

EPIC Merchant Energy Comments on CRR Credit Policy Issues Discussed at the April 1, 2008 Stakeholder Meeting.

At the April 1, 2008 meeting the CAISO and its stakeholders reviewed the current CRR credit policies and discussed potential policy enhancements to those policies. The CAISO's CRR Issue Paper on Credit Policy Enhancements provides background on CAISO's current policies, potential enhancements to those policies and reducing future credit risk. EPIC appreciates the opportunity to provide comments on these important issues in the CAISO's market.

Credit and Risk

ISOs are concerned with the recent FTR defaults in PJM and each ISO has implemented a review process of their credit policies and procedures. Defaults are also a serious matter to all Market Participants because it is the Participants, and not the ISOs, that bear the cost of those defaults. Therefore, no Market Participant should want an ISO to be under-collateralized in any of their markets. While an under-collateralized market is risky an over-collateralized market is also not desirable. Over-collateralization may cause Market Participants to not fully participate in a market, which may cause a number of undesirable outcomes e.g., less liquidity and price discovery.

An ISO's credit policy should be balanced to achieve two objectives:

1. Ensure that all Market Participants have adequate funds to cover their CRR trading activities. By the very definition, this requires a relatively conservative assessment of future cash flows.
2. At the same time, overly conservative credit policy will inhibit market competition, create unwarranted entry barriers for new market participants, and lead to inefficiencies in CRR positions.

Essentially, credit policies and associated business practices should be developed to match the risk of a transaction. The goal should not be to generally increase or decrease credit requirements, but to have a credit policy that matches the risk. One of the best ways to ensure that a market participant is fully collateralized, but not over-collateralized, is to use values based on historical day-ahead prices to analyze the participant's total collateral requirements.

Expected Values

CRR credit requirements have two parts:

- Submitted bids (Bid requirement)
- Cleared bids (Holding requirement)

The credit requirement after the auction clears should not be allowed to be greater than the collateral required to bid in the auction. Calculation of credit requirements should be on a path-by-path basis using the exposure equal to the difference between the bid or cleared price and the expected value of the path.

The expected value of a CRR may not provide for the worst case scenario associated with that CRR. CRR paths are seasonal and produce revenues for the CRR holder during some months, and represent a liability to the CRR holder in other months. Collateral requirements should not be the same in months when the CRR is generating revenues for the CRR holder as it is during months when the CRR is expected to result in losses to the CRR holder. The long-term credit requirement should be computed as a sum of the monthly requirements.

Counterflow CRRs and Undiversified Portfolios

The discussion around the PJM's market FTR defaults has centered on counterflow FTRs. The cleared value of a CRR portfolio has little relation to the relative risk that a particular Market Participant has assumed, and cannot reliably be used as the basis for imposing additional collateral requirements. Also, using the overall clearing price of a Market Participant's CRR portfolio to determine whether the Participant is at risk of default is flawed.

As shown below, the cleared value of a CRR portfolio is not a good predictor of risk of default, especially in a bid-based market where Market Participants are free to place positive or negative bids on both flow and counterflow CRR paths. Whether a CRR portfolio clears at a net positive or net negative price is not a reliable predictor of whether the portfolio consists predominantly of counterflow CRR positions. For example, counterflow CRR paths can (and regularly do) clear at positive prices, meaning that even an CRR portfolio with a net positive price could consist entirely of counterflow positions. Such purchases may not be flagged as requiring additional collateral, despite the fact that such a portfolio would represent a high risk portfolio with substantial downside potential.

This principle is illustrated by the PJM FTR purchases of Power Edge, LLC ("Power Edge").

- Power Edge purchased 50 MWs of FTRs on the ATLANTIC230KVREACTR to TRENTON138KVTDEC path in the 2007 annual FTR auction. The Atlantic-Trenton path had historically produced negative revenues during some months of the year. Despite this, Power Edge agreed to purchase 50 MWs across this path for a price of \$7,007. By December, 2007, congestion across this path had gone highly negative, leading to Power Edge's loss of over \$1.2 million for the month of December along this single path.
- A company making similar purchases of counterflow positions at positive prices and resulting in a positively priced CRR portfolio, would not be required to post extra collateral despite the fact that the transaction imposes serious risks to the market.
- Credit requirements, which consider only total net portfolio values, are not reasonably related to actual market risk. In a bid-based futures market, such as a CRR market, Participants are free to bid any price on any CRR. A just and reasonable credit policy must take into account all types of bidding behavior.

- A CRR portfolio consisting of both flow and counterflow positions, but with an overall net positive clearing price, can still pose a significant threat of default if the counterflow position becomes highly negative. For example, a Market Participant purchasing 50 MWs of prevailing flow CRRs along a relatively stable and low risk path may still pose a risk of default if it also purchases 50 MWs of highly volatile counterflow CRRs along a second path. Thus, if the cleared price of the Participant's total CRR portfolio is positive, the Participant would not be required to post additional collateral.
- CAISO should not assume that prevailing flow CRRs can never lose money or become a counterflow CRR over time. It is possible for congestion on a transmission path to change between the times of the CRR auction and when the CRR is settled, due to atypical weather patterns, unplanned transmission or generation outages and other causes. Even if the predominate flow of physical power on a line does not actually switch directions, the congestion revenues "earned" by a particular path can switch from positive to negative, depending on changes in transmission constraints and corresponding increases or decreases in the congestion portion of the LMP price at either the source or sink. Therefore, simply focusing on CRR portfolios with a net negative clearing price fails to adequately measure market risk and fails to protect the market against default.
- Instead of looking at net portfolio values, CAISO should develop path-specific credit requirements based on the economic risk inherent in a Market Participant's particular CRR holdings. Establishing path-specific collateral requirements based on the projected value of a particular CRR path would avoid the problem of Market Participants bidding positive price for counterflow CRRs, or holding net positively priced portfolios that still have significant downside potential. Further, path-specific credit requirements would eliminate the possibility that a Market Participant is providing either too little or too much collateral by ensuring that the credit requirements match the actual risk profile.

Introduce a Spread Bid Product in the Day-Ahead Market

This market would allow Participants to manage their CRR positions intra-month. A spread bid is a transaction in the Day-ahead Market that consists of an offer to sell (incremental offer) at one point and a bid to buy (decrement bid) at another point. Market Participants may submit a spread bid at points which an LMP is calculated.

A spread bid product would provide a useful tool for the Participant to restructure CRR positions intra-month, thereby helping to mitigate the risk of default.

The hourly economic value of a spread bid is based on the difference between the Day-ahead LMP at the offer point ("source point") and the Day-ahead LMP at the bid point ("sink point"). The value of the spread bid can be positive or negative.

- The hourly economic value is positive when the Day-ahead LMP at the bid (sink) point is higher than the Day-ahead LMP at the offer (source) point. In the Day-ahead Market, the participant will be charged the difference between the Day-

ahead LMP at the sink point minus the Day-ahead LMP at the source point. And in the Real-time Market, the participant will be credited the difference between the Real-time LMP at the sink point minus the Real-time LMP at the source point.

- The hourly economic value is negative when the Day-ahead LMP at bid (sink) point is less than the Day-ahead LMP at the offer (source) point. In the Day-ahead Market, the participant will be credited the difference between the Day-ahead LMP at the sink point minus the Day-ahead LMP at the source point. And in the Real-time Market, the participant will be charged the difference between the Real-time LMP at the sink point minus the Real-time LMP at the source point.

The spread bid will clear in the Day-ahead Market if the difference between the bid point (sink point) and the offer point (source point) is less than or equal to the value of the submitted bid. Cleared spread bids will be settled at total Day-ahead LMP. A cleared spread bid will be charged the difference between the hourly Day-ahead LMP at the bid point and the hourly Day-ahead LMP at the offer point, times the MWs cleared each hour in the Day-ahead Market.

A minimum collateral requirement should be imposed on participants engaged in this market. This amount of collateral should represent a compromise between ensuring the market is protected and unreasonable barriers are not placed on market entry.

Provide a Rolling Window for Credit Requirements

FTR clearing prices are not a good indicator of assessing risk. Using historical prices, while better than using clearing prices is still not the best indicator to assess risk. A better approach would allow CRR annual auctions, then monthly auctions for the next 12 months. For example, in December 2007 the participant bids in the yearly auction and may bid every month for the 12 months of 2008. For the January 2008 auction, the participant may bid in January 2008 for each of the next 12 months, ending January 2009.

This rolling window would allow the participant to trade the month of December 2008 and January 2009 twelve times. The participant would have twelve cleared prices for December 2008 and twelve for January 2009; these prices would act somewhat like a forward curve. Now the credit requirement can be assessed using the expected value based on twelve cleared prices. This approach would show what the FTR's exposure is and help the participant to assess risk.

Holding Requirement

EPIC agrees with the CAISO proposal to modify the existing calculation for the CRR holding requirements: $\text{New Min (CRR Auction Price, Historical Expected Value)} + \text{Credit Margin}$. EPIC believes that the emphasis should be placed on the expected value component of this calculation.