAC and TAC subcommittee structural and procedural review would likely be held the afternoon of the August 25, 2016 TAC meeting, and requested that TAC subcommittees undertake their annual review of working groups and task forces. |

1. <http://www.ercot.com/mktrules/issues/NPRR696> [↑](#footnote-ref-1)
2. <http://www.ercot.com/mktrules/issues/NPRR784> [↑](#footnote-ref-2)