Financial Market Reform Project
Discussion Paper
Establishing Financial Criteria Assessment and Credit Policy Enhancements for FTR Market Participation

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1 Purpose

PJM operates various markets for services that are integral to the reliable and efficient delivery of power through the PJM system. As a market operator, PJM has a singular view of the material risks in a marketplace connected to one or more Market Participants, and how and whether those risks may reasonably be anticipated to affect other market participants, or the market as a whole. To evaluate these risks, PJM must assess both a Participant's willingness and its ability to pay.

The purpose of this discussion paper is to establish and advance into the Open Access Transmission Tariff ("OATT") those credit best practices that are most appropriate to establish an entity's standing as a Participant in PJM's FTR Markets.

Below, we examine the various Market Participants ("Participants") that participate in the FTR markets and the Risk that one of the Participants involved in that market might default.

2 Summary

PJM currently prevents all FTR Participants from obtaining unsecured credit. While this is a valuable tool in risk mitigation, this paper recommends a number of enhancements to the OATT and internal processes that are currently in place.

PJM will also evaluate financial strength and creditworthiness based on financial statements and other information as described below. The same quantitative and qualitative factors will be used to evaluate entities whether or not they have rated debt.

3 Background

The Independent Consultants' report[1] noted weaknesses in PJM's policies and processes related to advancing credit risk management best practices into the tariff; the lack of a comprehensive risk awareness of Market Participants; and the need to establish Market Participant risk management tools and makes several related recommendations:

> B2) PJM should work with FERC to establish appropriate flexibility in policies and rulemaking concerning financial markets.
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> C2) Perform due diligence by confirming that an applicant for membership actually employs the systems and processes for risk management as represented.
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> C4) Update the financial qualifications of participant companies at least annually and clarify PJM's rights to act on a member's failure to meet those requirements.
>
> D2) Establish position limits for FTRs

[1] Anderson, Wolkoff, et.al., *Report of the Independent Consultants on the GreenHat Default*, March 26, 2019

This paper addresses the specific topics of:

- Segmentation of FTR Market Participants between Financial and Non-Financial.
- Credit scoring models to differentiate the different risk profiles of each market participant and the use of both quantitative and qualitative metrics.
- Enhancement of risk management tools for ongoing monitoring of financial health of FTR Market Participants
- Consideration of establishing a Base Capital Minimum (BCM), intended to be distinct from collateral requirements. A BCM requirement is the deposit provided by the FTR Market Participant against which no exposure for trades is allowed.
- Enhanced risk management in the FTR market through position limits based on financial health of the FTR Market Participant, tenor, and/or concentration of guaranty/Letter of Credit (LC) providers.

4 Segmentation of FTR Market Participant Types

It is recommended that PJM further refine/decompose their definition of FTR Market Participants into two overall segments; a Financial FTR Market Participant and a Non-Financial FTR Market Participant. The rationale behind this concept is that there are different risk profiles inherent with each Participant type.

- A Financial FTR Market Participant, subsets of the Financial FTR Market Participants are:
  - Entities that do not participate in the physical power market
  - Investment Funds/Equity funds
  - Integrated energy companies, that may include oil and gas, generation, renewable energy and coal
- A Non-Financial FTR Market Participant utilizes FTRs to hedge physical assets/physical demand/supply. Subsets of Non-Financial FTR Market Participants are:
  - Load Servicing Entities – a Load Servicing Entity (LSE) is a Market Participant that provides electric service to individual and wholesale customers, and can be either a competitive retailer or a municipal owned utility or electric cooperative that provides customer choice services.
  - Non Public Power FTR Market Participant – an investor owned utility
  - Public Power FTR Market Participant – electric cooperatives, non for profit municipalities, government backed utilities that do not provide customer choice services.

5 Enhance Creditworthiness Analysis and Establishment of Credit Composite Score

In addition to looking at the financial ratios of FTR Market Participants, PJM requires the ability to establish a credit composite score that will be comprised of both quantitative analysis and qualitative analyses. Each analysis will then be weighted depending on the FTR Market Participant type.

For example, in computing the credit composite score for a Public Power Market Participant, the following weights may be used:

Analysis:	Weight
Quantitative Score	45%
Qualitative Score	55%

The following quantitative metrics may be utilized to develop the quantitative score.

		Weighting
Leverage Ratios:		
	FFO/Debt	10%
	Days Cash/SGA + Interest Expense	10
	Debt/Total Capitalization	10%
Coverage Ratios:		
	EBIT/Interest Expense	25%
	(FFO+ Interest Expense)/Interest Expense	25%
Liquidity Ratios:		
	Current Ratio	15%
Profitability Ratio:		
	Days Cash/SGA + Interest Expense	15%

Qualitative analyses that may be utilized include, but are not limited to:

- Size and scale of customer base
- PJM FTR market experience (of the entity)
- Risk management capability assessment
- Exposure to energy price risk
- Regulatory status & outcomes
- Other non-financial measures of creditworthiness.

Illustrative Example:

Public Power Market Participant X has a quantitative score of 3.2 and a qualitative score of 3.0

Public Power Market Participant X Composite Score = (55% x 3.0) + (45% x 3.2) = 3.09

6 Establish Base Capital Minimum Requirement.

Based on the credit composite score identified above, PJM would establish a Base Capital Minimum (BCM) requirement. The BCM is a deposit maintained by the Participant with PJM against which no exposure for trades is allowed. This deposit should be commensurate with the risk profile of each Participant, as reflected by its designated Tier.

It is important for Participants to understand that their Tier designation may change in either direction based on changes in the relevant metrics from section 5.

Each entity BCM would be tiered depending upon the risk profile of the participant, as shown below.

Tier 1 – BCM deposit of $500,000. This amount is reflective of publicly traded FTR Market Participants who have audited financials, an investment grade credit rating of BBB+/equivalent or above, and a credit composite score between 0.00 to 2.99

Tier 2 – BCM deposit of $1,000,000. This amount is reflective of publicly traded FTR Market Participants who have audited financials, an Rating Agency credit rating between BBB+ and BBB, and a credit composite score between 3.00 to 3.49

Tier 3 – BCM deposit of $2,000,000. This amount is reflective of publicly traded FTR Market Participants who have audited financials, a Rating Agency credit rating between BBB and BBB-, and a credit composite score between 3.50 to 4.49

Tier 4 – BCM deposit of $5,000,000. This amount is reflective of either a publicly traded FTR Market Participant or a private FTR Market Participant who has audited financials, but have a below investment grade Rating Agency credit rating, and their credit composite score is above 4.50.

7 Establishment of Position Limits based on Risk Profile of FTR Participant

PJM recommends putting in place volumetric forward position limits, based on risk factors such as tenor, location, instrument type, and other parameters. A similar concept named “position accountability limits” was discussed in the paper titled “Position Limits and Liquidity Risk”.

The limits may be set according to the Participant’s financial wherewithal or may be based on thresholds for concentration of positions. Nearing this limit would trigger review of the position by PJM. Based on this review, PJM requires the authority to prevent any increase in the position, or requiring the Participant to reduce its current position.

In the case of the FTR market, PJM would require discretionary authority both to set the position limits (potentially within published guidelines), and to define a response escalation schedule according to the limit levels being exceeded.

8 Enhance/Establish Ongoing Risk Management Tools to monitor Financial Health of FTR Participants

It is well understood that the financial position of a participant in a derivatives market is capable of deteriorating rapidly. It is appropriate, therefore, to have an ongoing program of periodic reviews, coupled with discretionary reviews.

For periodic reviews, per Recommendation C4, financial criteria should be reviewed at least annually. While PJM has implemented that recommendation, consideration should be given to more frequent review for those participants closer to the thresholds, or who are otherwise considered less financially sound (e.g., with poorer credit ratings).

Discretionary reviews are likely to be initiated based upon various triggers, which could include, but are not limited to:

- Material adverse change in trading position
- Change in financial control, or significant events concerning key principals
- Major asset purchase or disposal
- Material changes in guarantees provided

PJM should ultimately have discretion to initiate a review at will, based upon its best judgement.

9 Verification of Risk Management Practices

FERC Order 741 requires that PJM obtain risk management policies and processes from each participant. This is certified annually for non-hedging FTR participants, and on a random selection basis for others. As the Independent Consultants' Report observes, however, no independent verification is made to confirm these policies are actually applied in practice.

The balance that must be struck in any verification process is to ensure that it is sufficiently rigorous, while not being overly burdensome to participants, and not consuming enormous PJM resources. The three broad alternatives are:

1. PJM conducts verification utilizing its own personnel: This would ensure that reviews are conducted to PJM's precise requirements and with uniform quality, but would require developing a suitably qualified staff to carry out this function.
2. PJM engages a third-party organization to perform verification: This approach would also ensure uniformity and compliance with PJM's specification. PJM could leverage existing external capability rather than developing its own, though this would come at a cost.
3. PJM requires participants to obtain and provide an external risk certification: This provides participants with more control over how the review is done, and may dovetail with their existing audits. For others, though, it may add to their burden. It would also result in varying qualities of verification, and could conceivably be subject to manipulation.

These options require further investigation, but would require Operating Agreement or OATT to be updated with "Right to Audit" clause.