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**Comments of Northern California Power Agency
Commitment Cost Enhancements Phase 3
Draft Final Proposal**

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Northern California Power Agency (“NCPA”) appreciates the opportunity to provide the following comments in response to the CAISO’s Commitment Cost Enhancements Phase 3 Draft Final Proposal, posted February 17, 2016.

Master File Resource Characteristics

The CAISO is now proposing as part of the Commitment Cost Enhancements Phase 3 stakeholder initiative to develop two separate sets of Master File values: a Master File based on 'Market Characteristics' and a Master File with 'Design Capability Characteristics'. NCPA does not support the concept that the only legitimate technical limitations on the operation of a unit are those specified in the manufacturers’ technical specifications. Good utility practice requires generation owners and operators to exercise good engineering judgement to operate their resources in a prudent manner. Generation resources are complex machines with many interdependent components and processes. To ensure the integrity and durability of these complex machines, they need to be operated within defined limits and constraints. While certain operating constraints can be defined based on manufacturers’ suggested operating parameters, many operating constraints must be defined and developed using sound engineering and economic judgment, to ensure optimal resource performance, efficiency, durability, and to limit excessive wear and tear. For example, the basic geographic placement of a resource of similar technology will have a direct impact on how the resource is operated (e.g., high elevation vs. low elevation, temperature regions, etc.).

As an initial matter, CAISO has not really defined criteria that it would use to indicate when it would use the Market Characteristics Masterfile, and when it would use the Design Capability Characteristics Masterfile. If the situations when CAISO would use the Design Capability Masterfile were strictly limited to operating emergencies, that might be a more acceptable basis for this distinction, but without such criteria, it is unclear which Masterfile would be in use at which times.

Absent such clarity, NCPA is most concerned that CAISO is proposing to establish a baseline requirement in the Design Capability Characteristics Masterfile that all resources maintain a two daily start minimum, unless they are physically not capable to start twice a day. CAISO explains that its proposal is based on concerns that market participants' ability to elect a single

start per day could potentially result in resources exercising market power and gaming. CAISO provides no evidence of this occurring, or any estimate as to how much this might be occurring. The CAISO further claims that a resource with a single start per day may be optimally committed by the CAISO software in the day-ahead market for the evening peak, but then may subsequently be recommitted by the CAISO's real-time optimization to be dispatched to meet the morning peak instead.

NCPA does not intend to minimize the dangers to the market associated with gaming, or CAISO's efforts to prevent gaming. However, NCPA believes that generators setting the "one start" criteria in their Masterfile are far more likely to be doing so as a means of protecting their units against "on and off" cycling throughout the day. Unit cycling is a real problem that sometimes results from the CAISO's dispatch algorithms, and which carries real costs for these units in terms of wear and tear, more frequent outages, shorter run times between maintenance outages, and other problems that can result in significant costs for generation owners. CAISO's proposal fails to distinguish between generation owners seeking to protect their units and generation owners who (might) be attempting to use the CAISO's own optimization software in some sort of gaming scenario. CAISO should at least investigate whether there is less problematic means to adjust its own dispatch algorithms rather than addressing its concern by forcing generators to modify their preferred operating characteristics.

In more accessible terms, an individual may purchase an automobile that is technically capable of driving on the Rubicon Trail. However, if that individual were to constantly drive that automobile based on these extreme limits, the life and durability of the automobile would be significantly compromised. All machines have extreme limits at which they can be operated, but good operational practices do not support operating machines at those extremes at all times.

The CAISO further suggests that it would like to have access to increased ramping capability. It is NCPA's understanding that such need was supposed to be addressed by establishing a flexible capacity requirement. NCPA fears that making this change could have the opposite effect here. Overriding a generation owner's engineering judgment as to the prudent operating limits of its units can have serious consequences, which include less unit availability. CAISO has, in the past, cycled units on and off to the point of damaging them.

Additional or longer outages, a greater frequency of the need for major maintenance or expensive repairs can cost generation owners millions of dollars. These are not small expenditures, and the magnitude of the potential harm makes it very difficult to "price the risk into your Bids", which seems to be CAISO's guidance as to how generators should respond to this new limitation. It is very difficult to price potential costs of this nature into Bids, at least not without attracting the undesirable attention of the market monitors.

NCPA supports maintaining a single set of Master File values that enable a generating resource to responsibly set its operating constraints based on a combination of manufacture specifications, and operating constraints determined by the generator owner based on sound

engineering and economic practices, consistent with good utility practices. This Masterfile should allow generators to specify “one start” per day if appropriate in the exercise of good engineering judgment. The CAISO should explore other ways to adjust its dispatch practices to better achieve its goals, or to identify actual gaming behavior without broadly overriding the engineering judgment of its generators. If the CAISO insists on establishing two Master Files, there should be clear criteria specifying which file will govern under what conditions.