Comments of Calpine Corporation on

2012 Stakeholder Initiatives Catalog

Draft

Dated: October 17, 2012
Comments Submitted: October 31, 2012

In this document and the attached templates, Calpine offers its view of the highest priority initiatives for 2013. Specifically, Calpine supports a dedicated and detailed focus on the creation of a durable, efficient and transparent market. We believe that the CAISO should have a short list of targeted discretionary initiatives given the high level of mandated items.

As such we believe that the top five discretionary items should be:

(1) Creating a multi-year forward capacity procurement mechanism (Initiative 8.3),
(2) Including the costs of reliability-driven, out-of-market dispatches in the LMPs (Initiative 3.10),
(3) Enhancing the timely transmission of key market data transparently to market participants (Initiative 11.7),
(4) Extending the look-ahead for real-time commitment and optimization (Initiative 3.9), and
(5) Continuing to develop products and services to manage integration (Initiatives 3.3, 3.13, 5.4, 8.1and 8.4).

In Calpine's view, the benefits of other initiatives pale in comparison to the benefits of these priorities.

In addition, Calpine believes that a recent FERC Order in ER12-2539 requires that the designation of Initiative 5.4 be changed from "Discretionary" to "FERC Mandated". This initiative is intended to address the creation of a 30-minute reserve product and the FERC Order says:

> "We strongly encourage CAISO to continue evaluating, through its stakeholder process, new market products, including, but not limited to, a 30-minute ramping service that may reduce CAISO's reliance on exceptional dispatches." P43

Finally, Calpine suggests that Initiative 3.11 which was added to the catalog at the request of SCE and PGandE be modified if it becomes a priority for the CAISO. Specifically, 3.11 seems to "hunt out and destroy" price volatility whether useful or not and does so in a blatantly unbalanced manner.

First, Calpine does not object to a continued focus on structural issues affecting Real Time price formation. Indeed, we would greatly prefer action that exposes true congestion and equipment limitations to ones that rely on Exceptional Dispatch, administrative pricing or early relaxation of constraints (as currently proposed elsewhere by the CAISO.)

However, the drafted initiative ONLY focuses on upward price volatility, as the main focus seems to be RTIEO and RTCO ("Uplift") Costs. Power balance constraint triggered price excursions drive volatility in both directions. Deeply negative prices, while of less concern to loads, are hugely troubling to generation owners and will discourage economic bidding in real time. And we only see the damaging exposure to these deeply negative prices increasing with more variable resources and if the CAISO's proposal to drop the floor price is approved by FERC.

Second, even the proponents of this initiative would probably agree that price volatility, by itself, is not objectionable. Nonetheless, the proponents refer to all price excursions as alternatively "aberrations", "spikes", and "economically disconnected". They imply that if the price is above that which they deem to be in the Goldilocks range ("just right") that it is wrong, inappropriate, the result of market power or model imperfections.

The CAISO should not be convinced by the political pressure of the proponents that price volatility and "Uplifts" costs by themselves are something that requires mitigation. If initiative 3.11 survives, it should be crafted carefully to ensure that the real costs of energy dispatch be included in LMPs – including occasionally very high prices driven by scarcity conditions.

Our templates follow.

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	Benefit	Improving Overall Market Efficiency	Significant improvement	Moderate improvement	Minimal improvement	No impact	10
C	Benefit	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	Feasibility	ISO Implementation Impact ($ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	10
						Total	40

Grid Reliability –

So much has been said about the need for forward procurement of capacity – by virtually all market participants -- that we will not repeat it here. Nonetheless, the CAISO must have a secure grid in RT and in order to do so, it is becoming increasingly obvious that forward procurement in needed. We encourage the ISO to cooperate with the CPUC in the development of a forward procurement mechanism, but absent sufficient progress, the CAISO should be prepared to develop and seek approval of a mechanism independently if needed.

Improving Overall Market Efficiency –

Again, much has been said about the need to preserve otherwise economic existing assets, encourage the repowering/replacement of OTC units and allow the addition of other cost-effective resources such as incremental upgrades and DSM. A multi-year forward clearing market with transparent pricing facilitates lowest cost solutions. This issue is discussed in much more detail in the recently completed Brattle study on California's RA mechanisms.

Market Participant / CAISO Implementation Impact ($ and resources) –

Existing resources can and should be redeployed to focus on this high value initiative. Calpine stands ready to dedicate any level of necessary resources to this task.

Initiative 2: 3.10 – Incorporating Non-Modeled and Modeled Capacity 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	10
E		ISO Implementation Impact ($ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	10
						Total	40

Initial Comment –

Calpine believes that the Initiative may be mislabeled. Of course, we would support the inclusion of non-modeled constraints into market software. We believe that non-modeled constraints lead to excessive amounts of out-of-market dispatches. However, we are particularly concerned with the price suppression that results from the dispatch of generation resources to meet *modeled* capacity constraints (e.g. g-217 MOCC). We have renamed the Initiative above to accurately capture its intent.

Grid Reliability –

It is becoming increasingly obvious that the CAISO's view is that the unique nature of the California grid may require out-of-merit, and out-of market ("OOM") energy dispatch due to the imposition of non-energy or un-modeled constraints. These OOM calls are presumptively due to stability constraints (e.g. inertia, voltage support, etc.) or fleeting system conditions (e.g., un-modeled generation or transmission constraints) that are not a significant factor in other markets. If indeed, the CAISO deems that these OOM dispatches are required they must be allowed to occur in order to maintain grid reliability. However, the negative pricing effects of these dispatches must be addressed.

Improving Overall Market Efficiency –

Simply put, when energy is selected out-of-market, it suppresses the market clearing price. The use of Exceptional Dispatch and Minimum Online Commitment Constraints each have a similar effect in shifting the supply curve to the right (by introducing unpriced energy) and reducing the LMP. This outcome is not in debate, and as recently as last week, FERC expressed concern about the use and efficiency impacts of ExD:

> However, we note that we are concerned with the extent 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.[1]

The effects may also extend to inefficiencies in the sequential markets as well. For example, as Exceptional Dispatches that occur after the DA market closes may result in oversupply conditions in RT.

Market Participant / CAISO Implementation Impact ($ and resources) –

Existing resources can and should be redeployed to focus on this high value initiative. Calpine stands ready to dedicate any level of necessary resources to this task.

[1] FERC Order in Docket No. ER12-2539 paragraph 44

Initiative 3: 11.7 – Data Transparency

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
E		ISO Implementation Impact ($ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	10
						Total	40

Initial Comment –

Calpine appreciates the CAISO's reinstatement of this initiative. We anxiously look forward to the release of Data Transparency Phase 3 information in December of this year. However, even with this proposed release, we anticipate that there will be a strong need for revised and enhanced data release.

Grid Reliability –

Detailed knowledge of grid models, real time conditions and market outcomes will assist both the CAISO and the Market Participants in allocating resources in a manner best-suited to secure the grid. Enhancements to the grid can be suggested or implemented which assure that the current and future grid is capable of meeting ongoing challenges.

Improving Overall Market Efficiency –

A reasonably informed Market Participant should be able to anticipate and replicate the results of the CAISO models in order to make informed business decisions, allocate scarce resources to key tasks and provide the CAISO with relevant and competitive bids. Unfortunately, the results of the CAISOs models – both in the DA and RT markets – would be more appropriately characterized as simply unpredictable.

Market Participant / CAISO Implementation Impact ($ and resources) –

Existing resources can and should be redeployed to focus on this high value initiative. Calpine stands ready to dedicate any level of necessary resources to this task.

Initiative 4: 3.9 – Extend Look-ahead for Real Time Optimization

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	Benefit	Improving Overall Market Efficiency	Significant improvement	Moderate improvement	Minimal improvement	No impact	10
C	Benefit	Desired by Stakeholders	Universally desired by stakeholders	Desired by majority of stakeholders	Desired by a small subset of stakeholders	No apparent desire	
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						Total	40

Initial Comment –

Calpine appreciates the inclusion of this initiative. The 5 hour look ahead in RT is often insufficient to "see" the full duration of a longer (e.g., 6 hour) Minimum Down-Time (MDT) constraint and subsequent Start. This blind-spot in RT software tends to leave units running into their MDT and forces either a violation of MDT or a delay of the subsequent Start, or both.

Grid Reliability –

The blind-spot caused by the 5 hour look ahead forces an inordinate amount of administrative interference between market operators and generation dispatchers. Units must be managed off-line through SLIC or RT Dispatch instructions. These unnecessary distractions could cause reliability risk when abnormal system conditions coincide with a managed shut-down.

The risk of reliability problems will only grow as the penetration of renewable resources, particularly, on-peak solar, drives conventional units to more frequent cycling.

Improving Overall Market Efficiency –

Market software that can "see" and react to all constraints will be better able to optimize dispatch and reduce costs. Note specifically, that Calpine seeks the ability for software to recognize constraints in the more distant future, and does not necessarily recommend the expansion of advisory market clearing or advisory scheduling into the more distant future.

Market Participant / CAISO Implementation Impact ($ and resources) –

Existing resources can and should be redeployed to focus on this high value initiative. Calpine stands ready to dedicate any level of necessary resources to this task.

Initiative 5: Variable Resource Integration Efforts

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
E		ISO Implementation Impact ($ and resources)	No Impact	Minimal Impact	Moderate Impact	Significant impact	10
						Total	40

Initial Comment –

Calpine breaks the rules with this vote. We are not positioned to identify the singular key initiative that will assist in integrating renewables, but cannot have a ranking that ignores these very important initiatives. We include in this list Initiatives 3.3, 3.13, 5.4, 8.1 and 8.4. While we prefer "products" over "constraints" we have included each in this list.

Grid Reliability –

Integrating variable generation renewables into the CAISO grid might be one of the largest challenges to reliable operation that the CAISO has ever faced.

Improving Overall Market Efficiency –

Managing integration through market mechanisms rather than Exceptional Dispatch or MOCC will improve the accuracy and transmission of price information.

Market Participant Implementation Impact ($ and resources) –

Existing resources can and should be redeployed to focus on this high value initiative. Calpine stands ready to dedicate any level of necessary resources to this task.

Thanks