



California ISO

Gas Resource Management Working Group
Discussion Paper: Recommendations for Policy
Development

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Executive Summary

The Gas Resource Management (GRM) stakeholder working group is designed to support regional gas resource participation and cost recovery within ISO markets. The working group launched in August 2023 in response to requests from market participants to evaluate gas resource participation features in the wider context of expanding regional markets – the Western Energy Imbalance Market (WEIM) and Extended Day Ahead Market (EDAM).

This discussion paper summarizes the stakeholder recommendations for policy development emerging from the working group process. Stakeholders identified problem statements and potential solutions associated with three important areas:

- (1) Increasing certainty for advance fuel procurement
- (2) Precision of gas market inputs used for electricity market operations
- (3) Facilitation of resource-specific cost adjustments.

The ISO proposes to move stakeholder recommendations into the iterative policy proposal development stage.

Background

Gas resource participation and management is an evolving area of policy development in ISO operated markets and across the nation. The ISO has taken steps to ensure reliability and enhance the ability of these essential suppliers to operate efficiently in ISO markets.

As an increasing number of balancing areas across the Western Interconnection participate in the real-time WEIM, gas and electric coordination has grown in importance. The ISO and stakeholders have previously explored policy enhancements to support various aspects of gas resource participation in the market. For example, a series of *Commitment Cost Enhancement* initiatives¹ sought to better reflect current gas costs by providing resources with more bidding flexibility to capture gas price volatility and generator specific limitations. The ISO developed further enhancements to market participation mechanisms through the *Bidding Rules Enhancements*² and *Commitment Costs and Default Energy Bid Enhancements*³ initiatives, conducted respectively in 2017 and 2020, to provide an avenue for more dynamic cost adjustments.

The upcoming implementation of the EDAM has highlighted the need to continue to evaluate and evolve gas resource management policies to ensure that market tools, processes, and designs can support the diverse needs of market participants across the West in both the day-ahead and real-time markets. The GRM working group effort is a forum for stakeholders to assess existing market functionality, evaluate new issues and ideas, and ensure that diverse market participant perspectives continue to be effectively represented and considered in policy design.

Stakeholder Recommendations for Policy Development

The final discussion paper is intended to reflect the outcome of stakeholder discussions during the working group process. The recommendations in the document are informed by stakeholder input and feedback on priorities, solutions, and analysis.

¹ *Commitment Cost Enhancements 1* initiative: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=d64f16be-45f4-4c71-a44a-4f2d958fd047>;
Commitment Cost Enhancements 2 initiative: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=61e75ea2-85ea-4a2a-a0ac-de3b24eb57eb>; *Commitment Cost Enhancements 3* initiative: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=a2844d76-b015-4094-aa74-caba0e46fea4>
² *Bidding Rules Enhancements* initiative: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=511740b8-6a9a-4d1c-b4c4-65af45799d4b>
³ *Commitment Costs and Default Energy Bid Enhancements*: <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Commitment-costs-and-default-energy-bid-enhancements>

A full record of the stakeholder discussion that informed the final recommendations can be found in prior iterations of the GRM working group discussion papers posted on the initiative webpage.⁴

Three topics of discussion will facilitate focused work streams during the policy development process: 1) fuel procurement; 2) commodity market inputs used for market operations; and 3) processes intended to facilitate resource specific cost adjustments.

Problem statements (PS) have been grouped into topics and numbered for ease of reference. Problem statement numbers reflect a survey of working group participant priorities but may not reflect the order in which issues are addressed.⁵

Problem statements and potential solutions below were introduced by stakeholders and discussed during the working group process. These proposed solutions will be further considered and vetted in the next phase of policy development through iterative initiative paper proposals.

Topic 1: Fuel procurement

PS 1. Market participants may rely on evening or intra-day gas cycles because they do not have their day-ahead schedules in time to inform exact procurement during the more liquid timely nomination cycle. At this time market participants do not have confidence in the accuracy of information provided in the two-day-ahead advisory information intended to help inform gas procurement.

- Stakeholder recommended solution: Introduce a full, non-financially binding market run between 1-4 a.m. prior to the day-ahead market (DAM).
- Stakeholder recommended solution: Evaluate improvements to the inputs to the two-day-ahead advisory results to improve confidence and value in these advisory results.

PS 2. Market participants are expected to hedge the risk of, and be responsive to, unexpected changes in real-time demand. Due to issues described in PS 1, market participants may face additional risk going into real-time if they must rely on intra-day gas cycles just to meet their DA schedules. This can exacerbate intra-day gas market illiquidity and uncertainty around cost recovery, and may impose more risk on market participants than they are willing to assume in real-time.

⁴ Gas Resource Management (GRM) working group web page -

<https://stakeholdercenter.caiso.com/StakeholderInitiatives/Gas-resource-management-working-group>

⁵ GRM working group prioritization survey results were shared and discussed during the March 5, 2024 working. The presentation can be found here -

<https://www.caiso.com/InitiativeDocuments/Presentation-GasResourceManagement-Mar5-2024.pdf>

- Stakeholder recommended solution: Increase certainty for fuel procurement in the timely gas cycle.

Topic 2: Commodity market inputs used for market operations

Stakeholders expressed concern that costs used in market operations do not precisely capture the costs market participants expect to face when procuring incremental gas supply. Stakeholders observed that methods used to represent costs in the market may not account for intra-day costs and changing gas system conditions.

PS 3. Reference levels may not precisely represent resource costs as they are based on an index. Index prices, by design, do not account for the spread of prices for cleared transactions in gas markets or for premiums paid through fixed rate contracts.

PS 4. Reference levels may not precisely represent resource costs as increasing volatility can cause gas prices to deviate significantly from the median or index price used.

- Stakeholder recommended solution: Increase the reasonableness threshold used in the automated reference level change request process.

PS 5. Gas prices within the market today — based on the gas market hubs, used to calculate commitment costs and default energy bids for hours ending (HE) 1 through 7 — do not reflect the most accurate and latest gas price indices for this time period due to the mismatch between the gas and electric day timelines.

- Stakeholder recommended solution: Consider enhancements to utilize the most up to date gas price indices that more closely reflect actual cost.

PS 6: Gas burn limitations issued by gas companies are not reflected in the market for WEIM balancing areas, leading to potentially inaccurate commitment or infeasible dispatch instructions.

- Stakeholder recommended solution: Reflect gas company burn limitations in the optimization as a price signal/opportunity cost to manage an individual resource or portfolio of resources associated with a pipeline.

Topic 3: Processes intended to facilitate resource-specific cost adjustments

Market participants have observed increasing gas price volatility and gas system limitations leading to more frequent Operational Flow Orders (OFOs). These

experiences have highlighted some of the challenges of reflecting gas market conditions within their costs and resource operating parameters.

PS 7A. The reference level change request process is complex and does not always lead to change request approval.

PS 7B. The automated reference level change request process can only be submitted for one resource at a time.

- Stakeholder recommended solution: Allow multiple resources to be submitted per request.

PS 8A. Stakeholders may not have the actual gas cost information necessary to submit a manual reference level change request by the 8 a.m. deadline for the day-ahead market run.

- Stakeholder recommended solution: Move the deadline to 9 a.m.

PS 8B: To procure additional supply for real-time, stakeholders may have to rely on intra-day trading periods for which pricing information necessary to inform cost adjustments is not available until the afternoon of that gas day.

PS 9A: When switching fuel hubs/fuel regions in response to critical events, generators are unable to reflect accurate costs in the market in a dynamic or timely manner.

PS 9B: Generators that switch fuel regions regularly have trouble reflecting their costs accurately in the market.

- Stakeholder recommended solution: List all applicable fuel regions in the Masterfile⁶ and use the higher fuel price for the resource's reference levels.
- Stakeholder recommended solution: Allow for establishment of blended fuel regions, use a weighted average across multiple regions.
- Stakeholder recommended solution: Assess feasibility of implementing policy from prior initiative, *Bidding Rule Enhancements*.

PS 10: When switching fuel types, i.e. using diesel instead of gas, generators are unable to reflect accurate costs and operating parameters in the market in a dynamic or timely manner.

Next Steps

⁶ Masterfile is an ISO database storing resource characteristics and attributes, along with other information that supports market operation.

This discussion paper represents the conclusion of the working group phase identifying issues for consideration and potential solution. As a next step, the ISO will publish an issue paper describing in more depth each of the topic areas, associated considerations and tradeoffs, including the identified solutions or options for consideration through the working group. The issue paper will also support more detailed and focused design discussions with stakeholders, providing more concrete vetting and proposals for stakeholder consideration and input.

Key near term milestones:

- May 20, 2024 – publication of working group discussion paper
- June 5, 2024 – stakeholder comments on discussion paper
- End of June 2024 – publication of GRM policy issue paper

Appendix A: Discussion paper issue areas

Through facilitated working group discussions, stakeholders developed and refined problem statements that supported discussion topics to further understand the identified issues and consider potential solutions to these. The identified problem statements, their refinements, and working group discussions were documented in working group discussion papers.⁷ The problem statement topic areas are summarized below:

1. Alignment of Electric and Gas Market Timelines

This topic reflects stakeholder interest in exploring the trade-offs associated with aligning the day-ahead electricity market with the existing gas market timelines and alternatives that provide advisory information to facilitate timely gas procurement to procure market awards.

2. Cost Recovery Mechanisms

This topic identifies stakeholder interest in exploring enhancements to process that support cost recovery mechanisms including improvements to automated and manual reference level change requests.

3. Bidding Flexibility

This topic identifies stakeholders' need for additional bidding flexibility to better reflect their verifiable cost expectations in the market. This includes consideration of adjustments to commitment cost cap levels and adjusting resource heat rate levels.

4. Resource Specific Limitations

This topic area indicates stakeholder interest in considering how market processes can better accommodate resource specific limitations and their associated costs including the ability to map multiple gas hubs to a specific resource and accounting for potential additional use limitations that can establish opportunity costs.

⁷ Prior iterations of the Gas Resource Management working group discussion papers can be found on the initiative webpage - <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Gas-resource-management-working-group>.

5. Gas System Limitations

This topic area indicates stakeholder desire to account for additional gas system limitations that are not fully accounted for in today's design. This includes consideration of differences in gas systems and storage capabilities and accounting for gas burn limitations that may be in place across different Western gas systems, impacting operations of gas resources connected to those systems.