



California ISO

Price Formation Enhancements

Working Group Session #4

09/14/2023

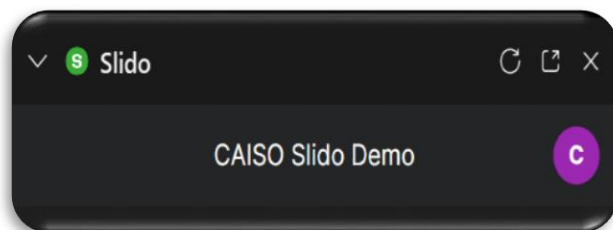
Housekeeping reminders

- This call is being recorded for informational and convenience purposes only. Any related transcriptions should not be reprinted without ISO's permission.
- These collaborative working groups are intended to stimulate open dialogue and engage different perspectives.
- Please keep comments professional and respectful.
- Note: The ISO encourages any verbal or written agreements to comments made during this working group session.
- You may also send your question via chat to either Brenda Corona or to all panelists.

Instructions for WebEx



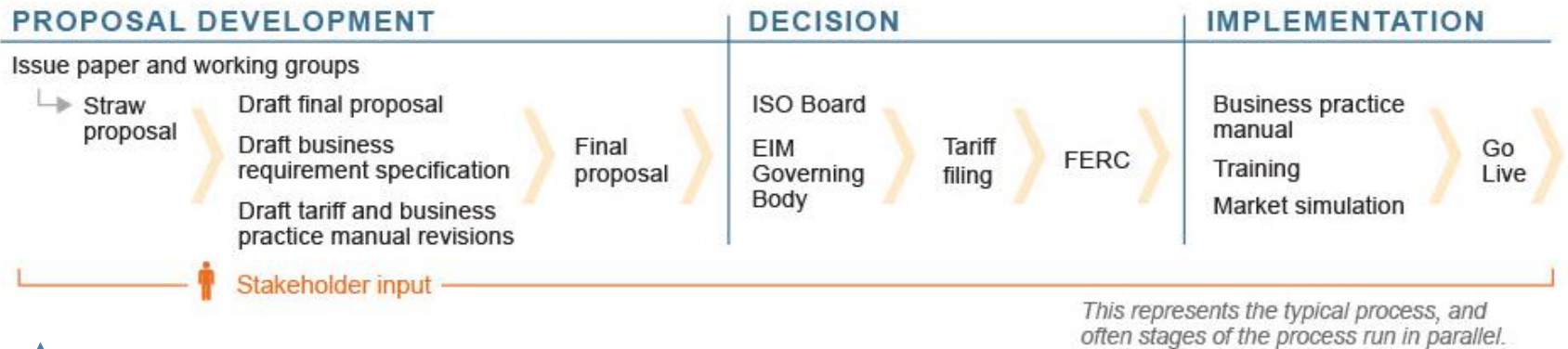
- The “raise hand” icon is located in the lower tool bar. You will hear a beep tone when you are un-muted; at that time please state your name, and question. Attendees dialed in on the phone only press #2 will hear a notification when you are un-muted; at that time please state your name and question.
- WebEx platform will **LOCK** and mute you if you mute yourself once you have finished your question. Do not mute yourself until you have completed your question or comment.
 - Polling App: *Slido* you can select the answer to the question.
 - Attendees will see questions on right screen above the chat window.



Today's Working Group Agenda

Time	Topic	Presenter
9:00 – 9:05	Welcome, Today's Agenda, Stakeholder Process Overview	Brenda Corona
9:05 – 9:10	Today's Goals / Schedule Update	Juan Buitrago
9:10 – 10:30	BAA-Level Market Power Mitigation: History and Level-Set	James Friedrich
10:40 – 10:55	SLIDO Polling BAA-Level MPM – Initial Reactions Discussion Areas – next steps	Juan Buitrago
10:55 – 11:00	Next steps	Brenda Corona

ISO Policy Initiative Stakeholder Process



Stakeholder meetings, working groups and workshops may occur throughout the stakeholder process.

We are here

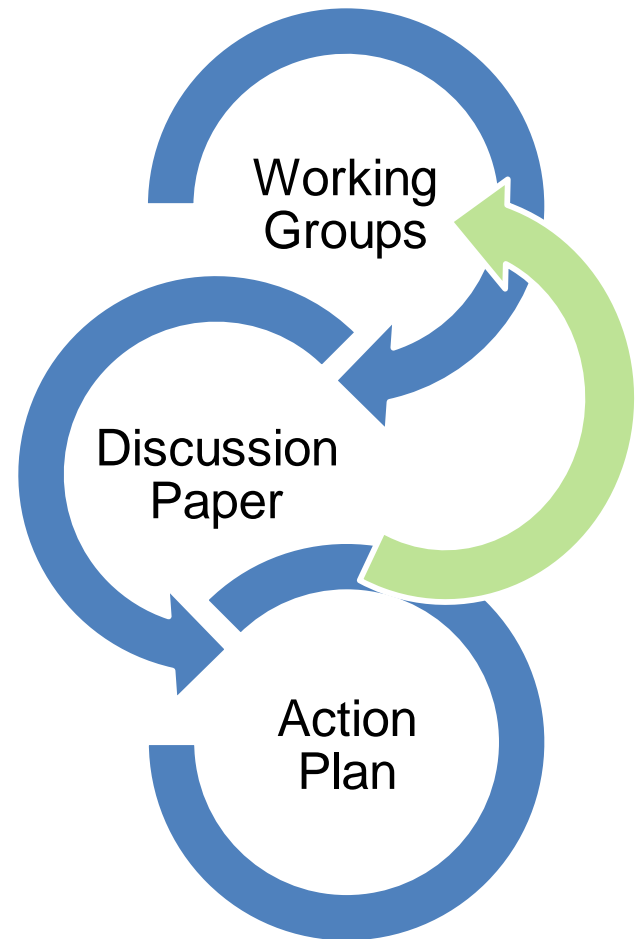
- Working groups will inform the Phase 1 straw proposal
- The ISO will take notes and produce reports of each of our working group meetings.

Working Group Deliverables

Action Plan: A bridge between the working groups and a straw proposal, the Action Plan will inform the policy direction for Price Formation Enhancements Phase 2 stakeholder initiative.

The action plan will recap all perspectives shared in the working group process and identify the policy direction/basis of the straw proposal

You will have an opportunity to provide written comment on the Action Plan



Goals of Today's Working Group Session

The Working Group structure is meant to embrace flexibility to allow organic and robust conversation on the topics at hand – it is still key for us to drive towards solutions collaboratively

- **Provide the history and context of the current BAA-Level Market Power Mitigation (MPM) construct as it exists today**
 - Level set to inform future discussion regarding potential enhancements to the methodology
 - Determine whether the CAISO BAA should be included in BAA-Level MPM
- **Identify and prioritize Price Formation Enhancement themes that warrant dedicated sessions**
 - Stakeholder presentation and discussion
 - Problem Statement formulation
 - Set the schedule for subsequent PFE working group sessions



Price Formation Enhancements

Working Group Session #4
Staff Presentation

September 14, 2023

In this presentation we will discuss...

- What is **BAA-level market power mitigation**?
- What are the concerns BAA-level market power mitigation is intended to address?
- What is the precedence and history of BAA-level market power mitigation in the WEIM?
- How might BAA-level MPM procedures be improved?

Addressing structural market power in WEIM BAAs

Stakeholder Concerns

- Various groups, including the Market Surveillance Committee and the Department of Market Monitoring, raised alarms about potential BAA-wide market power in the formation of EIM.
- This concern was especially prominent for entities that own the majority of generation within the BAA (“structural market power”).

Addressing structural market power in WEIM BAAs

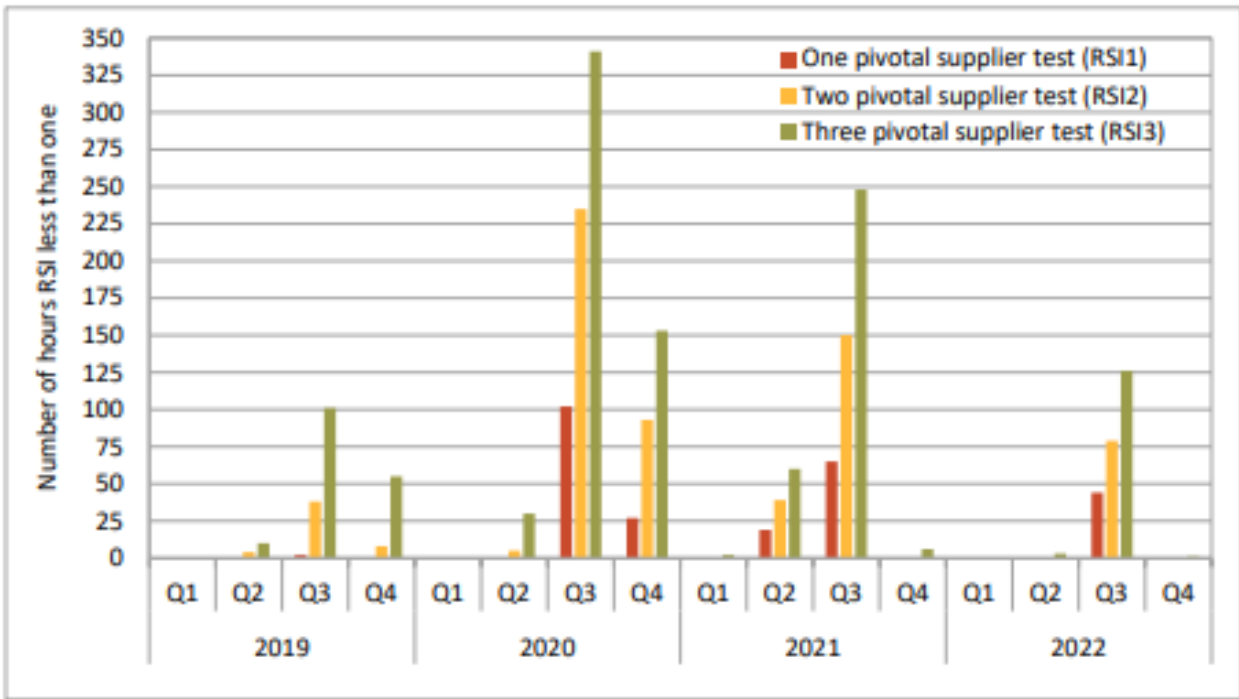
Assessment Measures

- The Department of Market Monitoring (DMM) utilizes tools such as:
 - Pivotal supplier tests
 - Residual supply index
- These tools help determine the structural competitiveness of a market.

Table 5.1 Hours with residual supply index less than one by year

Year	RSI ₁	RSI ₂	RSI ₃
2019	2	50	166
2020	129	333	524
2021	84	189	316
2022	44	79	130

Figure 5.1 Hours with residual supply index less than one by quarter



Addressing structural market power in WEIM BAAs

Assessment Measures

- In the EIM filing, FERC directed:
 - The ISO has the option to file for implementing real-time local market power mitigation on EIM interties.
 - The condition for this filing is that the ISO must believe and show evidence that such mitigation is necessary.
 - The assessment of the need for this mitigation will be done after the DMM evaluates structural market power in PacifiCorp's BAAs.
- DMM could not conclude that the two PacifiCorp BAAs would be structurally competitive (similar finding later for NVE)

Addressing structural market power in WEIM BAAs

Assessment Measures

- EIM Year 1 Enhancements Phase 2 provided for LMPM of EIM transfers on EIM internal interties
 - Obviated the need for a specific structural competitiveness assessment by DMM and authorization from FERC each time a new entity joined EIM
- CAISO deemed structurally competitive and not included in these measures

Addressing structural market power in WEIM BAAs

Mitigation Strategies

- Similar to flow-based transmission constraints, BAA transfer constraints create isolated, price-separated, local areas within the larger system
- Structural market power can be countered effectively by expanding local market power mitigation techniques to include congestion on transmission/scheduling constraints leading into an EIM BAA.

Addressing structural market power in WEIM BAAs

Market Mechanics

- Market prices can be different between BAAs; one primary reason for these price differences is congestion along the transmission paths that connect these areas.
- When there is congestion leading into a specific BAA, the prices in that area are likely to rise relative to neighboring areas.

Addressing structural market power in WEIM BAAs

Market Mechanics

- The price differences that arise due to congestion are captured in what's referred to as **power balance constraint shadow prices** for each BAA.
- A shadow price essentially reflects the cost of an additional unit of electricity to be delivered into the constrained area.

Addressing structural market power in WEIM BAAs

Market Mechanics

- The shadow price of the power balance constraint for a WEIM BAA is based on the system marginal energy cost (SMEC).
- A positive shadow price for this constraint suggests binding constraints are affecting transfers into that particular BAA.

Addressing structural market power in WEIM BAAs

Market Mechanics

- When this situation occurs, a dynamic competitive path assessment (DCPA) is initiated to evaluate if the available generation within the WEIM BAA can competitively meet its own demand without access to additional transfers.

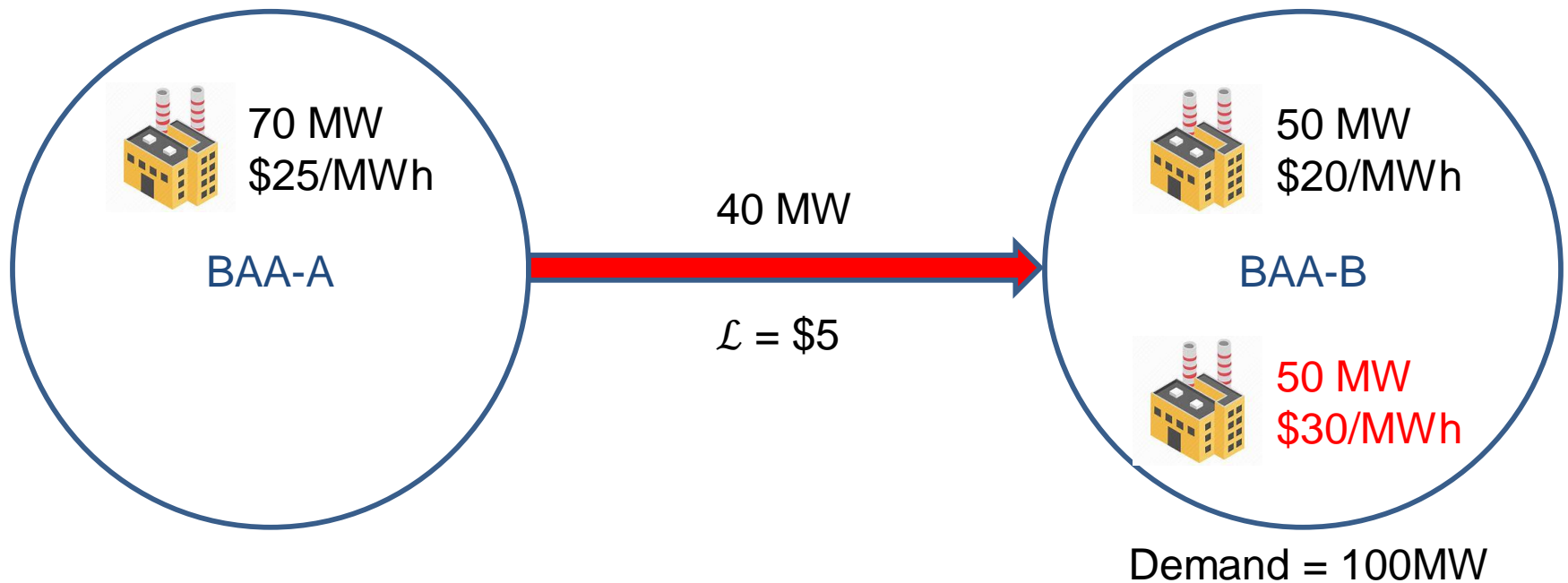
Addressing structural market power in WEIM BAAs

Market Mechanics

- If the DCPA discovers non-competitive conditions, there's a process to adjust the bids of resources in the WEIM BAA.
- This adjustment involves mitigating all WEIM Participating Resource Bids in the affected BAA either to the Competitive LMP at their location or a lower value based on their submitted Bid or the applicable Default Energy Bid (DEB).

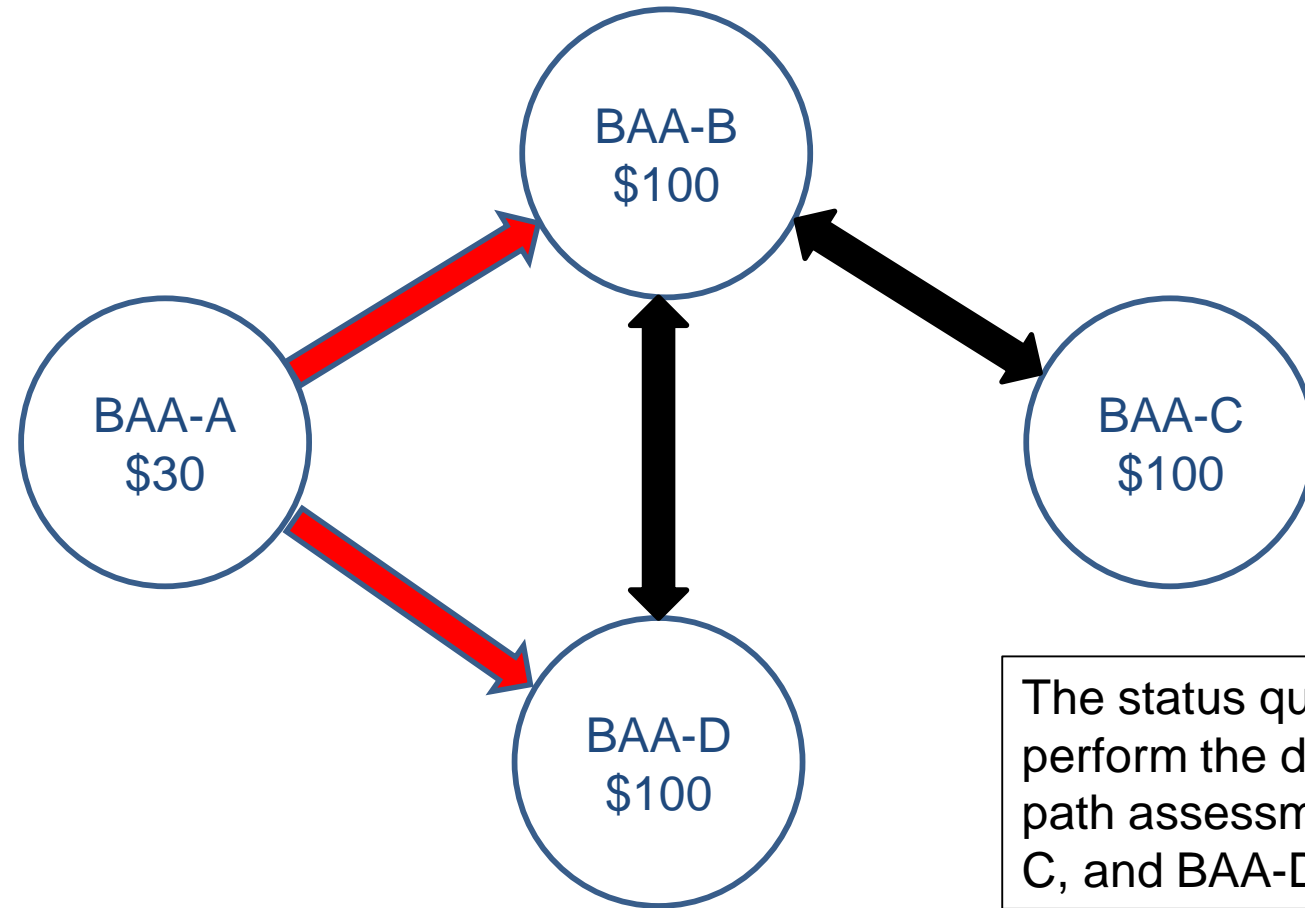
Addressing structural market power in WEIM BAAs

Market Mechanics - Example



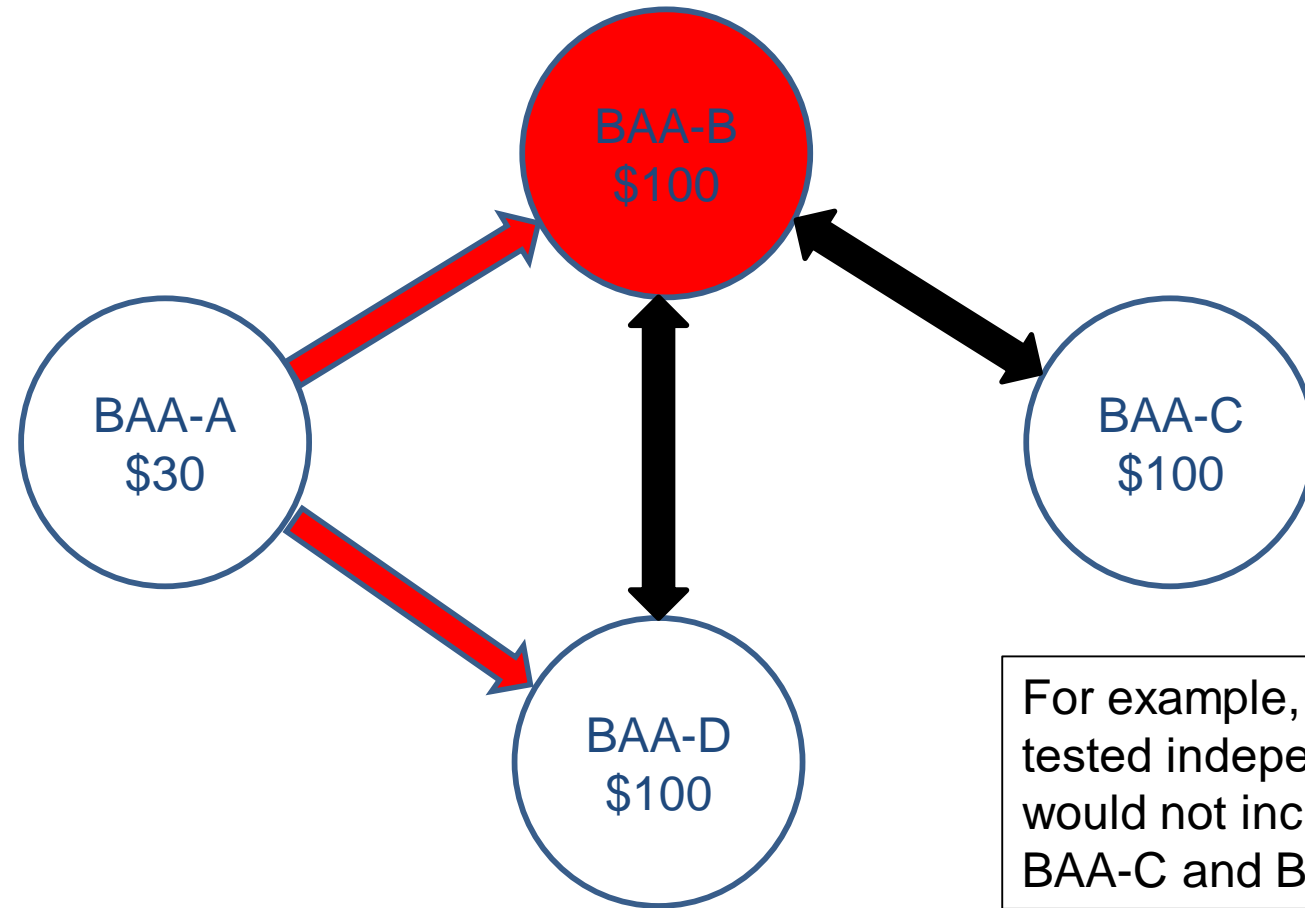
Given the transmission congestion, BAA-B can't fully utilize cheaper energy from BAA-A. This gives Generator B2 an opportunity to exercise market power.

How might BAA-level MPM procedures be improved?



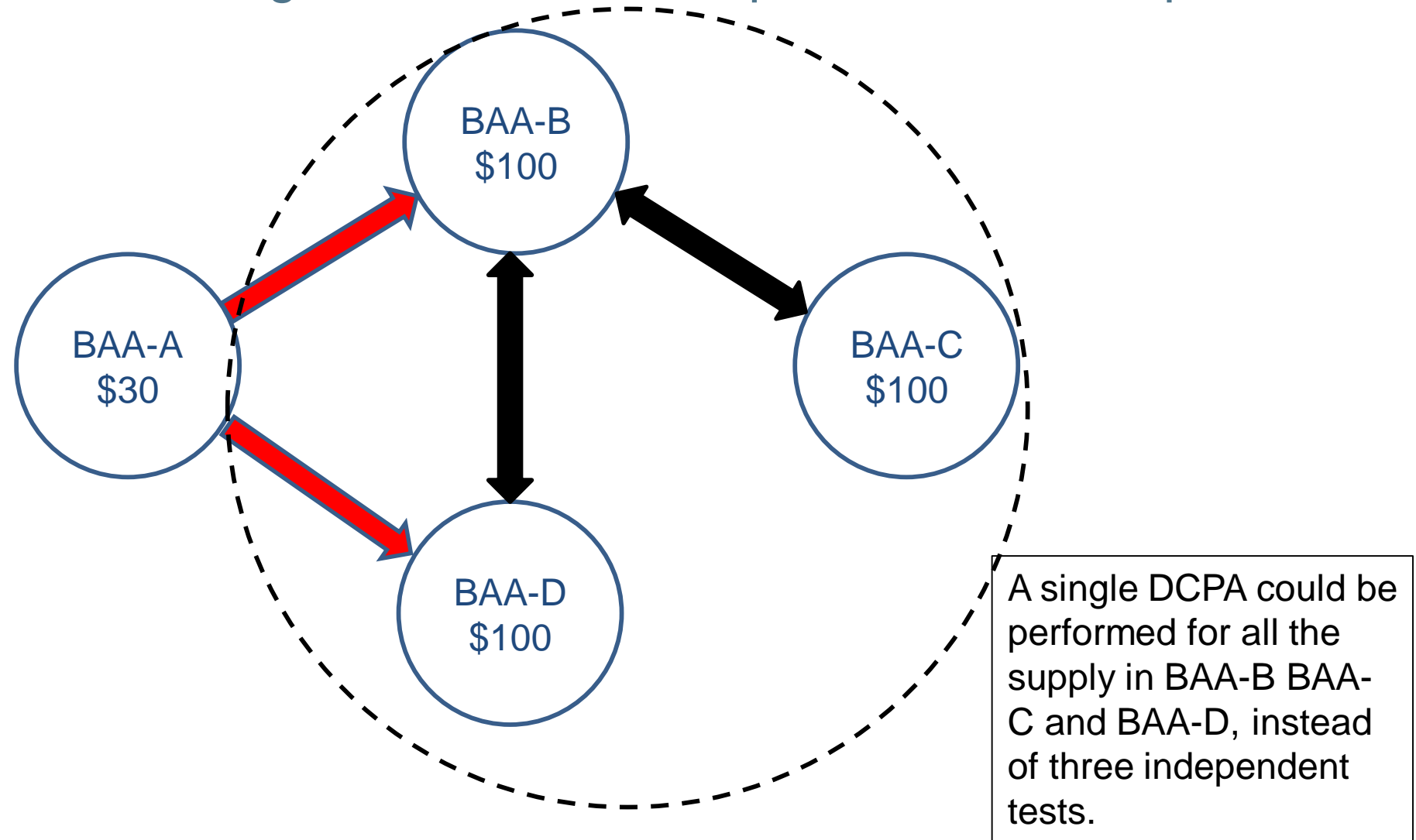
The status quo procedure will perform the dynamic competitive path assessments for BAA-B, BAA-C, and BAA-D independently.

How might BAA-level MPM procedures be improved?



For example, BAA-B would be tested independently. Its supply would not include contributions from BAA-C and BAA-D.

How might BAA-level MPM procedures be improved?



Additional Information?



Today's session was in response to feedback that the History and Current construct of BAA-Level MPM was needed to inform the discussion of potential enhancements of the methodology.

- Do you feel this purpose was met?
- If not, which specific topics require further information/discussion?

Problem Statement formation

Below are the main themes that have been captured through the Working Group process for further discussion and problem statement creation. Which are the most important to you?

- How to reflect the value of reliability in prices during scarce conditions
- The triggering mechanism and timing (both start and end) of Scarcity Pricing
- Out of Market action's impact to CAISO market
- Scarcity Pricing's competitiveness with bi-lateral markets
- Compatibility with pricing and RA in broader West and other markets to signal voluntary supply
- Which other themes should be considered for discussion in a dedicated Working Group session?

For reference

- Visit initiative webpage for more information:
<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Price-formation-enhancements>
- If you have any questions, please contact Brenda Corona at bcorona@caiso.com or isostakeholderaffairs@caiso.com



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By Deb Le Vine, Director, Infrastructure Contracts & Management

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