

## Flexible Parameter Matrix Day-Ahead Market Enhancements

Parameter	Timeframe	Evaluation process	Tariff/BPM flexibility	Stakeholder process	Decision criteria
Set of transmission constraints enforced in the deployment scenarios	Pre-launch	<p>Market simulation to assess optimization performance</p> <p>Parallel ops to assess market impact and performance</p> <p>Ongoing monitoring and evaluation of nodal flexible ramping product</p>	<p>The tariff would provide the CAISO authority to identify the enforced constraints in the BPM.</p> <p>The FERC filing would explain the CAISO will develop the initial set of constraints applied at launch during these pre-launch processes. The logic/criteria used to determine enforced constraints would then be included in the BPM prior to the implementation date of DAME.</p>	<p>CAISO would periodically discuss with stakeholders ongoing evaluations of the nodal flexible ramping product performance.</p> <p>CAISO would work together with EDAM entities to ensure consensus on the set of enforced internal constraints.</p> <p>CAISO would hold informational briefings with the Board/Governing Body as needed.</p>	<p>Optimization performance (solution time and quality)</p> <p>Congestion analysis, including proportion and frequency of binding internal constraints in the deployment scenarios relative to real-time binding constraints and associated constraint shadow prices.</p> <p>Assessment of the performance of the nodal uncertainty distribution.</p>
	Post-launch	Ongoing monitoring and evaluation	<p>The tariff would provide the CAISO authority to identify the enforced constraints in the BPM.</p> <p>The FERC filing would explain the CAISO's commitment to modify the initial set of enforced constraints in the BPM, acknowledging that as new entities join the EDAM, and as operational experience necessitates, there must be adaptability to adjust enforced constraints without initiating tariff changes for each new participant.</p>	<p>CAISO would conduct evaluations and analyses. Both CAISO and stakeholders may recommend changes based on these assessments.</p> <p>CAISO would initiate its BPM PRR process when proposing to update the set of enforced constraints.</p>	

Tunable parameter for proportion of imbalance reserves that are “deployed” in deployment scenarios	Pre-launch	<p>Market simulation to assess whether the parameter works</p> <p>Parallel ops to assess various market outcomes under different parameter settings</p>	<p>The tariff would provide the CAISO authority to state the value of the parameters in the BPM.</p> <p>The FERC filing would explain the CAISO will develop the initial parameter value applied at the launch during these pre-launch processes. These parameter values would then be included in the BPM prior to the implementation date of DAME.</p>	<p>CAISO would share pre-launch analysis with stakeholders and offer opportunities to provide input and feedback on the initial parameter.</p>	<p>Proportion and frequency of binding internal constraints in the deployment scenarios relative to real-time binding constraints</p> <p>Differences between modeled and realized distributions of the amount and location of net load forecast uncertainty between the DAM and FMM</p> <p>Average constraint shadow prices in the IFM deployment scenarios compared to FMM shadow prices and RTD shadow prices from the real-time deployment scenarios</p>
	Post-launch	Ongoing monitoring and evaluation	<p>The tariff would provide the CAISO authority to state the value of the parameters in the BPM.</p> <p>The FERC filing would explain the CAISO’s commitment to modify the initial parameter values as warranted post-launch in the BPM, acknowledging that as operational experience dictates, there must be adaptability to adjust this parameter without initiating tariff changes.</p>	<p>CAISO would conduct regular evaluations and analyses. Both CAISO and stakeholders may recommend changes based on these assessments.</p> <p>CAISO would initiate its BPM PRR process when proposing to update the parameter.</p>	
Energy storage “envelope constraint” multipliers	Pre-launch	<p>Ongoing discussion with Market Surveillance Committee</p> <p>Market simulation to assess whether the constraints and multipliers function as intended</p>	<p>The tariff would provide the CAISO authority to state the value of the multipliers in the BPM.</p> <p>The FERC filing would explain the CAISO’s intent to set the initial value at 0.85.</p>	<p>CAISO would conduct a Market Surveillance Committee meeting to discuss these constraints and multipliers.</p> <p>CAISO would share pre-launch analysis with stakeholders and offer opportunities to provide</p>	Frequency and magnitude of sufficient real-time state of charge to meet imbalance reserve awards.

		Parallel ops to inform the initial multiplier values		input and feedback on the initial multiplier values.	
	Post-launch	Ongoing monitoring and evaluation	<p>The tariff would provide the CAISO authority to state the value of the multipliers in the BPM.</p> <p>The FERC filing would explain the CAISO’s commitment to engage in further discussion and testing post-launch regarding the appropriate multiplier values and make any necessary changes to the values through the BPM process.</p>	<p>CAISO would conduct regular evaluations and analyses. Both CAISO and stakeholders may recommend changes based on these assessments.</p> <p>CAISO would initiate its BPM PRR process when proposing to update the parameter.</p>	
Imbalance reserve demand curve cap	Pre-launch	Market simulation and parallel ops to assess whether the demand curve works as intended.	The tariff would outline the principles of the demand curve while leaving the methodology for calculating the segment quantities and prices to the BPM. The tariff would establish the \$55 administrative cap for the imbalance reserve demand curve. Both procedures are consistent with tariff provisions for the flexible ramping product demand curve.	None.	<p>MW quantities of imbalance reserve up/down relaxed under different conditions.</p> <p>Frequency and magnitude of RUC biasing.</p>
	Post-launch	Ongoing monitoring and evaluation	Tariff change required to update the \$55 administrative cap for the imbalance reserve demand curve. Updates to the methodology for calculating segment quantities and prices could be done through BPM updates.	CAISO would conduct regular stakeholder meetings to review ongoing evaluations and analyses. Both CAISO and stakeholders may recommend changes based on these assessments.	

				<p>CAISO would launch a stakeholder initiative for the necessary tariff changes to modify the \$55 administrative cap for the imbalance reserve demand curve.</p> <p>CAISO would initiate its BPM PRR process when proposing to update the methodology for calculating segment quantities and prices.</p>	
Default availability bid prices for IRU/RCU mitigation	Pre-launch	Market simulation will assess whether the LMPM functionality works as intended.	<p>The tariff would define the \$55 default availability bid used for imbalance reserves and reliability capacity mitigation.</p> <p>Tariff would allow for Negotiated Bid option that would take effect after the CAISO has had time to assess competitive offers for the new market products (no more than 18 months). Negotiated Bid process would be developed through the BPM.</p>	None.	Evaluation of \$/MW offers for imbalance reserve and reliability capacity under competitive conditions
	Post-launch	Ongoing monitoring and evaluation	<p>Tariff change required to update the \$55 default availability bid for imbalance reserve and reliability capacity mitigation.</p> <p>Changes to the Negotiated Bid process would take place through the BPM.</p>	<p>CAISO would launch a stakeholder initiative for the necessary tariff changes to modify the \$55 default availability bid for imbalance reserve and reliability capacity mitigation.</p>	



				CAISO would initiate its BPM PRR process when proposing to update the associated Negotiated Bid process.	
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