

BPA Stakeholder Discussion on PAC/ISO EIM Implementation

Controls for Managing Impacts

October 28, 2013

Pre-decisional/For Discussion Purposes Only



Purpose of Today's Discussion

- Discuss principles guiding the approach to managing the impact of PAC/ISO EIM implementation on BPA's system and customers.
- Discuss controls that are being evaluated to achieve those principles.
- Discuss methods that are being evaluated for how to populate those controls.
- General discussion on the project.
- Get stakeholder feedback.

Process Overview

- BPA has continued to work with the ISO and PAC, as well as with other stakeholders, on managing the implementation of their EIM, targeted for startup in October 2014.
- That work has been productive, and has remained consistent with the principles and issues discussed in our September 27, 2013 stakeholder meeting.
- That work has also led to the identification of certain tools and policy questions regarding the use of those tools.

Process Overview (Contd.)

- Today we are discussing the *current* thinking regarding those tools and questions. BPA has not made a decision and is not proposing preferred approaches.
- Discuss approaches while they are in development and obtain feedback.
- BPA is targeting decisions on these by the end of November.
- These tools can be monitored and evaluated for their effectiveness during:
 - Market simulations prior to initial implementation (target Summer 2014)
 - Initial implementation (target October 2014)

Background and Principles for Dynamic Usage

- As discussed in the last stakeholder meeting, PAC (like many other BPA customers) has an existing dynamic use of our system.
 - PAC does propose to become a new dynamic user of the COI as part of their EIM participation.
- Though the EIM will represent a *unique* usage of our system, the EIM's dynamic usage should not negatively impact:
 - Other dynamic usage;
 - Flexibility for future dynamic uses on BPA's system;
 - BPA's ability to review and modify it's dynamic use policies.

Operational Goals

- The 5-minute EIM dispatches do not adversely impact RAS arming, voltage control limitations, or reliability, and existing dynamic uses of the system are protected.
- If a congestion event is imminent or occurring, the EIM does not exacerbate the event.
- BPA dispatchers have sufficient visibility and controls to be aware of the impact of the EIM (in real-time and prospectively) and be able to suspend or restrict the EIM dispatches if deemed necessary to maintain the reliability of the system.

Coordinated Flowgates & Paths

- The criteria for determining which paths and flowgates will require coordination and the implementation of operational controls described below are envisioned to be based on:
 1. Flowgates and paths where the impact of the redispatch of any single pairs of resources that are expected to offer a bid range into the EIM is greater than 10% OR;
 2. The impact of any single resources offering a bid range serving one of the EIM Entity loads is greater than 10%.

Process for Achieving these Goals

- BPA has worked with the ISO and PAC to develop certain controls and to provide sufficient data in order to manage the impact of the EIM and achieve the goals and principles discussed above.
- BPA must also determine how it wishes to populate the values of those controls.

COI vs. Network

- Different tools may be appropriate to manage dynamic usage on interties and BPA's network.
- COI
 - Existing DTC business practice is a viable operational option to manage EIM transfers over the COI.
 - PAC does not currently use dynamic transfer of the COI today.
- Network
 - Additional controls are being developed to effectively manage reliability and commercial impacts on BPA's network.

Operational Controls

- The primary controls being proposed to manage potential operational impacts of the PAC-CAISO EIM include:
 1. System Operating Limits (SOLs) are not exceeded due to the EIM;
 2. Variable transfers from the EIM do not exceed an Upper 5-minute Delta Flow Limit;
 3. Variable transfers from the EIM do not exceed a Lower 5-minute Delta Flow Limit;
- Scheduling limits will apply and can be enforced on the COI.
- Total Market Flow limits can be enforced on the Network.

SOL Protections

- On coordinated flowgates and paths, the CAISO will ensure that EIM dispatches will not cause an SOL to be exceeded or will not exacerbate flows if an SOL is exceeded.
- Applies to both the COI and Network

Five-Minute Delta Flow Limits

- The upper five-minute flow limit and lower five-minute flow limit will be calculated to ensure reliability is maintained; existing dynamic uses of the system are protected; and, will be consistent with BPA's commercial business practices and policy.
- Applies to the Network and may also apply to the COI depending on the approach chosen.

5-Minute Flow Limits Alternatives

1. Historic Use Static Limits

- Limits would be calculated for each flowgate based on PAC's historic dynamic usage.
- For resources that are expected to be offered into the EIM, historic five minute actuals would be analyzed to determine the variability for each generator and the impact of generator variability across each flowgate.
- The net coincidental impact by flowgate would be determined and a operational limit selected.

5-Minute Flow Limits Alternatives

2. Offline Nomogram Variable Limits

- Nomograms would be developed that provide a relationship between path flows and variable transfers available on flowgate/path.
- The variable transfer limit would be the lesser of the nomogram limit or the RAS arming limit for each flowgate.
- DTC awards already allocated on each path would be subtracted from the upper and lower variable limits.

General Discussion on the Project

- BPA staff have continued to work on the other items identified in the 9/27 stakeholder meeting.
 - NT, resale, competition issues avoided initially as PAC intends to use existing PTP/legacy contracts.
 - Will need to be addressed if those facts change.
 - BPA has represented load service issues in the PAC and ISO stakeholder processes, as well as in direct discussions.
 - Many of the remaining issues are dealt with in the discussion above, and continue to be addressed.

Next Steps

- BPA is expecting to determine controls and how to populate them by the end of November.
- Regular stakeholder meetings.
- Conference call prior to next meeting for further discussion?
- Comments to TechForum@bpa.gov are invited to help inform BPA decision-making. Please use “EIM Stakeholder Meeting” in the subject line.