

Discretionary Initiatives High Level Ranking Template

Instructions

Please use this template to rank your top five discretionary market design initiatives.

1. Select five market design initiatives¹ from the November 5, 2013 version of the Stakeholder Initiatives Catalog.
2. Provide the name of the initiative.
3. In the “High Level Prioritization Criteria Matrix” provide a score of 0, 3, 7, or 10 for each of the four criteria in green boxes.
4. Provide a total tally of your score for each initiative.
5. Below the matrix, provide detailed explanations for each criterion using as much space as you need. Providing a rationale for the ranking and considering these initiatives over others is critical to this ranking process. Since dollar and resource estimates are understandably approximate at this level, the qualitative discussion will be given more emphasis. Similarly, the numerical rankings are informative and may help to organize discussion but the qualitative information will be critical for the ISO as we compare initiatives.

¹ Infrastructure and planning initiatives will not be ranked as they are considered separately and there are only two discretionary initiatives.

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Initiative 1: (12.3) Combined Demand Response Product

High Level Prioritization Criteria Matrix

| | | Criteria | HIGH | MEDIUM | LOW | NONE | Your Score |
|---|-------------|---|-------------------------------------|-------------------------------------|---|--------------------|--------------------|
| | | | 10 | 7 | 3 | 0 | Use 0, 3, 7, or 10 |
| A | Benefit | Grid Reliability | Significant Improvement | Moderate Improvement | Minimal Improvement | No Improvement | 7 |
| B | | Improving Overall Market Efficiency | Significant improvement | Moderate improvement | Minimal improvement | No impact | 10 |
| C | | Desired by Stakeholders | Universally desired by stakeholders | Desired by majority of stakeholders | Desired by a small subset of stakeholders | No apparent desire | X |
| D | Feasibility | Market Participant Implementation Impact (\$ and resources) | No Impact | Minimal Impact | Moderate Impact | Significant impact | 10 |
| E | | ISO Implementation Impact (\$ and resources) | No Impact | Minimal Impact | Moderate Impact | Significant impact | 7 |
| | | | | | | Total | 34 |

Grid Reliability (provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –

This is the one initiative that best addresses the inclusion of DERs in the wholesale market, with the promise of expanding the capabilities of DR beyond energy and Non-Spinning Reserves. To the extent that it also supports non-exporting customer-side storage solutions this will remove a major challenge to innovative technologies and business models, including Vehicle Grid Integration (VGI), allowing for wholesale/retail mixed usage of single resources by removing the challenge of the full CAISO interconnection process for participation.

It would also be helpful if this initiative includes the possibility of a capacity-only Frequency Response product (i.e., without energy) to be applied to the NGR model in general (with or without the PDR construct) to support additional scenarios for DER integration.

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Also important is the ability to allow direct measurement of response as an alternative to the existing PDR measurement methodology to remove another challenge that will keep DR from participating: the one-size fits all baseline methodology today does not work for some locations that could provide significant, measurable load shed.

This initiative must also dovetail with the non-discretionary Expanding Metering and Telemetry Options initiative.

This initiative provides grid reliability benefits by providing a clear path for inclusion and visibility for DERs that might otherwise operate solely on the value to the end use customer.

Improving Overall Market Efficiency *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –*

Market efficiency is improved when DERs are able to capture value in the wholesale market and by not just considering retail rates which have a very weak link to short term wholesale market economics.

Market Participant Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –*

The implementation impact is defined very much by the approach taken for metering and telemetry by the ISO.

ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –*

The implementation impact is defined very much by the approach taken for metering and telemetry by the ISO; if existing M&T requirements are kept, there is little to no implementation impact (though likely also little to no adoption of the new resource model).

Initiative 2: (4.6) DLAP Level Proxy Demand Response

High Level Prioritization Criteria Matrix

| | Criteria | HIGH | MEDIUM | LOW | NONE | Your Score | |
|---|----------|-------------------------------------|-------------------------|----------------------|---------------------|--------------------|----|
| | | 10 | 7 | 3 | 0 | Use 0, 3, 7, or 10 | |
| A | Benefit | Grid Reliability | Significant Improvement | Moderate Improvement | Minimal Improvement | No Improvement | 7 |
| B | | Improving Overall Market Efficiency | Significant improvement | Moderate improvement | Minimal improvement | No impact | 10 |

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| 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 | 10 |
| E | | ISO Implementation Impact (\$ and resources) | No Impact | Minimal Impact | Moderate Impact | Significant impact | 7 |
| | | | | | | Total | 34 |

Grid Reliability *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –*

Demand Response is high in the loading order and has been identified as a significant resource in the renewable integration forward planning studies. Current market design constrains limiting a PDR to a Sub-LAP which has no observed grid reliability value and imposes unnecessary administrative burdens that restrict the expansion of DR in the CAISO market.

In addition, while a different purpose than outlined in the stakeholder catalog, a DLAP level PDR could facilitate EV charging participation when a broader geographical area is necessary for aggregation composition to assure minimums are met as well as be functionally operational based on the transitory nature of the load. DLAP-wide PDRs also remove the need to research and identify Sub-LAPs of physical locations.

Expanding this initiative to include aggregations of NGRs will be of particular value, especially as aggregations of VGI applications are become prevalent.

Improving Overall Market Efficiency *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –*

A chief concern of PDR design is the potential for market power since the resource is paid at a more granular level than the demand that is settled at the DLAP. By allowing DR aggregation at the DLAP, this concern is rendered moot.

Market Participant Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –*

No impact, and for DLAP PDRs, makes the integration of new PDRs easier eliminating the need to identify and confirm the Sub-LAP for each location in a PDR. Given the lack of a public system / clear process for identifying Sub-LAPs, this is considered a barrier to entry today.

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ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –*

Adding the three DLAPs to the existing Sub-LAP selections in DR system should be a simple and inconsequential change. Network modeling for predefined PDRs should also be minimal work since the DLAPs are already exist in the FNM.

Initiative 3: (6.4) Fractional MW Regulation Awards

High Level Prioritization Criteria Matrix

| | | Criteria | HIGH | MEDIUM | LOW | NONE | Your Score |
|---|-------------|---|-------------------------------------|-------------------------------------|---|--------------------|--------------------|
| | | | 10 | 7 | 3 | 0 | Use 0, 3, 7, or 10 |
| A | Benefit | Grid Reliability | Significant Improvement | Moderate Improvement | Minimal Improvement | No Improvement | 3 |
| B | | Improving Overall Market Efficiency | Significant improvement | Moderate improvement | Minimal improvement | No impact | 7 |
| C | | Desired by Stakeholders | Universally desired by stakeholders | Desired by majority of stakeholders | Desired by a small subset of stakeholders | No apparent desire | X |
| D | Feasibility | Market Participant Implementation Impact (\$ and resources) | No Impact | Minimal Impact | Moderate Impact | Significant impact | 10 |
| E | | ISO Implementation Impact (\$ and resources) | No Impact | Minimal Impact | Moderate Impact | Significant impact | 7 |
| | | | | | | Total | 27 |

Grid Reliability *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –*

Adding an RDT parameter to set a regulation award minimum will be beneficial to smaller resources such as DERs. In particular it would provide certainty to the range in which a resource would be expected to operate potentially avoiding operating ranges that might be detrimental to a storage battery.

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Improving Overall Market Efficiency *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –*

Current market performance reports show that the system wide regulation accuracy is only about 50%. If any part of that accuracy is attributable to resources inability to comply with regulation dispatch that it not feasible, eliminating that range on a resource specific basis will improve this situation. Improvement in regulation accuracy should translate less regulation procurement.

Market Participant Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –*

Little impact since it would seem to consist of updating one additional field in the RDT for regulation certified resources.

ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –*

It is clear that there would be the minimal impact of adding a field to the RDT but it is not possible for Olivine to determine whether or not adding the feature would require any changes to the market optimization or how extensive those changes could be, but intuitively it wouldn't require any major changes to algorithms.

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Initiative 4: _____

High Level Prioritization Criteria Matrix

| | | Criteria | HIGH | MEDIUM | LOW | NONE | Your Score |
|---|-------------|---|-------------------------------------|-------------------------------------|---|--------------------|--------------------|
| | | | 10 | 7 | 3 | 0 | Use 0, 3, 7, or 10 |
| 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 | X |
| 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 | |
| | | | | | | Total | |

Grid Reliability (provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –

Improving Overall Market Efficiency (provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –

Market Participant Implementation Impact (\$ and resources) (provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –

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ISO Implementation Impact (\$ and resources) (provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –

Initiative 5: _____

High Level Prioritization Criteria Matrix

| | | Criteria | HIGH | MEDIUM | LOW | NONE | Your Score |
|---|-------------|---|-------------------------------------|-------------------------------------|---|--------------------|--------------------|
| | | | 10 | 7 | 3 | 0 | Use 0, 3, 7, or 10 |
| 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 | X |
| 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 | |
| | | | | | | Total | |

Grid Reliability (provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –

Improving Overall Market Efficiency (provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) –

Market Participant Implementation Impact (\$ and resources) (provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –

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ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources) –*