CRR Credit Policy Enhancements

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Your Link to Power

Stakeholder Meeting
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Agenda

- Overview and Background
- Proposed Enhancements
  - 1. Credit Requirement for Holding Short-Term CRRs
  - 2. Re-Filing Full-Term Credit Coverage for Long-Term CRRs
  - 3. Pre-Auction Credit Margin Requirement
  - 4. Tariff Language to Clarify Authority to Increase Credit Requirements due to Extraordinary Circumstances
  - 5. Credit Policy for CRR Transfers with Load Migration
  - 6. Corporate Credit Backing of Affiliates

Issue 1 - Credit Requirement for Holding a Short-Term CRR

- Currently,

  Credit Requirement = - Auction Price + Credit Margin

- Issue:

  Auction price may not reliably reflect the expected value of the CRR if auction market is thin. That may lead to insufficient credit coverage for holding CRRs.

- Proposed enhancement:

  Credit Requirement

  = - min (Auction Price, Historical Expected Value)

  + Credit Margin

* Historical Expected Value will be based on historical market operation data consistent with the calculation of Credit Margin.

Issue 1 – Continued
Scenario of Insufficient Credit based on Auction Price

Auction Price	= -\$20/MW-Day
Historical Expected Value	= -\$45/MW-Day
Credit Margin	= \$50/MW-Day

Credit Requirement based on Auction Price

= <u>- Auction Price + Credit Margin</u> = -(-\$20) + \$50 = <u>\$70/MW-Day</u>

Credit Requirement based on Historical Expected Value

= - Historical Expected Value + Credit Margin

= -(-\$45) + \$50 = <u>\$95/MW-Day</u>

Credit Requirement based on Proposed Formula

= <u>- min (Auction Price, Historical Expected Value) + Credit Margin</u>

= - min (-20, -45) + 50 = <u>\$95/MW-Day</u>

Issue 2 – Re-Filing Full Term Credit Coverage for Long-Term CRRs

- Currently, only one year credit requirement for holding LT-CRRs per FERC August 28, 2007 order

- BOG approved full-term coverage on May 30, 2007

$$-n * (1\ year\ CRR\ Auction\ Price) + \sqrt{n} * (1\ year\ Credit\ Margin)$$

- Proposed enhancement,

$$-n * \min(1\ year\ CRR\ Auction\ Price,\quad 1\ year\ Historical\ Expected\ Value)$$
$$+ \sqrt{n} * (1\ year\ Credit\ Margin)$$

Issue 3 – Pre-Auction Credit Requirement

- Currently, minimum credit requirement for participating in auction:
  - Max ($500,000, sum of the absolute value of the bids)
  - Based on bid prices; does not include Credit Margin

- Credit Margin is part of the CRR holding requirement to cover the volatility of the underlying values of the CRRs

- Issue:
  - An auction participant could win CRRs, but may not be able to cover its CRR holding requirements, and its pre-auction credit may not be sufficient.

Issue 3 – Continued
Example of Insufficient Bidding Requirement

Example - Suppose an auction participant bids 100MW at the equivalent price of -$35/MW-Day for two on-peak seasons (approximately 150 days)

	1 MW	100 MW	200 MW
Days (n)	150		
Auction Price ($/MW-Day)	-35		
Bid Price (or Expected Value) ($/MW-Day)	-35		
Credit Margin ($/MW-Day)	60		
Credit Holding Requirement = - min(Auction Price,Expected Value) * n + sqrt(n) * Credit Margin	$5,985	**$598,485**	**$1,196,969**
Credit Margin Portion = sqrt(n) * Credit Margin	$735	$73,485	$146,969
Bid	$5,250	$525,000	$1,050,000
Bidding Requirement w/o Credit Margin		**$525,000**	**$1,050,000**
Bidding Requirement w/ Credit Margin**		**$598,485**	**$1,196,969**

* Assume that bid price is based on the expected value of the CRR.

** Max($500K, Sum of Absolute Value of the Bids + sum of Credit Margin*MW)

Issue 3 – Continued

- Question: Whether to enhance the bidding requirements for auction participation?

- Proposed options to add Credit Margin to pre-auction credit requirement:

  Option 1: Add full Credit Margin

  Option 2: Add only a portion of the Credit Margin

- With either option, excess collateral posted for auction in excess of holding requirements can be released to MPs after the close of the auction.

Issue 4 - Tariff Clarification to Increase Credit Requirement due to Extraordinary Circumstances

- Issue:

  Extraordinary circumstances such as extended outage could dramatically change the risk profile of a CRR.
- Tariff Section 12.1 currently provides that the Estimated Aggregate Liability calculations include obligations that the "Market Participant is liable or reasonably anticipated by the CAISO to be liable for."
- Proposed tariff clarification would specifically include prospective liabilities of CRR Holders due to extraordinary circumstances that are not reflected in other calculations of Estimated Aggregate Liability.

Credit Policy for CRR Transferring with Load Migration

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Allocated CRRs Will Be Transferred with Load Migration

- The CAISO Tariff requires CRRs allocated to LSEs to be transferred to reflect load migration.
  - Load-losing LSE will be assigned counter-flow CRRs to offset the CRRs to be transferred.
  - The load-losing LSE needs to have sufficient available credit to take on the counter-flow CRRs.

Load-losing LSE May Be Unable to Cover Assigned Counter-flow CRRs

- LSEs can liquidate their allocated CRRs by
  - procuring offsetting counter-flow CRRs through auction, or
  - selling allocated CRRs.

- In either case, the LSEs would need to maintain little or no credit coverage under current credit policy.
  - – Current credit policy allows netting in CRR holding credit requirement calculation.

- Risk – If the LSE loses load through load migration, it may not have financial capability to take on the counter-flow CRRs, which may cause default.

CAISO Proposes Credit Policy Enhancements To Provide Necessary Protection

- Disallow netting between allocated CRRs and auctioned CRRs in credit requirement calculation.
  - It would address the case where the LSE offsets its allocated CRRs by procuring counter-flow CRRs at auction.

- Plus one of the following options to address the potential bilateral sale of allocated CRRs:
  - Require LSEs selling allocated CRRs to maintain credit coverage sufficient to cover “virtual” counter-flow CRRs that would offset the CRRs being sold, or
  - Prohibit LSEs from selling allocated CRRs.

Stakeholders May Suggest Different Approaches

- Stakeholders are welcome to propose alternative solutions for this issue, if they view the cost of this solution as outweighing the benefits.

CRR Credit Enhancements: Parent Backing of Affiliated Market Participants Aggregated Liability

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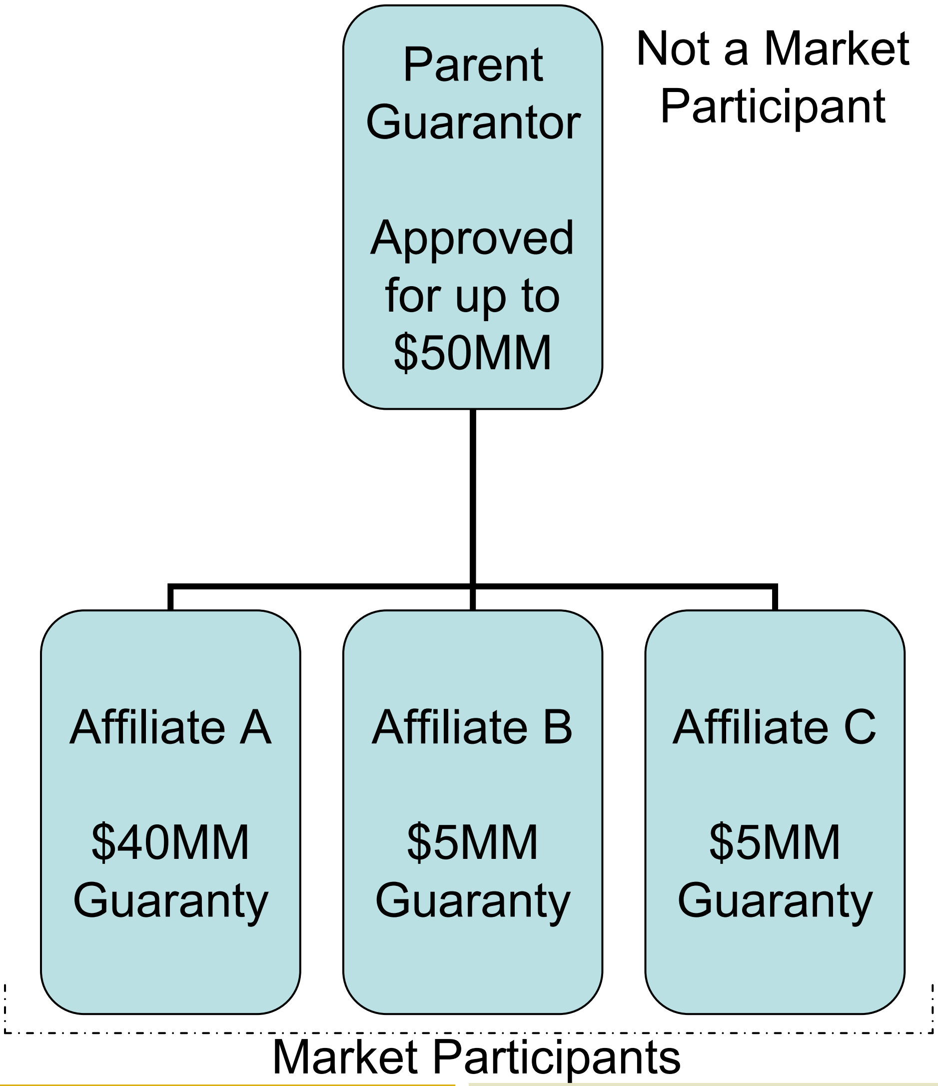
What is the issue?

- Based on PJM experience, thinly capitalized and/or under secured affiliates of a parent guarantor pose a default risk when CRR holding requirements change dramatically
- Under the current CAISO Tariff, this default risk is shared by all net creditors for the month of the default
- Typically, corporate parents write Guarantees backing the aggregate liabilities of a particular affiliate
- Requiring corporate parents to provide a “blanket” Guaranty, backing the aggregate liabilities of those affiliates using a Guaranty to meet their collateral needs, could mitigate this default risk in certain instances

How are Guarantees Typically Structured Today?

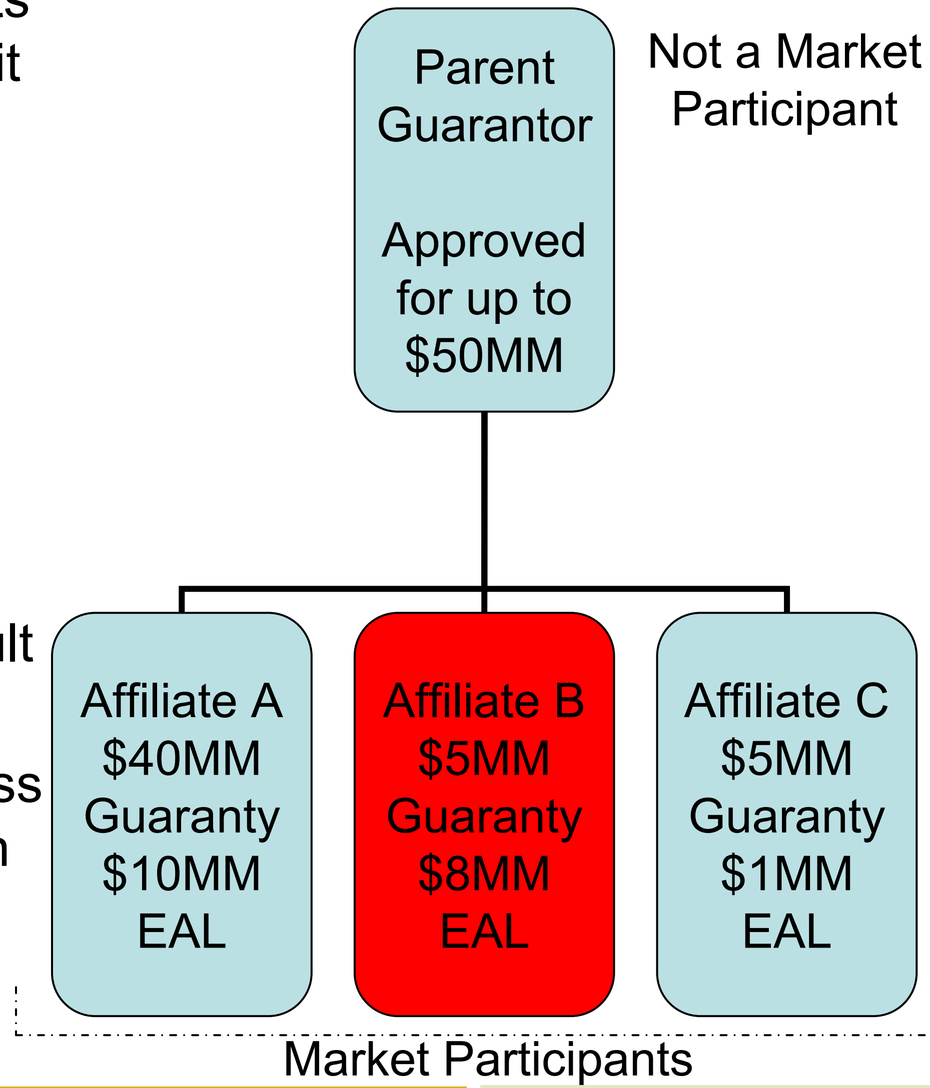
- Parent guarantor's limit is based on the same process as for determining Unsecured Credit Limits for a Market Participant
- Parent guarantor executes individual Guarantees for each affiliate that, in the aggregate, total ≤ their approved limit
- Each affiliate's available credit is based on their Guaranty amount less their Estimated Aggregate Liability (EAL)
- Calls to request additional collateral are made when the affiliate's EAL exceeds 90% of the Guaranty amount



When Do Problems Arise?

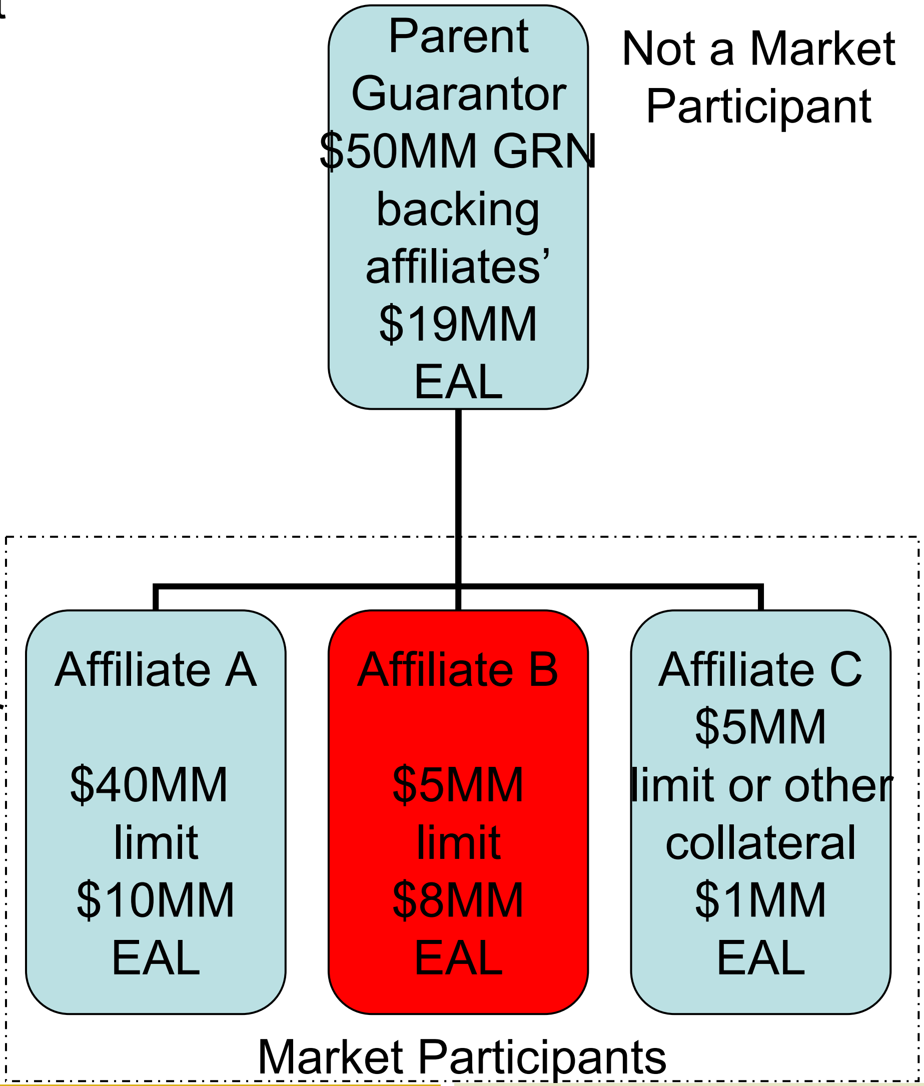
Affiliate B's CRR holding requirements result in it exceeding its Guaranty limit

- Guarantor has no capacity to or will not increase the Guaranty amount
- Guarantor unwilling to amend existing Guarantee(s) to reallocate credit backing within approved limit
- Affiliate B does not provide another form of collateral
- Affiliate B considered to be in default according to the CAISO Tariff
- Subsequently, should Affiliate B miss a payment obligation, they will be in payment default which is socialized among net creditors in the market



How Will Proposed Solution Mitigate Default Risk?

- *PROPOSED ENHANCEMENT:* Parent guarantor writes a “blanket” Guaranty backing the aggregate liabilities of two or more of its Market Participant affiliates
- CAISO credit systems still require a single credit limit for each Market Participant
- Each affiliate remains responsible for ensuring it has adequate credit availability
- As a result of a collateral call, the parent guarantor must reallocate the Guaranty’s limits among its affiliates or the affiliate triggering the call may provide another form of collateral
- The parent guarantor is ultimately responsible for the EAL of all of its affiliates backed by the Guaranty within the total limits of the Guaranty



Are There Potential Issues/Concerns with The Proposed Enhancement?

- Potential of default risk remains if the combined aggregate liabilities of the affiliates exceed their combined limits and/or the approved limit of the parent guarantor
- Potential of default risk remains if some affiliates are backed by the parent Guaranty while others are not
- A parent guarantor will have to evaluate the risk of a "blanket" Guaranty compared to other forms of collateral that have an associated carrying cost
- Outstanding questions for stakeholder comment
  - Is there support for the proposed enhancement?
  - How formal should the allocation/reallocation of collateral limits be among the affiliates backed by the Guaranty?
  - Should this concept apply to other forms of collateral or just guarantees?
  - Does this concept present regulatory issues for non-regulated parents backing regulated and non-regulated affiliates?

Comments

- Please submit written comments by April 8, 2008 to

  CRRComments@caiso.com

  using the stakeholder comment template for CRR Credit Policy posted at

  http://www.caiso.com/1b8c/1b8cdf25138a0.html