



California ISO

2017 Policy Initiatives Roadmap

Prepared by
Market and Infrastructure Policy

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1 Introduction

The *Policy Initiatives Roadmap* is used in conjunction with the *Stakeholder Initiatives Catalog* in developing which policy initiatives the ISO will undertake in 2017 and their approximate timeframes. As illustrated in section 5, below, the ISO already has a substantial number of in-progress and already planned initiatives. As part of the policy development roadmap process, the ISO works with stakeholders to rank discretionary initiatives. Based on this ranking and other factors such as implementation and regulatory considerations, the ISO may add initiatives to the roadmap if time and resources allow.

The ISO initially performs an analysis and ranks each discretionary initiative based on overall benefit and feasibility. The ISO will subsequently revise this initial ranking based on stakeholder feedback.

The roadmap development process consists of:

1. Ranking of discretionary initiatives for consideration in the development of the policy initiatives roadmap;
2. Review stakeholder input of the rankings of discretionary initiatives and revising initiatives as necessary;
3. Finalizing the ranked discretionary initiatives; and
4. Publishing the final *2017 Policy Initiatives Roadmap*.

2 Changes since Previous Version/Stakeholder Comments

The ISO made the following changes to the roadmap published on November 4, 2016 in this version:

1. The ISO removed “Full Network Model Phase 2” from the 2017 roadmap. This initiative’s timing is partially tied to regional integration. The ISO deferred this initiative because the timeline for regional integration was extended and implementation constraints. These constraints resulted from a significant amount of new market and system functionalities planned for 2018.
2. The ISO added “Blackstart and System Restoration” to the roadmap to address sections 8.2.3.4 and 8.2.3.4.1 of the ISO Tariff. The ISO added this non-discretionary initiative to address reliability concerns. Recent analyses showed significant system restoration time from blackstart conditions. A more detailed description of this initiative is included in the *2017 Stakeholder Initiatives Catalog*.

3. The ISO renamed “Reliability Services Phase 3” to “Resource Adequacy Enhancements”. The updated initiative name is included in the *2017 Stakeholder Initiatives Catalog*.
4. The ISO added “FERC Compliance Order 831” to the roadmap following the November 17, 2016 ruling regarding ISO/RTO energy bid caps. A description of this initiative is included in the *2017 Stakeholder Initiatives Catalog*.
5. In Section 5 of this document, the ISO added four discretionary initiatives to the 2017 policy initiatives roadmap. These are in addition to the eighteen non-discretionary initiatives included in the roadmap. The non-discretionary initiatives stem from the ISO’s previous commitments to stakeholders and/or the ISO Board, and from FERC orders. The ISO added the discretionary initiatives based on their overall ranking, as informed by stakeholder input, and based the initiative’s fit with the ISO’s overall policy and systems implementation schedule and resource allocations.

The discretionary initiatives added to the roadmap are as follows:

Real-Time Market Enhancements –The ISO highly ranked this initiative because it will (1) improve market efficiency and robustness by using the same optimization for the fifteen-minute market and five-minute real-time economic dispatch, (2) extend the unit commitment look-ahead to more efficiently commit resources over the day to meet multiple load ramps, and (3) better align ancillary services procurement with flexible ramping product and energy. Using the same market optimization for both fifteen-minute market and real-time economic dispatch will improve the ability of the market to integrate renewable resources by supporting five-minute granularity of unit commitment and five-minute resettlement of ancillary services, improving alignment with bilateral scheduling by starting the market run to establish fifteen-minute market schedules ten-minutes later, allowing EIM base schedules to be submitted ten-minutes closer to the operating, and using more accurate forecasts of load and renewable resources since the forecasts used can be ten-minutes closer to actual flows.

Management of EIM Imbalance Settlement for Bilateral Schedule Changes –The ISO highly ranked this initiative as a result of the FERC technical conference on EIM intertie bidding held in October 2016. At the technical workshop, market participants highlighted that the impact of the EIM on the bilateral market would not be fully addressed through intertie bidding. The concern expressed was since EIM base schedules must be submitted prior to the tagging deadline, market participants that were not previously exposed to congestion charges when wheeling through an EIM entity could be exposed to charges if their schedule changes from the base schedule. The real-time market enhancements improves the base schedule submission by moving the ISO’s deadline for base schedules from T-40 to T-30 or ten-minutes closer to the tagging deadline for bilateral trades of T-20. The exposure to EIM imbalance settlement will only apply to schedule changes between T-30 and T-20. By evaluating the ISO’s currently wheeling through functionality, a market participant can express a willingness to make

schedule changes if the difference between the source and sink is economic relative to the bid price.

Risk-of-Retirement Process Enhancements – The ISO highly ranked this initiative because the current risk of retirement capacity procurement mechanism provisions may be inadequate to effectively address issues related to resources that request to retire, but are deemed to maintain grid reliability. The ISO believes the issues arising need to be addressed in order to have a process that can provide earlier indications of need and instances of multiple resources requesting a retirement for the same resource adequacy period.

Congestion Revenue Rights Auction Efficiency – The ISO highly ranked this initiative due to the concerns raised by the ISO's Department of Market Monitoring. The ISO plans to conduct further analysis on the potential drivers of the potential CRR auction inefficiencies prior to formally launching the stakeholder initiative. The analysis will help the ISO to identify the scope of issues to be addressed in the initiative.

Stakeholders and the ISO also highly ranked several other initiatives. The ISO has not added these to the 2017 policy roadmap because it cannot commit to having sufficient resources to take them on. The following discusses the next four highly-ranked discretionary initiatives:

Donation by Third Party for Transmission Capacity Available for EIM Transfers – The ISO highly ranked this initiative because additional transmission capacity would greatly increase EIM benefits. The ISO could develop the policy for and implement this initiative using relative few resources. The ISO could likely implement this initiative using existing market system functionality and leveraging the policy for settlement of congestion rents. This policy was established as part of the EIM Year 1 Enhancements Phase 2 design changes that were implemented in fall 2016. The ISO will consider adding this initiative to the policy development roadmap during the year in the event ISO resources become available.

Multi-Year Resource Adequacy – The ISO did not add this item to the 2017 policy initiatives roadmap because of limited resources and it will require coordination with potential changes to the CPUC's resource adequacy program. The ISO will continue to work with the CPUC to determine the need and feasibility of a multi-year resource adequacy structure.

Export Charges – The ISO received comments that stakeholders believe this initiative would add more market efficiency benefits than currently ranked. However, the ISO was not convinced that the elimination of export charges would greatly affect the economics of purchasing exports. As such, the ranking of this initiative remained unchanged.

Combine IFM/RUC with Multi-Day Unit Commitment - The ISO did not receive any stakeholder comments on this initiative. In any case, the ISO believes this initiative will continue to be a high priority in the future and believes the best strategy is for the ISO to

first focus on the “Real-time Market Enhancements” initiative. As such, the ranking of this initiative remained unchanged

The ISO appreciates the forty-two stakeholders that provided robust comments to our initial draft of the *2017 Policy Initiatives Roadmap*. Although the ISO considered all of the comments provided, the ISO was unable to provide individual written responses to each comment because of the timeline of this initiative.

3 2017 Roadmap Initiative Ranking Process

The initiative ranking process occurs in two steps. First, the ISO independently conducts a high level assessment of proposed policy initiatives. The ISO applies a simplified ranking process of three benefit and two feasibility criteria as show in Table 1 below. Each initiative is graded with “High”, “Medium” or “Low” based on the results of their criteria ranking.¹ The grade criteria also has an associated number scale that ranges from one (1) to ten (10); ten (10) being the highest. The total possible score an initiative can receive is fifty (50). These results are then published for stakeholders to review and comment.

After the ISO reviews stakeholder’s comments, initiative’s rankings are changed, if necessary. Based on the new rankings, the information is used in determining which policy initiatives will be a part of the *2017 Policy Initiatives Roadmap*.

Table 1: ISO’s High Level Prioritization Criteria

| | Criteria | HIGH | MEDIUM | LOW | NONE | |
|---|-------------|---|-------------------------------------|-------------------------------------|---|--------------------|
| | | 10 | 7 | 3 | 0 | |
| A | Benefit | Grid Reliability | Significant Improvement | Moderate Improvement | Minimal Improvement | No Improvement |
| B | | Improving Overall Market Efficiency | Significant improvement | Moderate improvement | Minimal improvement | No impact |
| C | | Desired by Stakeholders | Universally desired by stakeholders | Desired by majority of stakeholders | Desired by a small subset of stakeholders | No apparent desire |
| D | Feasibility | Market Participant Implementation Impact (\$ and resources) | No Impact | Minimal Impact | Moderate Impact | Significant impact |
| E | | ISO Implementation Impact (\$ and resources) | No Impact | Minimal Impact | Moderate Impact | Significant impact |

¹ A score of “high” receives a ten (10). A score of “medium” receives a seven (7). A score of “low” receives a three (3). A score of “none” receives a zero (0).

Some stakeholders raised concerns about the ISO's roadmap process and provided suggestions for improving the process in the future. In particular, some stakeholders expressed a need for a more transparent, meaningful, and frequent catalog and roadmap process. Suggestions also included revising or deleting our "Desired by Stakeholder" metric, adding a "EIM Stakeholder" Category, adding an every six-month abbreviated catalog and roadmap process, and the ISO selecting only five (less/more) discretionary initiatives to be considered and ranked per process.

The ISO will consider enhancements to the stakeholder initiative roadmap process and will consider any additional stakeholder comments on how to enhance the upcoming *2018 Stakeholder Initiatives Catalog* and *2018 Policy Initiatives Roadmap* process.

4 High Level Prioritization

The ISO's 2017 Ranking Table below lists the top eight discretionary policy initiatives that were considered for the *2017 Final Policy Initiatives Roadmap*. The initiatives above the red line are the initiatives that were selected and added to the roadmap. The initiatives below the red line, although highly ranked, were not selected to be added to the *2017 Policy Initiatives Roadmap*. Those initiatives will be considered for the *2018 Stakeholder Initiatives Catalog* and *2018 Policy Initiatives Roadmap* process.

ISO's 2017 Ranking Table

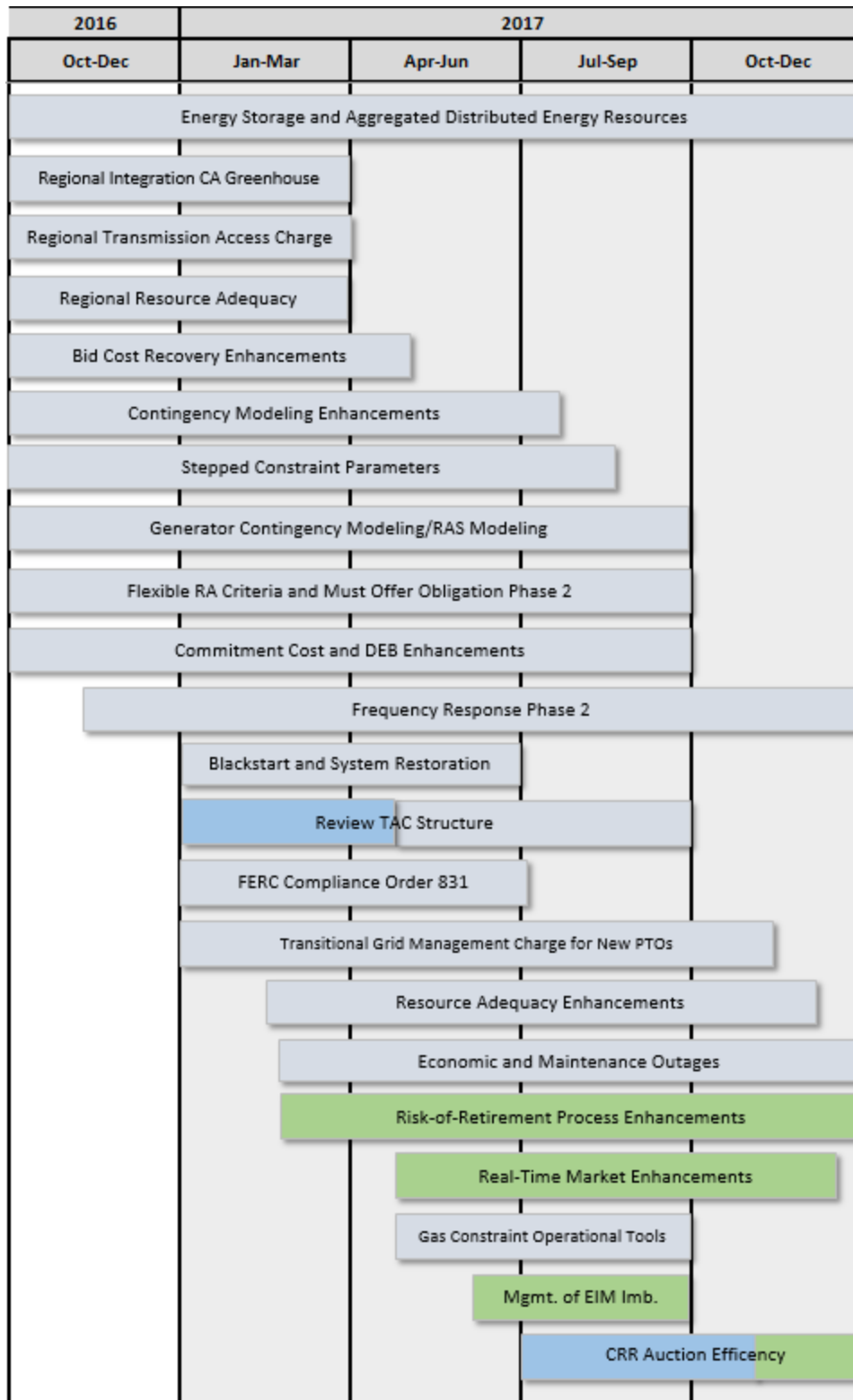
| Initiative Name | Grid Reliability | Improving Overall Market Efficiency | Desired by Stakeholders | Total Benefit | Market Participant Implementation (\$ and resources) | ISO Implementation (\$ and resources) | Total Feasibility | Total Score |
|---|------------------|-------------------------------------|-------------------------|---------------|--|---------------------------------------|-------------------|-------------|
| Real-Time Market Enhancements | 7 | 7 | 7 | 21 | 7 | 3 | 10 | 31 |
| Management of EIM Imbalance Settlement for Bilateral Schedule Changes | 3 | 7 | 7 | 17 | 7 | 7 | 14 | 31 |
| Risk-of-Retirement Process Enhancements | 10 | 3 | 3 | 16 | 10 | 3 | 13 | 29 |
| CRR Auction Efficiency | 0 | 7 | 7 | 14 | 7 | 7 | 14 | 28 |
| Donation by Third Party for Transmission Capacity Available for EIM Transfers | 3 | 7 | 3 | 13 | 7 | 7 | 14 | 27 |
| Multi-Year RA | 7 | 7 | 3 | 17 | 7 | 3 | 10 | 27 |
| Export Charges | 3 | 3 | 7 | 13 | 7 | 7 | 14 | 27 |
| Combine IFM/RUC with Multi-Day Unit Commitment | 3 | 10 | 7 | 20 | 3 | 3 | 6 | 26 |

5 2017 Policy Initiatives Roadmap

The illustration below reflects the eighteen initiatives currently underway and the four discretionary initiatives planned for 2017.

The light grey bars indicate the non-discretionary/on-going initiatives. The green bars indicate the discretionary items that were added to the roadmap following the policy roadmap development process. The ISO has also determined that additional analysis is needed before formally starting certain initiatives to clearly identify what issues should be included in the scope of the initiative. This is indicated below by blue bars.

Timeframes are estimates and are subject to change.



6 Stakeholder Engagement

The following table outlines the proposed schedule to complete the *2017 Policy Initiatives Roadmap*.

| Stakeholder Process Schedule | |
|------------------------------|---|
| Date | Milestones |
| <i>Dec 15</i> | <i>Post 2017 Policy Initiatives Roadmap</i> |
| <i>Dec 22</i> | <i>Stakeholder call</i> |
| <i>Jan 9, 2016</i> | <i>Stakeholder written comments due regarding the 2017 Policy Roadmap</i> |
| <i>Feb 1, 2017</i> | <i>Present 2017 Policy Initiatives Roadmap to the EIM Governing Body</i> |
| <i>Feb 15, 2017</i> | <i>Present 2017 Policy Initiatives Roadmap to the Board of Governors</i> |

For the stakeholder comments due January 9, the ISO requests stakeholder written comments regarding any of the following:

1. The ISO's 2017 Policy Initiatives Roadmap and
2. Enhancements for the ISO to consider for the upcoming 2018 Stakeholder Initiatives Catalog and 2018 Policy Initiatives Roadmap process.

Stakeholders should submit their comments to initiativecomments@caiso.com by the close of business on Monday, January 9, 2016.