**Comments on the Proposal for**
**Flexible Resource Adequacy Criteria and Must-Offer Obligation**
**Department of Market Monitoring**
**July 12, 2013**

The Department of Market Monitoring (DMM) appreciates this opportunity to comment on the ISO's proposal for Flexible Resource Adequacy Criteria and the Must-Offer Obligation. Managing flexible resources is an important part of California's goal of increasing utilization of renewable and other preferred resources while maintaining grid reliability. DMM supports efforts to ensure that sufficient flexible resources are maintained or developed through a forward capacity obligation. DMM views this type of forward capacity requirement as the foundation needed to ensure that sufficient flexible capacity available to meet ISO requirements for two other products that will be incorporated in the ISO markets to address operational flexibility needs: the 5-minute flex-ramp product and a 30-minute corrective capacity constraint.

DMM is supportive of the approach being taken by the ISO and CPUC, and recognizes the need to develop an approach that meets the operational needs of the ISO as well as the state's policy preferences.

We have comments on three aspects the initiative at this time:

**<u>Flexible capacity counting and requirements</u>**

The ISO currently has initiatives to develop two spot market products that will be incorporated in the ISO markets to address operational flexibility needs a day-to-day, hour-to-hour and minute-to-minute basis through the ISO market software: the 5-minute flex-ramp product and a 30-minute corrective capacity reservation. The ISO originally proposed three ramping products for forward procurement which were closely tailored to anticipated spot market products: regulation, load following and continuous three hour ramping. DMM understands that in response to input from the CPUC and some stakeholders, the ISO's latest whitepaper paper includes a version of the counting of Effective Flexible Capacity (EFC) that is only applicable to the 3 hour ramping capability. Since the proposal was altered to include only a 3-hour ramping requirement, the ISO has stated that it believes meeting the 3-hour ramping requirement will also be likely to ensure that sufficient flexible capacity is available to meet market requirements are met for more granular 5-minute flexible ramping product and 30-minute corrective capacity.

DMM believes that the flexible capacity requirements, counting rules, and must-offer provisions for flexible capacity procured through the RA process should be set so that sufficient flexible capacity is procured on a forward basis prior to the ISO spot markets and is then made available at a reasonable cost to meet the new flexible ramping product and constraint being developed. Any payment premium needed to cover the fixed costs or other non-marginal costs of flexible capacity should be reflected in this capacity procurement process, rather than capacity bids for these flexible capacity products in the ISO's day-ahead and real-time spot markets. Therefore, DMM believes that compensation for both these products should be based on opportunity costs, and should not include capacity bids for this flexible capacity since the marginal costs of making this capacity available for the flexibility needs is minimal or zero.

**Must offer hours**

DMM supports the requirement for all flexible RA resources to offer into the market during the times when flexibility is expected to be needed. The hours of 5 am to 10 pm will most likely cover the ISO's needs for upward flexibility. However, there are sometimes significant and persistent downward ramping flexibility shortages in the off-peak hours that have a pronounced impact on market prices. This was highlighted in a DMM study in 2011 and has continued since that time. The findings of that study suggest that an increase in available downward ramping capability in the off-peak hours could significantly curtail over generation and the resulting negative prices.[1] Restricting self-scheduling during this period through requiring an economical offer from Flexible RA capacity may have a pronounced impact on reducing over-supply and associated price impacts during this period. Therefore, DMM suggests that the it may be important that the must-offer requirement – particularly for conventional thermal units – require that these resources submit economic bids for all off-peak hours or include significant limitations on self-scheduling during these hours.

**Use limited resources**

DMM believes that provisions for use plans for use limited resources in the current tariff and BPMs are not sufficiently detailed to ensure that use limited resources used to meet flexible capacity obligations can be efficiently or effectively utilized to provide this flexibility on day-to-day basis. DMM recognizes that developing more effective rules for counting the flexible capacity of use limited resources and the resulting must offer obligation represents a significant challenge.

[1] http://www.caiso.com/Documents/Over-supply%20and%20shortage%20of%20downward%20ramping%20supply%20in%20off%20peak%20hours

As noted by numerous stakeholders, counting rules and must-offer obligations may need to be tailored to different resource types, while still ensuring that the overall mix of resources procured to meet a forward capacity obligation provides the needed flexibility. The consideration of specific use limitations should be consistent with demand for the ramping capacity, the ability of the ISO market system to account for limitations, and the need to reduce manual interactions with the operation of the market or dispatch of resources.

DMM recognizes that inclusion of opportunity costs for use limited resources (as discussed below) can eliminate the need for resource-specific use plans and relaxation of must-offer requirements for those resources. If the ISO chooses to retain these elements in addition to including various opportunity costs associated with use limitations, DMM recommends that the ISO closely track the extent to which use plans are followed and have in place measures that can be taken to reduce or eliminate eligibility in cases where they are not.

**Opportunity costs**

DMM supports the principle of including valid opportunity costs in the start-up and/or minimum load cost bids for use-limited resources. However, opportunity costs in this context are, by their nature, not knowable and must be projected. This may involve a somewhat complicated formulation and will always embody a significant degree of uncertainty. When the concept of including opportunity costs into start-up and/or minimum load costs came up in the stakeholder process that addressed changes to bidding and mitigation of commitment costs in the first half of 2010, DMM noted that the details of the calculation must be specified clearly in advance to ensure an accurate approach that was administratively feasible and would result in rational and reasonable calculated opportunity costs.[2]

DMM notes that there is ample historical market data available that can be used to provide empirical analysis of the results of proposed methodologies for calculating opportunity cost and encourages the ISO to provide such analysis as the details of the calculation are discussed in this stakeholder process. If the ISO does move forward with this idea, it is important that opportunity costs are calculated in a dynamic fashion to accurately reflect the extent to which the resource has already been used as well as potential changes in anticipated market conditions.

In general, DMM supports the concept of including opportunity costs into start-up and/or minimum load bid costs, and looks forward to reviewing and commenting on rules that are proposed by the ISO and market participants as this process moves forward.

[2] http://www.caiso.com/Documents/DMMCommentsonChanges-BiddingandMitigation-CommitmentCosts.pdf