



Financial Risk Mitigation Senior Task Force (FRMSTF)

Final Report

September 10, 2021

Issue Creation

[Charter](#) brought forward by PJM and approved at the April, 25, 2019 Markets and Reliability Committee (MRC) meeting.

Issue Summary

The FRMSTF was initiated to evaluate the recommendations in the [Report of the Independent Consultants on the GreenHat Default](#) as categorized into four defined work streams:

- Market rules updates
- Stakeholder process changes
- Membership qualifications and processes updates (Market Participant)
- Credit and risk management rules updates

Consensus-Based Issue Resolution Process

Number of Meetings and date range covering this topic: 33 meetings from May 2019 through September 2021

- **Market rules updates – FRMSTF Work Completed September 2019**

- Vote Results: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20190924/20190924-item-04-voting-results-ftr-product-range-and-auction-process.ashx>
- Final Matrix: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20190905/20190905-item-07-markets-track-options-matrix-with-stakeholder-alternatives.ashx>

FRMSTF Recommendation: <https://www.pjm.com/-/media/committees-groups/committees/mrc/20191031/20191031-item-06-1-ftr-product-range-and-auction-process-presentation.ashx>

Scope limited to risk mitigation – not a holistic market review

Enhancing forward price information

- Timing and frequency of long-term FTR auctions: 5 times a year; June, August, October, December, March
- Capability offered per long-term auction round: 20% of residual capability available each round
- Structure of Balance of Planning Period (BOPP) FTR auctions: Available periods for the monthly FTR BOPP auction – any remaining individual month in the planning period.

**Note – A comprehensive review of the ARR/FTR market design including allocation of congestion rights, FERC objectives, value proposition, and opportunities for enhancements is being addressed in the ARR FTR Market Task Force ([AFMTE](#)).*



- **Stakeholder process changes – FRMSTF Work Completed December 2019**

- Vote Results: All proposed solutions were withdrawn and therefore no vote was required. The consensus was to retain status quo for this work stream.
- Final Matrix: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20191209/20191209-item-04-stakeholder-governance-updated-matrix.ashx>

FRMSTF Recommendation: Retain Status Quo

- **Membership qualifications and processes updates – FRMSTF Work Completed January 2020**

- Vote Results: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20191217/20191217-item-03-1-voting-results-presentation.ashx>
- Final Matrix: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/20191209/20191209-item-06-market-participant-risk-evaluation-enhancements-matrix-updated-20191211.ashx>

FRMSTF Recommendation: PJM's Market Participant Risk Evaluation and Enhancement Solution Package ([final matrix](#)) and corresponding Tariff and Operating Agreement revisions including the following:

- Instituted new definitions for terms not previously defined as follows: Principal, Position Limits, Unreasonable Credit Risk, References, and Hedge Exemptions
- Updated the definition for Affiliate
- Enhanced provisions related to Rating Agency Reports, Audited Financial Statements, Credit Default Status and Default History, Know Your Customer (KYC) Five-Year Look-Back, Internal Credit Score, Material Adverse Change, Limit Market Participant Authority, Position Limit Setting, Market Participant Ban, Event of Default Definition, Collateral Management, Risk Management Practices Verification, Membership Requirement Revisions, Market Participant Qualifications, and FTR Participants Minimum Capitalization.
- Added provisions for Re-entry of Defaulting Market Participant and Restricted Collateral

- **Credit and risk management rules updates - FRMSTF Work Completed September 2021**

Liquidation Process:

- Vote Results: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/2020/20201015/20201015-item-04-liquidation-process-voting-results.ashx>
- Final Matrix: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/2020/20200721/20200721-item-06-combined-ftr-default-management-credit-enhancement-options-matrix.ashx>

FRMSTF Recommendation: <https://www.pjm.com/-/media/committees-groups/committees/mrc/2020/20200917/20200917-item-06-1-liquidation-process-presentation.ashx>

Re-establish the ability for PJM to liquidate defaulted FTR open positions in a prudent and practical manner, while providing flexibility in the way it exercises that right given certain circumstances such as market liquidity, the size of the defaulted portfolio, market conditions and other relevant factors.

Initial Margining:

- Vote Results: https://go.pjm.com/e/678183/I-Margining-Voting-Results-pdf/6lwwt/346815052?h=OUqPhQx_3fo3LflInF10QHmMHPcwDImvJZNHC-u7myY
- Final Matrix: <https://www.pjm.com/-/media/committees-groups/task-forces/frmstf/2021/20210804/20210804-item-04a-04b-matrix-initial-margin-updated.ashx>



FRMSTF Recommendation: Package B (Duke Energy/Perast)

Changing of Status Quo Components

- No undiversified adder
- Consider both positive and negative MTA as part of the total FTR collateral equation
- IM-H calculation for all bids submitted
- Calculate IM-H while using ARR credits as an offset for all Market Participants with ARRs
- No use of adjusted historical values (based on modeled future transmission upgrades)

IM-H Specific Components

- Select the confidence interval of 95%
- Use a liquidation period of 2

Standing Committee Results

- Stakeholder process changes – N/A
- Market rules updates:
 - MRC endorsement - [12/19/2019](#): Mr. Tim Horger reviewed proposed revisions to the Operating Agreement and Manual 6: Financial Transmission Rights related to the Financial Risk Mitigation Senior Task Force (FRMSTF) endorsed solution package for FTR Product Range and Auction Process. Following discussion, the proposed revisions were endorsed by acclamation with seven objections and no abstentions.
 - MC endorsement – [01/23/2020](#): Consent Agenda Items A through G were approved/endorsed by acclamation with eleven objections (one objection to the entire Consent Agenda, seven objections to Item B, and three objections to Item E), and eight abstentions to Item G
 - Item B. Proposed revisions to the Operating Agreement (OA) related to the Financial Risk Mitigation Senior Task Force (FRMSTF) and Markets & Reliability Committee (MRC) endorsed solution package for FTR Product Range and Auction Process. Issue Tracking: Financial Risk Mitigation
- Membership qualifications and processes updates:
 - MRC endorsement – [03/26/2020](#): Ms. Nigeria Bloczynski provided an update on the proposed Operating Agreement (OA) and Tariff revisions associated the Market Participant Risk Evaluation and Enhancement solution package endorsed by the Financial Risk Mitigation Sr. Task Force (FRMSTF). Following discussion, the amended proposed Tariff and OA revisions were endorsed/approved in a sector-weighted vote with 4.50 in favor.
 - MC endorsement – [03/26/2020](#): Ms. Nigeria Bloczynski provided an update on the proposed Operating Agreement (OA) and Tariff revisions associated the Market Participant Risk Evaluation and Enhancement solution package endorsed by the Financial Risk Mitigation Sr. Task Force (FRMSTF) and the MRC earlier in the day. Ms. Bloczynski noted that the proposed revisions before the Members Committee incorporate amendments adopted by the MRC. Following discussion, the proposal was endorsed by acclamation with one objection and three abstentions.
- Credit and risk management rules updates:
 - Liquidation Process:
 - MRC endorsement – [10/29/2020](#): Nigeria Bloczynski reviewed proposed Tariff and Operating Agreement (OA) revisions addressing PJM's default management process. Following discussion, the proposed Tariff and OA revision were endorsed in a sector-weighted vote with 4.59 in favor.
 - MC endorsement – [10/29/2020](#): Nigeria Bloczynski reviewed proposed Tariff and OA revisions addressing PJM's default management process. Steve Lieberman noted that this item had been



endorsed by the Markets & Reliability Committee on the same day (at its October 29, 2020 meeting); there were no objections to voting on the same day as the MRC. Following discussion, the proposed Tariff revisions were endorsed by acclamation with one objection and one abstention.

Initial Margining:

- MRC endorsement will be sought on 09/29/2021.
- MC endorsement will be sought on 10/20/2021.

Appendix I: Supplemental Documents

FRMSTF Page: <https://www.pjm.com/committees-and-groups/task-forces/frmstf.aspx>

FRMSTF Dashboard: <https://www.pjm.com/committees-and-groups/task-forces/frmstf/recommendations-dashboard.aspx>

Issue Tracking: <https://www.pjm.com/committees-and-groups/issue-tracking/issue-tracking-details.aspx?Issue=7e7d0eea-3887-4f41-b58d-4efa8b853488>

FERC Dockets:

- Stakeholder process changes – N/A
- Market rules updates – [Docket No. ER20-1009-000](#)
- Membership qualifications and processes updates - [Docket No. ER20-1451-000](#)
- Credit and risk management rules updates:
 - Liquidation Process – [Docket No. ER21-520-000](#)
 - Initial Margining - TBD

Appendix II: PJM Participation

Facilitator: Anita Patel

Secretary: Michele Greening

Advocate: Nigeria Bloczynski

Subject Matter Experts:

- Stakeholder process changes: Dave Anders
- Market rules updates: Brian Chmielewski, Tim Horger
- Membership qualifications and processes updates: Becky Carroll, Megan McLaverty
- Credit and risk management rules updates: Eric Endress, Michael Wynder, Alex Eydeland, Jeff Guistwhite, Kathleen McElwaine, Megan Heater, Lisa Drauschak

PJM Legal: Steve Pincus, Jessica Troiano

Appendix III: Stakeholder Participation

Last Name	First Name	Company Name	Sector
Adams	Sean	PSEG Energy Resources and Trade LLC	Other Supplier
Agarwal	Dilip	GRG ENERGY LLC	Other Supplier
Aguilar	Fabiano Silveira	Strom Power, LLC	Other Supplier
Alvarez	Cody	Nodal Exchange	None
Anders	David	PJM Interconnection	None
Anderson	Bob	Tenaska Power Services Co.	Generation Owner
Arnold	Cheryl	ISO New England Inc.	None
Babp	Alan	PJM Interconnection	None
Barker	Jason	Exelon Business Services Company, LLC	Transmission Owner
Benchek	Jim	American Transmission Systems, Inc.	Transmission Owner
Bleiweis	Bruce	DC Energy, LLC	Other Supplier
Bloczynski	Nigeria	PJM Interconnection	None



Bowen	Brandon	Indiana Utility Regulatory Commission	None
Brodbeck	John	EDP Renewables North America LLC	Generation Owner
Bruce	Susan	McNees Wallace & Nurick LLC	None
Bryson	Michael	PJM Interconnection	None
Callen	Zachary	Illinois Commerce Commission	None
Canter	David	Appalachian Power Company (AEP Generation)	Transmission Owner
Carmean	Gregory	Organization of PJM States, Inc.	None
Carter	Grant	Vistra Energy	None
Case	Nathan	Southern Maryland Electric Cooperative, Inc.	Electric Distributor
Castanaro	Andy	PPL Electric Utilities Corp. dba PPL Utilities (LSE)	Transmission Owner
Cermack	Trish	Louisville Gas and Electric Company/Kentucky Utilities Company	Transmission Owner
Chang	Sean	Shell Energy North America (US), L.P.	Other Supplier
Chen	Huayu	Five Elements Energy LLC	Other Supplier
Chmielewski	Brian	PJM Interconnection	None
Christopher	Mahila	Ohio Public Utility Commission	None
Chu	Michael	Forest Investment Group, LLC	Other Supplier
Clark	Alden	DC Energy Mid-Atlantic, LLC	Other Supplier
Cobb	Jacqueline	PJM Interconnection	None
Cockrell	Justin	DC Energy Mid-Atlantic, LLC	Other Supplier
Conn	Jeff	Big Bend Trading, LLC	Other Supplier
Coyle	Billy	Dominion Virginia Power	Transmission Owner
D'Alessandris	Louis	American Transmission Systems, Inc.	Transmission Owner
Davis	James	Dominion Energy Generation Marketing, Inc.	Generation Owner
De La Mora	Luis	Strom Power, LLC	Other Supplier
DeLosa	Joseph	New Jersey Board of Public Utilities	None
Dent	Duane	PJM Interconnection	None
Diaz	Jesse	PJM Interconnection	None
Dillon	Matthew	UGI Development Company	Generation Owner
DiNicola	Laura	Energy Harbor LLC	Generation Owner
Dionne	Sam	Sunpin Solar Development LLC	None
Downs	Jere	PJM Interconnection	None
Drauschak	Lisa	PJM Interconnection	None
Drom	Rick	Affirmed Energy LLC	Other Supplier
Duensing	Allison	Saracen Energy East LP	Other Supplier
Dugan	Chuck	East Kentucky Power Cooperative, Inc.	Transmission Owner
Dumitriu	Nicolae	PJM Interconnection	None
Duquaine	Mark	Aces Power Marketing	None
Eaker	Kaitlin	Tenaska Power Services Co.	Generation Owner
Early	John	Louisville Gas and Electric Company/Kentucky Utilities Company	Transmission Owner
Elkins	Rachel	American Transmission Systems, Inc.	Transmission Owner
Endress	Eric	PJM Interconnection	None
Ericson	Christine	Illinois Commerce Commission	None
Evergam	Scott	Blue Horseshoe Energy LLC	None
Eydeland	Alex	PJM Interconnection	None
Fan	Zhenyu	PJM Interconnection	None
Fazio	Danielle	Engelhart CTP (US) LLC	Other Supplier
Feldbauer	Angela	Duquesne Light Company	Transmission Owner
Feng	Julan	PJM Interconnection	None
Filomena	Guy	Customized Energy Solutions, Ltd.	None
Foladare	Kenneth	Geenex Solar LLC	Other Supplier
Ford	Adrien	Old Dominion Electric Cooperative	Electric Distributor
Foster Cronin	Denise	East Kentucky Power Cooperative, Inc.	Transmission Owner
Gahimer	Michael	Indiana Office of Utility Consumer Counselor (IN OUCC)	End-Use Customer
Gardner	Michelle	NextEra Energy Marketing, LLC	Other Supplier
Gorman	Kevin	The Highlands Energy Group, LLC	Other Supplier
Gibbs	Ike	Citadel FNGE Ltd.	Other Supplier



Gilani	Rehan	ConEdison Energy, Inc.	Other Supplier
Gluck	Jim	PJM Interconnection	None
Gorman	Kevin	The Highlands Energy Group, LLC	Other Supplier
Grant	Edie	Old Dominion Electric Cooperative	Electric Distributor
Grau	Patrick	Apogee Energy Trading LLC	Other Supplier
Greening	Michele	PJM Interconnection	None
Greiner	Gary	PSEG Energy Resources and Trade LLC	Other Supplier
Guistwhite	Jeffrey	PJM Interconnection	None
Guler	Teoman	Apogee Energy Trading LLC	Other Supplier
Haas	Howard	Monitoring Analytics	None
Hastings	David	MICS	None
Hayik	Seth	Monitoring Analytics	None
Heater	Megan	PJM Interconnection	None
Hedge	Sushma	PJM Interconnection	None
Heisey	Bradley	Tenaska Pennsylvania Partners, LLC	Generation Owner
Hepplewhite	Peter	Wrigley Capital LLC	Other Supplier
Herbert	Sebastian	DC Energy, LLC	Other Supplier
Herel	Suzanne	PJM Interconnection	None
Hicks	Dave	Perast Fund LP (Suffolk)	Other Supplier
Hoatson	Tom	West Deptford Energy, LLC	Generation Owner
Hohenshilt	Jennifer	Talen Energy Marketing, LLC	Generation Owner
Holdbrook	Ruth	Norther Virginia Electric Cooperative (NOVEC)	Electric Distributor
Holstein	Matthew	Duke Energy Kentucky, Inc.	Transmission Owner
Holter	Natasha	PJM Interconnection	None
Horger	Tim	PJM Interconnection	None
Horning	Lynn Marie	Customized Energy Solutions, Ltd.	None
Horstmann	John	Dayton Power & Light Company (The)	Transmission Owner
Hugee	Jacqui	Dominion Energy Generation Marketing, Inc.	Generation Owner
Hull	Gerit	American Municipal Power, Inc.	Electric Distributor
Hurwich	Mark	Elliott Bay Energy Trading, LLC	Other Supplier
Hyzinski	Tom	GT Power Group, LLC	None
Iler	Arthur	Indiana Office of Utility Consumer Counselor	End-Use Customer
Jampani	Srini	Apogee Energy Trading LLC	Other Supplier
Janicki	Diane	Boston Energy Trading and Marketing LLC	Other Supplier
Jobes	Sylvie	Nodal Exchange	None
Johnson	Carl	Customized Energy Solutions, Ltd.	None
Johnson	Ryan	Appalachian Power Company (AEP Generation)	Transmission Owner
Julian	Mike	Nodal Exchange	None
Karousos	Demetri	Nodal Exchange	None
Kazerooni	Hamid	PJM Interconnection	None
Keenan	Matthew	Elwood Energy, LLC	Generation Owner
Kelly	Gwen	PJM Interconnection	None
Kelly	Stephen	Brookfield Renewable Trading and Marketing LP (BSMH)	Other Supplier
King	Kendra	PJM Interconnection	None
Klein	Abram	Appian Way Energy Partners MidAtlantic, LLC	Other Supplier
Kogut	George	New York Power Authority	Other Supplier
Kozhuharov	Dimitar	Delaware Public Service Commission	None
Kuo	Dave	DC Energy Mid-Atlantic, LLC	Other Supplier
Lamp	Jeffrey	Peak Energy Capital LP	Other Supplier
Lawson	Stephen	PJM Interconnection	None
Lejcar	Jamie	Allegheny Electric Cooperative, Inc.	Electric Distributor
Lewis	Cara	PSEG Energy Resources and Trade LLC	Other Supplier
Lewis	Lisa	Dominion Virginia Power	Transmission Owner
Li	Grace	Altro Power LLC	Other Supplier
Lieberman	Steven	American Municipal Power, Inc.	Electric Distributor
Maisonneuve	Nicolas	Engelhart CTP (US) LLC (FTR2)	Other Supplier
Manganaro	Lynn	Public Service Electric & Gas Company	Other Supplier
McArdle	Brian	NextEra Energy Marketing, LLC	Other Supplier



McCracken	Ken	Nodal Exchange	None
McElwaine	Kathleen	PJM Interconnection	None
Messina	Emmy	PJM Interconnection	None
Midgley	Sharon	Exelon Business Services Company, LLC	Transmission Owner
Mora	Cynthia	Appalachian Power Company	Transmission Owner
Muhl	Nancy	PJM Interconnection	None
Nanjundan	Narmada	East Kentucky Power Cooperative, Inc.	Transmission Owner
O'Hara	Christopher	PJM Interconnection	None
Ondayko	Brock	AEP Energy Partners, Inc. (AEP Gen Resources)	Transmission Owner
Pakela	Greg	DTE Energy Trading, Inc.	Other Supplier
Pantano	Paul	Wilkie Farr & Gallagher LLP	None
Patel	Anita	PJM Interconnection	None
Patt	Kate	PJM Interconnection	None
Pelletier	Eveline	H.Q. Energy Services (U.S.), Inc.	Other Supplier
Philips	Marji	Riverside Generating Company, L.L.C.	Generation Owner
Picarelli	David	PJM Interconnection	None
Pincus	Steven	PJM Interconnection	None
Poulos	Greg	CAPS	None
Price	Mark	DC Energy Mid-Atlantic, LLC	Other Supplier
Price	Ruth	Delaware Division of the Public Advocate	End-Use Customer
Procutiar	Jason	Buckeye Power, Inc.	Electric Distributor
Pungaliya	Rajat	Pine Gate Renewables, LLC	None
Puri	Cheenu	Aces Power Marketing	None
Ramsey	James	Perast Fund LP (Suffolk)	Other Supplier
Reyngold	Kelly	ISO New England Inc.	None
Robinson	Becky	Dynegy Marketing and Trade, LLC	Generation Owner
Robson	Matt	SESCO Enterprises, LLC	Other Supplier
Rodriguez	Tomas	Organization of PJM States, Inc.	None
Rohrbach	John	Wabash Valley Power Association, Inc.	Electric Distributor
Sasser	Jonathan	Customized Energy Solutions, Ltd.	None
Scarpignato	David	Calpine Energy Services, L.P.	Generation Owner
Sedlacek	Lacey	Talen Energy Marketing, LLC	Generation Owner
Shah	Disha	New Covert Generating Company, LLC	Other Supplier
Shanker	Roy	East Coast Power Linden Holdings, LLC	Generation Owner
Sidhom	Noha	Viribus Fund LP	Other Supplier
Simonik	Thomas	Duke Energy Ohio, Inc.	Transmission Owner
Sims	Tom	Ohio Edison Company	Electric Distributor
Skucas	Ruta	Pierce Atwood	None
Sock	Bryan	Cogentrix Energy Power Management, LLC	None
Solomon	Greg	NextEra Energy Marketing, LLC (AF)	Other Supplier
Sotkiewicz	Paul	E-Cubed Policy Associates	None
Steele	Robert	Sanitas Power, LLC	Other Supplier
Stern	Alexander	Public Service Electric & Gas Company	Transmission Owner
Stupar	Rob	Invenergy Energy Management LLC	Generation Owner
Suh	Jung	Calpine Energy Solutions, LLC	Other Supplier
Sun	Haibin	Exelon Business Services Company, LLC	Transmission Owner
Swalwell	Brad	Tangent Energy Solutions, Inc.	Other Supplier
Sweeney	Rory	GT Power Group, LLC	None
Thompson	Matt	XO Energy MA, L.P.	Other Supplier
Tibbetts	Maeve	K&L Gates	None
Tribulski	Jennifer	PJM Interconnection	None
Troiano	Jessica	PJM Interconnection	None
Vaca	Francisco	Sterling Partners Energy Investors LLC	Other Supplier
Wadsworth	Joe	Vitol Inc.	Generation Owner
Walker	Tori	Pine Gate Renewables, LLC	None
Ward	Michael	PJM Interconnection	None
Waweru	James	PJM Interconnection	None
Whitehead	Jeffrey	GT Power Group	None



Wisersky	Megan	Madison Gas & Electric Co.	Other Supplier
Wynder	Michael	PJM Interconnection	None
Xu	Xu	PJM Interconnection	None
Yoo	Kyungin	None	None