

FTR Defaults in PJM

Response to NYISO Market Participant Inquiries

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February 25, 2008

Outline

- ◆ Overview of PJM Member Payment Defaults
- ◆ PJM FTR Credit Policy
- ◆ Review of PJM Defaulting Affiliates in NYISO Markets
- ◆ NYISO TCC Credit Policy
- ◆ NYISO Credit Policy Enhancements
- ◆ NYISO Continuing to Evaluate Improvements

Overview of PJM Member Payment Defaults*

- ◆ FTR members in PJM defaulted on margin calls and payment obligations.
 - Exel Power Sources, LLC
 - Power Edge, LLC (Tower Research Capital, LLC affiliate)

- ◆ Through May 2008, estimated default exposure approximates \$86 million.

* All information pertaining to the PJM defaults has been sourced from public information provided by PJM.

Overview of PJM Member Payment Defaults*

- ◆ Exel Power Sources, LLC
 - Purchased approximately 8,600 MWs in counter-flow positions during the Spring 2007 Annual FTR auction beyond their financial capabilities.
 - Positions acquired by another PJM member.
 - Purchased additional counter-flow positions in subsequent auctions.
 - Defaulted on collateral calls and payment obligations. Transaction rights suspended.
 - Projected losses through May 2008 in excess of collateral coverage are approximately \$5.4 million.

* All information pertaining to the PJM defaults has been sourced from public information provided by PJM.

Overview of PJM Member Payment Defaults*

- ◆ Power Edge, LLC
 - Purchased approximately 9,000 MWs in counter-flow positions during the Spring 2007 Annual FTR auction.
 - Acquired approximately 8,600 MWs of counter-flow positions originally purchased by another PJM member.
 - Defaulted on collateral calls and payment obligations. Transaction rights suspended.
 - Projected losses through May 2008 in excess of collateral coverage are approximately \$80.6 million.

* All information pertaining to the PJM defaults has been sourced from public information provided by PJM.

PJM FTR Credit Policy

- ◆ Expected value based on historical weighted average annual returns over prior 3 years (50% most recent, 30% second year, 20% third year).
- ◆ Positive-flow FTRs assume 30% discount on expected congestion returns for the purpose of establishing credit requirements.
- ◆ Do not discount expected congestion for counter-flow FTRs.
- ◆ Credit release schedule for Annual FTRs reduces amount to hold by 15% after December invoice is paid and an additional 15% after payment of each subsequent invoice.
- ◆ No ability to force liquidation of defaulted portfolio.
- ◆ December 2007 filing modified methodology
 - Utilize monthly average returns (as opposed to annual averages)
 - Eliminate 30% adjustment for summer-weighting of annual congestion
 - Added volatility factor of 10%; allowed negative credits to offset positive
 - Reduce average annual FTR collateral requirements by approximately 25% for diversified FTR portfolios.

Review of PJM Defaulting Affiliates in NYISO Markets

- ◆ There are currently four Tower Research Capital, LLC affiliates in one or more of the NYISO markets, three of whom are active.
- ◆ All are presently in good standing with NYISO Financial Assurance and Creditworthiness policies.
- ◆ Bid behavior shows nothing out of the ordinary.
- ◆ NYISO credit personnel have regular contact with these entities.
- ◆ NYISO continues to closely monitor activity of these and all other Market Participants.

NYISO TCC Credit Policy

◆ TCC Credit Requirements

■ Bid Component

- In any given auction, Market Participants are required to post a minimum amount of collateral to bid TCCs. Amounts per MW are as follows:

• Annual TCCs	\$1,500 per MW
• Six Month TCCs	\$2,000 per MW
• Monthly TCCs	\$600 per MW

NYISO TCC Credit Policies

◆ TCC Credit Requirements

■ Holding Requirement

● The higher of

● For Positive TCCs

- 25% of the Market Clearing Price for Annual TCCs
- 50% of the Market Clearing Price for Six-Month TCCs
- 100% of the Market Clearing Price for Monthly TCCs

● For Negative TCCs

- 100% of the absolute value of the Market Clearing Price regardless of duration.

Or

- The projected amount of a primary holder's net payment obligation to the NYISO, if any, considering the net mark-to-market value of all TCCs in that Market Participant's portfolio.

NYISO TCC Credit Policies

- ◆ Initial credit support must be maintained throughout the life of TCC.
 - A Market Participant purchases an annual negative TCC in the Autumn Auction.
 - The Market Participant is required to post 100% of the absolute value of the market clearing price.
 - The NYISO will hold that collateral in its entirety for the full duration of the TCC.
 - TCC Holding Requirement on 11/1/06 = \$100,000
 - TCC Holding Requirement on 10/1/07 is still \$100,000 even though 11 months have passed.

NYISO Credit Policy Enhancements

- ◆ In 2006, NYISO staff identified areas of potential improvement to better align TCC credit requirements with underlying market risks.
 - NYISO retained LECG to evaluate TCC credit requirements.
 - Historically, the NYISO may not have obtained enough credit support for holding TCCs that have negative, zero or low positive market clearing prices.
 - Conversely, the NYISO historically may have obtained too much credit support for holding TCCs that have a high positive market clearing price.
- ◆ In 2007, the NYISO and Market Participants developed and improved the TCC credit requirements to better address these underlying risks.
- ◆ The NYISO Board of Directors approved the changes on November 12, 2007.

NYISO Credit Policy Enhancements

- ◆ TCC bidding component changes were approved by FERC on 2/12/2008 and are currently in effect.
- ◆ The TCC holding requirement changes will be filed and implemented in conjunction with the deployment of TCC Automation Phase II.
 - The new formula for calculating the holding requirement will provide credit requirements that more accurately reflect the risk of loss for each TCC.
 - 3% probability of uncollateralized payment obligations in the TCC Market for Six-Month and Monthly Auctions
 - 5% probability of uncollateralized payment obligations in the TCC Market for Annual Auctions

NYISO Continuing to Evaluate Improvements

- ◆ Actively exploring credit insurance options to cover defaults.
- ◆ Conducting a series of technical conferences, working with Market Participants on market design and corresponding credit requirements.
- ◆ Moving forward with planned and budgeted multi-year project to automate, streamline and integrate NYISO Credit Management (CMS Project) across all NYISO markets.
- ◆ Continuing to benchmark NYISO credit policies against other ISOs and seek best practices.
- ◆ Exploring the possibility of implementing minimum capital or equity requirements.
- ◆ Considering visiting mercantile exchanges to benchmark credit policies on other commodity products.

NYISO Continuing to Evaluate Improvements

- ◆ Actively monitoring current PJM docket for potential improvements to credit policies. Features proposed by PJM include:
 - Screening of new members for problematic histories in other markets.
 - Evaluating FTR portfolios for financial and geographical diversification.
 - Modifying bad debt loss allocations from FTRs to allow cross collateralization from affiliated companies when:
 - defaults result from net short portfolios of FTRs;
 - the parties have chosen to separate their FTR trades among multiple entities; and
 - to the extent of security posted and revenues owed to affiliates of the defaulting member associated with their trades in FTRs.