

J.P. Morgan - Discretionary Initiatives High Level Ranking

Submitted by	Company	Date Submitted
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J.P. Morgan Ventures Energy Corporation and BE CA, LLC (collectively, “J.P. Morgan”) appreciates this opportunity to provide comments on the California ISO’s (CAISO’s) October 22, 2012, draft Stakeholder Initiatives Catalogue” (“Catalogue”) and identify its five high-priority initiatives. In order to provide appropriate context regarding its selection of the top five high-priority initiatives, J.P. Morgan repeats below its earlier comments in this process.

General Comments

The CAISO and the state are at a critical point regarding the further development of the wholesale power market in California. As stated repeatedly by the CAISO, the continuing and further integration of intermittent renewable resources on to the power system is significantly changing the way system must be operated. CAISO studies indicate it will require flexible operating resources to help reliably manage the grid under a high intermittent renewable resource scenario. Flexible resources are needed to help manage both instantaneous fluctuations in load and supply output and longer and more severe daily ramping and load following requirements. Therefore, the CAISO must ensure that flexible resources are available to the system on a long and short-term basis. To that end, the CAISO, working in conjunction with local regulatory authorities and market participants, must establish a wholesale electricity market design and resource adequacy program that establishes incentives for both the development of new flexible resources as well as the retention of existing flexible resources.

J.P. Morgan supports the development of a multi-year forward capacity market to ensure that enough new generating capacity is developed in advance of when it is needed and that needed existing generation is sufficiently compensated to maintain operations. The market would price capacity at either the cost of new capacity or the going forward cost (e.g., retrofit costs) of existing capacity that is required to stay online. In addition, recognizing that it may take up to seven years to build new capacity or substantially repower/retrofit existing facilities, the development of any long-term capacity market must be coupled with the further development of the CAISO’s markets for ancillary services and such other products/services necessary to reliably operate the grid.

J.P. Morgan supports the further development of the CAISO ancillary services and reserve markets to provide the CAISO with access to the flexible resources necessary to reliably operate the grid. J.P. Morgan recommends that the CAISO expand its efforts to develop needed new spot-market reserve markets and examine the need for new short and near-term (monthly, annual) reserve products.

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Based on above comments, J.P. Morgan identifies below the following five high-priority stakeholder initiatives, listed in order to priority. J.P. Morgan recommends that the CAISO dedicate the resources – both personnel and capital – necessary to complete these initiatives in an expeditious manner.

Initiative 1: 8.3 Multi-year Forward Reliability Capacity Pricing Mechanism

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	10
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	
D	Feasibility	Market Participant Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	7
E		ISO Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	3
						Total	30

Grid Reliability (provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) – Forward capacity market (FCM) will provide necessary incentives to retain needed existing generation and attract needed new generation. FCM will improve reliability by ensuring that resources needed to reliably operate the system will be available to the CAISO, including those resources that are flexible and otherwise possess the attributes needed by the CAISO to operate the system. Ideally, the FCM will include constraints so that when the CAISO clears the capacity market it selects resources with the appropriate and necessary resource attributes.

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Improving Overall Market Efficiency *(provide a detailed explanation of how and why this initiative provides an improvement in market efficiency)* – A FCM will improve market efficiency by establishing appropriate incentives for retaining needed existing generation and attracting needed new supply and demand-side resources. Absent the establishment of a liquid, transparent forward market, the system will fail to establish appropriate price signals for the retention and retirement of existing resources and the entry of new resources. As is the case today, in the absence of an efficient capacity market, new entry may be priced exorbitantly high (perhaps as a result of out-of-market regulatory mandates) and existing generation is paid too little to maintain operations – thus resulting in a wide and inefficiency swing in capacity prices.

Market Participant Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources)* – The \$ and resource impact on market participants from implementing a FCM should be minimal. Market participants may want to build a shadow auction mechanism and/or other supporting settlements but the cost should not be exorbitant.

ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources)* – A detailed assessment of potential \$ and resource costs to the CAISO is needed. Initial capital investment will be needed to establish a forward auction mechanism and platform but the cost of such an investment should be minimal compared to the potential benefits to the marketplace. The CAISO may also be able to leverage use of other existing software platforms.

Initiative 2: 5.4 30 Minute Operating Reserve

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	10
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	
D	Feasibility	Market Participant Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	10

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E	ISO Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	7
					Total	37

Grid Reliability *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability)* – [JPM notes that the CAISO’s consideration and development of a 30-minute reserve service may no longer be “discretionary” in light of FERC’s October 26, 2012, order in Docket No. ER12-2539-000]. As noted above in JPM’s general comments, development and implementation of needed reserve services is critical to maintaining grid reliability. With the further integration of large amounts of renewable/intermittent resources on the grid, the CAISO will need to ensure that existing and new flexible resources are available to the CAISO to manage grid reliability. Development of market products such as capacity and bid-based reserve products – be they daily, monthly or annual – will be critical to establishing the appropriate incentive to make those resources available.

JPM support’s implementation of a 30-minute reserve service. In addition, JPM supports continued examination as to whether other types of reserve services, including those related to Frequency Response/Inertia and Voltage Support are also necessary. Each of these services may play an important role in supporting grid reliability.

Improving Overall Market Efficiency *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability)* – Development and implementation of needed reserve services, be they a 30-minute reserve service or other capacity-based reserves, will improve market efficiency by establishing rationale and transparent price signals to existing resources. Such price signals will inform resource owner decisions regarding short-term investments and whether to enter or exit both the market as a whole and the CAISO’s spot and reserve markets.

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 to market participants from the implementation of reserve services should be none to minimal and will likely only require slight modification of shadow settlement systems.

ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources)* – Implementation of new reserve services will likely have a minimal to moderate impact on the CAISO’s market, operational and settlement systems.

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Initiative 3: 3.10 Incorporating Non-Modeled Constraints and the Effect of Exceptional Dispatch into LMPs

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	10
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	
D	Feasibility	Market Participant Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	7
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) – Incorporation of non-modeled constraints and the impact of exceptional dispatch into the CAISO’s market software should significantly improve grid reliability by relying on the market to address reliability needs and thus reduce out-of-market actions that typically occur in real-time. By establishing appropriate market price signals the CAISO will create incentives for resources to be available to the CAISO as needed to address reliability needs; the effort should increase the number of market economic bids and will also provide incentives for resources to effectively and efficiently manage operations and maintenance of the resources.

Improving Overall Market Efficiency (provide a detailed explanation of how and why this initiative provides an improvement in grid reliability) – Establishing market price signals for resources is always preferable to relying on non-transparent out-of-market actions. The establishment of market price signals should result in a more economic and efficient commitment and dispatch of resources. JPM also notes that in the recent FERC order regarding exceptional dispatch, FERC stated, “... we note that we are concerned with the extent

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of CAISO's reliance on out-of-market solutions, which tend to artificially depress market prices. It is important for the CAISO market to have market prices that accurately reflect the market value to operate certain resources so that the market will accurately communicate through the locational pricing model where new transmission and generation development are needed."

Market Participant Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources)* – The proposed changes are largely on the CAISO side. Implementation of this effort may have minimal impact on market participant shadow settlement systems.

ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources)* – Incorporation of non-modeled constraints and the impact of exceptional dispatch into the CAISO's market software should only require minimal to moderate impact to CAISO market and settlement systems. Improvements to market efficiency and resulting reduction in CAISO manual/out-of-market actions and related effort should more than offset required expenditures.

Initiative 4: 11.7 Data Transparency

High Level Prioritization Criteria Matrix

		Criteria	HIGH	MEDIUM	LOW	NONE	Your Score
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A	Benefit	Grid Reliability	Significant Improvement	Moderate Improvement	Minimal Improvement	No Improvement	10
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	
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	10
						Total	40

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Grid Reliability *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability)* – As a general matter, JPM believes that transparent markets function far better than opaque or non-transparent markets. Therefore, JPM supports Calpine's suggestion to add this initiative. It is JPM's belief that more transparent markets and operations will improve grid reliability (participants will have greater understanding of system and market needs and will thus likely make their resources more available for commitment and dispatch), improve market efficiency (more transparent price signals will result in a more optimal commitment and dispatch of resources) and will not require the significant outlay of capital or human resources for either the CAISO or market participants..

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

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

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

Initiative 5: 9.1 FERC Order 764 Market Changes

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	10
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	
D	Feasibility	Market Participant Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	7
E		ISO Implementation Impact (\$ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	3
						Total	30

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Grid Reliability *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability)* – First, JPM recognizes that this is a FERC-mandated non-discretionary initiative. However, JPM notes that the CAISO proposes to combine the following nine other initiatives, some previously identified as discretionary, into this effort: (1) Additional Bid Cost Recovery for Convergence Bidding (see Section 13.2); (2) Allocation of Intertie Capacity (see Section 13.4); (3) Allow Virtual Bids on the Interties (see Section 13.5); (4) Creation of a Full Hour-Ahead Settlement Market (see Section 13.9); (5) Interchange Transactions after the Real Time Market (see Section 13.13); (6) Intertie Pricing and Settlement (see Section 13.14); (7) Real-Time Imbalance Energy Offset (see Section 13.16); (8) Sub-Hourly Scheduling (see Section 13.18); and (9) Transition out of the Participating Intermittent Resource Program (PIRP) (see Section 13.19). JPM supports combining these initiatives. In particular, JPM supports efforts to reinstate convergence bidding on the ties, resolve intertie pricing and settlement, and consideration of a full hour-ahead settlement.

While the FERC Order 764 effort is non-discretionary, JPM believes that consideration of the above issues as part of this effort will provide reliability benefits. Resolution of the broader intertie pricing issue will provide more certainty to importers and exporters, both of which serve an important role in maintaining grid reliability; importers in the context of additional needed and economic supply and exporters in the context of helping the CAISO manage over-generation conditions..

Improving Overall Market Efficiency *(provide a detailed explanation of how and why this initiative provides an improvement in grid reliability)* – As noted above, comprehensively addressing the intertie pricing issues should increase market efficiency by increasing liquidity in the markets.

Market Participant Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources)* – Impact of market participants should be minimal to moderate and primarily impact shadow settlement systems.

ISO Implementation Impact (\$ and resources) *(provide a detailed explanation of what you expect the impact to be in terms of \$ and resources)* – Impact to CAISO should be moderate to significant depending on scope of changes. While introduction of a complete third settlement system may have a significant \$ and resource impact (primarily on settlement systems), the degree of impact will depend on the final scope of the design changes.