

## Stakeholder Comments Template

### **Flexible Ramping Product Revised Straw proposal**

<b>Submitted by</b>	<b>Company</b>	<b>Date Submitted</b>
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Wellhead appreciates this opportunity to comment on the CAISO's Revised Straw Proposal of the Flexible Ramping Product. In general, Wellhead supports the overall direction of this proposal with one exception; Wellhead does not believe it is appropriate for units that have not sold Flex RA to be required to bid Flexible Ramping at a zero price in the Real time market. Wellhead does support the requirement of a zero bid for units that have sold Flex RA, and Wellhead understands the CAISO's desire to make all energy available in real-time subject to Flexible Ramping; however, it is important that the CAISO either allow bidding for any unit that has not specifically sold Flex RA, or allow these units an alternate means to recover their cycle costs if they occur as a result of being re-dispatched.

It is important to understand that there are additional cycling costs to generators for providing Flexible Ramping beyond the simple opportunity costs and that these are the costs that will generally be covered in the procurement of Flex RA. Normally these costs are a function of the depth of the cycle and can be expressed as a partial start/cycle. These costs have significant variations across resource types/categories. Even when comparing simple cycle gas turbines, the cycle costs are specific to the make, model, vintage, and most importantly, the range of flexibility offered in the resource data template. For example: If a gas turbine manufacture requires that changes in load of greater than 50% count as a partial cycle towards major maintenance, then a resource has three options: 1) have a Pmin equal to, or greater than, 50% of its Pmax, 2) charge a premium on all energy deliveries, or 3) find a means to recover the cost through a third party capacity mechanism. The Procurement of Flex RA enables option 3 above which allows for clear economic signals on energy and the widest possible range from Pmin to Pmax. While the example cited is for a simple cycle gas turbine, the concept is applicable to most every resource type including combined cycle, and energy storage resources.

Resources with high cycling costs will be unable to sell the flexible RA attributes of their resources in the bi-lateral market. Requiring these units to then bid a zero price in either the day-ahead or real-time market will most likely result in less flexibility being offered to the ISO, a result that Wellhead believes is counterproductive to the stated goals.