

Stakeholder Process: Flexible Ramping Constraint Compensation**Summary of Submitted Comments**

Stakeholders submitted two rounds of written comments to the ISO on the following dates:

- Round One, 07/08/11
- Round Two, 08/03/11

Stakeholder comments are posted at:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/FlexibleRampingConstraint.aspx>

Other stakeholder efforts include:

- Stakeholder conference call to review issue paper and straw proposal, 07/01/11
- Stakeholder conference call to review draft final proposal, 07/21/11

Management Proposal	SCE	PG&E	SDG&E	Calpine	NRG	GenOn	WPTF	CPUC	Management Response
Enforce flexible ramping constraint in real-time pre-dispatch (RTPD) and manage in real-time dispatch (RTD) for upward direction	Supports	Supports	Supports	Supports	Does not support Compensation for capacity must be addressed.	Supports	Supports	Conditional Additional safeguards needed if undesirable consequences arise	The ISO has observed instances of insufficient ramping capability between RTPD and RTD. The flexible ramping constraint will ensure sufficient upward capability to address changes in system conditions between RTPD and RTD.
Flexible ramping constraint not enforced in RUC	Supports	No Comment	Supports	Supports	Supports	No Comment	Supports	Supports	Based on stakeholder comments to the straw proposal, the ISO removed enforcement in RUC
Allocation of compensation costs to measured demand	Does not support Generation deviations should be included and not be delayed to RIMPR Phase 2.	Conditional ISO recognizes that load variability is not the sole cause.	Supports Development of a new market product should allocate flexible ramping capacity cost based on cost causation	No Comment	No Comment	No Comment	No Comment	Supports If costs appear to be unusual or significant the ISO should reopen the cost allocation method	The ISO believes the redesign of cost allocation of services necessary to reliably manage the grid is appropriately being addressed in RIMPR Phase 2. The proposed allocation aligns with the current method for ancillary services.

Management Proposal	SCE	PG&E	SDG&E	Calpine	NRG	GenOn	WPTF	CPUC	Management Response
Compensate all resources that resolve the flexible ramping constraint at the shadow price to address potential opportunity costs	Does not support Compensation should take the form of an additional unit specific cost adder where generators are incurring verifiable costs.	Conditional Compensation must be included in BCR calculation and no-pay provisions must be developed.	Supports A new market product should eliminate potential over-compensation for flexible ramping constraint.	Supports Assumes compensation is an interim solution. Current approach under-compensates resources because resources only paid when constraint is binding.	Does not support Flexi-ramp capacity a value-less service unless the constraint is binding.	Conditional Compensation based on opportunity costs is not a viable long-term solution. Incentives needed for suppliers to provide service.	Supports Implementation of the flexible ramping constraint is a deficient solution as it only compensates resources when struck.	Supports Further examine the potential of excessive payments if a resource does not incur an opportunity cost.	During previous market simulation, the ISO observed that opportunity costs may be incurred by resources resolving the flexible ramping constraint. However, due to the co-optimization of ancillary services and energy, it's difficult to implement a compensation method that isolates a resource specific opportunity cost. Therefore, the use of the shadow price ensures that all resources which may incur an opportunity cost are compensated when the flexible ramping constraint is binding. The proposed compensation mechanism is an interim solution pending development of a new market product.

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Compensation not included in BCR calculation	Does not support	Does not support	No Comment	No Comment	No Comment	No Comment	No Comment	No Comment	Including the proposed compensation in BCR revenue calculations to offset bid costs is not appropriate without including the opportunity cost with other bid costs. The determination of a resource's specific opportunity cost would increase implementation complexity of the constraint's shadow price.
Flexible ramping constraint and shadow price published	Supports	Supports In addition, ISO should provide quarterly report on performance.	Supports	Supports	No Comment	No Comment	Supports	Conditional A measured approach to data release while market is in discovery process.	The ISO will publish quantity and price to allow market participants to track the use and cost of the flexible ramping constraint.

Management Proposal	SCE	PG&E	SDG&E	Calpine	NRG	GenOn	WPTF	CPUC	Management Response
Development of new product within scope of RIMPR Phase 2	Supports	No Comment	Supports ISO should move quickly to develop a formal market product	Supports ISO should implement a an integrated bid-based product within six months	Does not support Flexible ramping initiative should continue until capacity based compensation method developed	Does not support Unless the schedule for new products developed through RIMPR Phase 2 is substantially accelerated	Does not support ISO should sunset the flexible ramping constraint within 6 months of implementation	Supports Market-based approach for obtaining additional ramping flexibility and appropriate cost allocation	Through operational studies, the ISO has identified the need for additional ramping capability to integrate higher levels of renewable resources. In the RIMPR Phase 2 straw proposal, the ISO introduced a potential new product, real time imbalance service, which would address the operational needs, through a bid-in market product, that are being addressed through enforcement of the flexible ramping constraint. At the September 12, 2011 RIMPR Phase 2 stakeholder meeting, the ISO will be discussing options for accelerating a capacity-bid-based ramping product.