

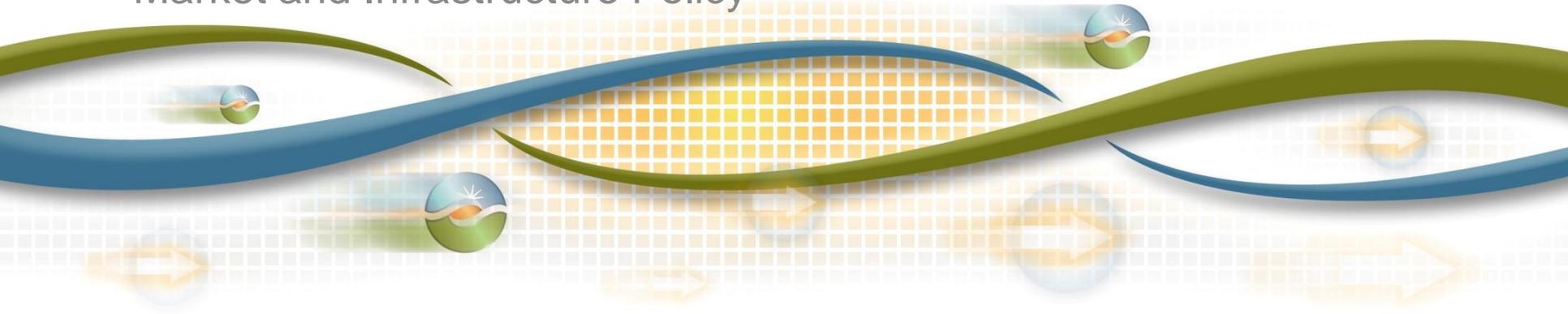


Generator Commitment Cost Improvements

Bidding Rules Enhancements

February 22, 2016

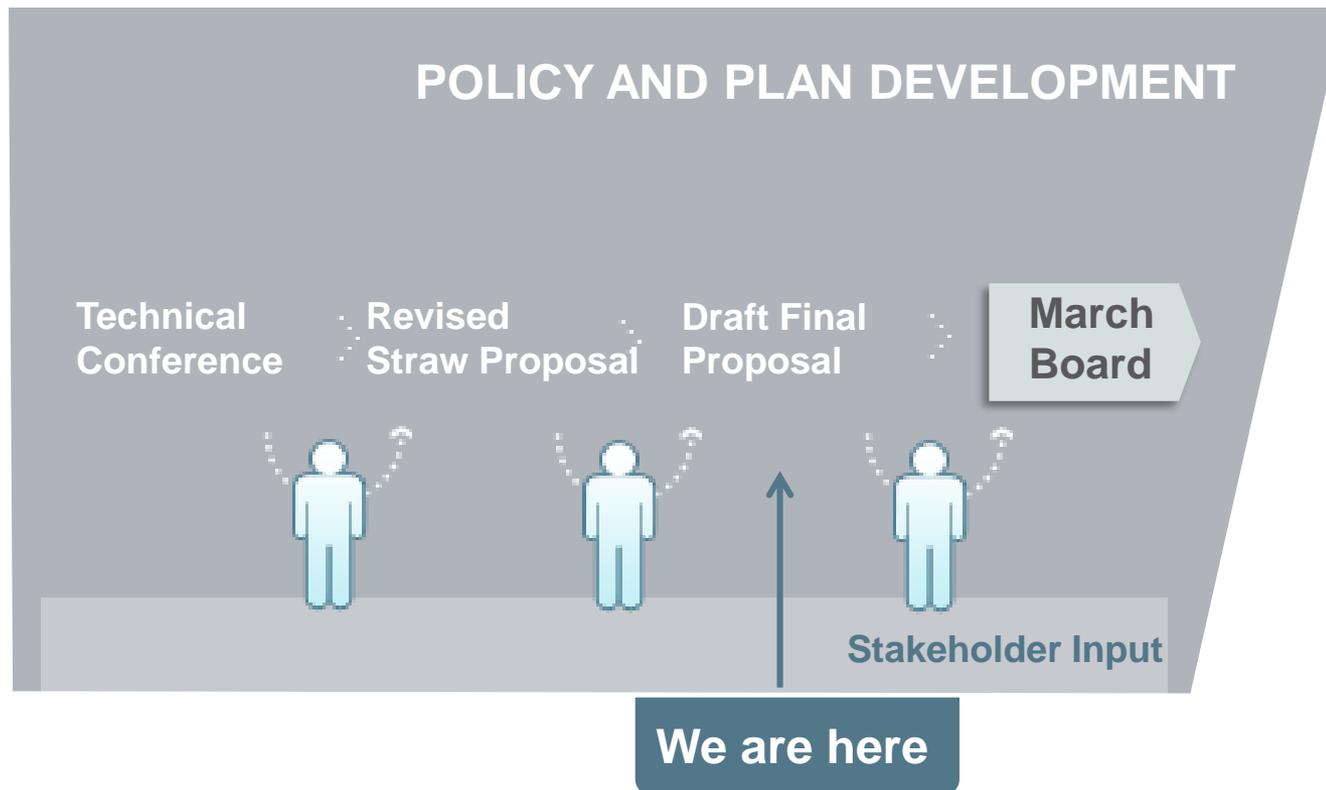
Cathleen Colbert
Market and Infrastructure Policy



December 3, 2015 stakeholder meeting agenda

Time	Topic	Presenter
1:00 – 1:05	Introduction	Kim Perez
1:05 – 1:20	Review ISO Changes to Bidding Rules Enhancements Stakeholder Engagement Plan	Kim Perez
1:25 – 3:00	Draft Final Proposal	Cathleen Colbert

ISO Policy Initiative Stakeholder Process



Review ISO Changes to Bidding Rules Enhancements Stakeholder Engagement Plan

Kim Perez

Addressing the interdependency of initiatives

Bidding Rules 1b	CCE3	RSI2
Energy bidding flexibility	Use-limited definition	LRA and LSE alignment
Re-bidding commitment costs	Opportunity cost methodology	Planned outage substitution for Flexible RA resources
Resource characteristics	→ Resource characteristics	Updating EFC
Generating bids for non-RA resources	Use-limited outage cards	Use-limited outage cards
Improve gas commodity price	MF changes for RA resources and RAIM implications	MF changes for RA resources and RAIM implications
Gas transportation adders		Combination resources
Energy Price Index		Annual and monthly RA showings
After the fact gas cost recovery		
Commitment cost mitigation		

Bidding Rules Enhancements phases

Phase	Board	Implementation Target
Phase 1: FERC Order 809: examined changes to day-ahead market timing	FERC approved ISO's proposal to not move day-ahead market	
Phase 2: Minimum load rerates	February	Spring 2016
Phase 3: Generator commitment cost improvements	March	Fall 2016
Future Phases	TBD	TBD

Bidding Rules Enhancements phases - Stakeholder schedule update for Phase 3

Date	Milestone
February 10, 2016	Draft Final Proposal posted
February 22, 2016	Stakeholder call
February 29, 2016	Stakeholder comments due
March 24, 2016	Board of Governors Meeting (CCE3 & BRE Phase 3 as a package)
March 25, 2016	

Generator Commitment Cost Improvements Proposals

1. Allow resources without day-ahead schedule to rebid commitment costs in real-time market until committed
2. Won't insert bids in STUC for non-resource adequacy resources that do not have a day-ahead market award and do not resubmit bids into the real-time market
3. Extend filing right at FERC for after-the-fact fuel cost recovery consideration
4. Improve formulation of fuel region to reflect commodity price, transportation costs and credits including cap-and-trade credits
5. Improve resource-specific start-up electricity costs in proxy costs based on wholesale projected electricity price unless resource verifies costs incurred are retail rates

ISO deferring further development on the following sections

- Section 6.3, Commitment cost mitigation
- Section 7.1.1, Changing bids after a commitment decision during an inter-temporal constraint
- Section 7.1.2, Changing bids after a commitment decision without inter-temporal constraints
- Section 8.1.1.1, Gas price index may not reflect real-time gas purchase costs

Allow resources without a day-ahead schedule to rebid commitment costs in the real-time market

- The ISO currently does not allow resources that bid into the day-ahead market but that did not receive a day-ahead schedule to rebid commitment costs in the real-time market.
- Resources without a day-ahead schedule may have additional costs associated with procuring gas during more illiquid periods and/or changes to gas prices.
- ISO proposes to allow resources to rebid start up, transition, and minimum load costs until market run results in a unit commitment.

No longer insert bids for STUC for non-resource adequacy resources that do not resubmit bids into the real-time market and did not receive day-ahead award

- The ISO market inserts day-ahead market bids into STUC for resources that are not resource adequacy resources that are not scheduled in the day-ahead market and do not resubmit bids into the real-time market.
- The ISO proposes to no longer insert bids for STUC for these resources since it finds forcing participation for non-RA resources is an unintended consequence of its current process and should be resolved.

Changes to ISO's proposal to allow market participants opportunity to request after-the-fact reimbursement for commitment costs

- ISO proposes to extend a filing right to seek recovery of net market revenues as result of **incurred fuel commodity costs** exceeding the commitment cost bid cap unrecovered through market revenues
- For relevant ISO commitment instruction, commitment cost offers do not need to be bid at the commitment cost cap to be eligible for filing right
- Applicable fuel commodity costs are fuel costs for fuel burned for commitment to meet an ISO commitment instruction not including
 - Pooling arrangement fees,
 - Incurred OFO penalties,
 - Gas losses resulting from unprofitable trades after resources are exceptionally dispatched off

Process for after-the-fact reimbursement

- FERC filing to be submitted no later than 60 days after ISO operating day gas costs incurred
- Filing must contain the following:
 - Explanation of why FERC should find incurred costs just and reasonable
 - Data supporting actual applicable fuel costs including but not limited to invoices
 - ISO written explanation of applicable day's gas and electric events on market participant request

Illustration of FERC Ordered BCR adjustment

	Market Bid & Award Data	<i>Units</i>	<i>Formula</i>	Resource A
[A]	Heat Rate	mmBtu/MW		10
[B]	Start Up Fuel	mmBtu		3000
[C]	MLE Fuel	mmBtu		1000
[D]	GPI	\$/mmBtu		\$5
[E]	Actual Procurement Cost	\$/mmBtu		\$25
[F]	Pmin	MW		100
[G]	Pmax	MW		500
[H]	Incremental Energy Award	MW		400
[I]	Incremental Energy Bid	\$/MW		\$50
[J]	Max Commitment Cost Cap	\$	$(B + C) * D * 1.25$	\$25,000
[K]	LMP	\$/MW		\$125

Illustration of FERC Ordered BCR adjustment

Original BCR settlement		Formula	Resource A
[L]	Bid-in Commitment Cost	$B + C) * D * 1.15$	\$23,000
[M]	Incremental Energy Costs	$([H] - [F]) * [I]$	\$15,000
[N]	Total Market Cost	$[L] + [M]$	\$38,000 
[O]	Commitment Cost Revenues	$[F] * [K]$	\$12,500
[P]	Incremental Energy Revenues	$([H] - [F]) * [K]$	\$37,500
[Q]	Total Market Revenues	$[O] + [P]$	\$50,000 
[R]	Net Market Revenue Surplus	$[Q] - [N]$	\$12,000 
[S]	BCR Settlement	$IF ([Q] - [N]) < 0$	\$0

Illustration of FERC Ordered BCR adjustment

	Adjusted BCR settlement	Formula	Resource A
[T]	Actual Commitment Cost	$([B] + [C]) * [E]$	\$100,000
[U]	Incurred Commitment Costs above Cost Cap	$[T] - [J]$	\$75,000
[V]	Adjusted Commitment Costs	$[U] + [L]$	\$98,000
[W]	Incremental Energy Costs	$([H] - [F]) * [I]$	\$15,000
[X]	Adjusted Total Market Cost	$[V] + [W]$	\$113,000
[Y]	Commitment Cost Revenues	$[F] * [K]$	\$12,500
[Z]	Incremental Energy Revenues	$([H] - [F]) * [K]$	\$37,500
[AA]	Total Market Revenues	$[Y] + [Z]$	\$50,000
[AC]	Net Market Revenue Shortfall above Cap	$[AA] - [X]$	\$63,000
[AD]	Adjusted BCR Settlement	$IF ([AA] - [X]) < 0$	\$63,000

Advantages of FERC review of cost recovery requests

- ISO finds assessment should consider all sales and purchases including hedging instruments before finding incurred fuel commodity costs exceeding cost cap and
- It cannot prescribe all circumstances recovery is appropriate and
- It does not have insight into these hedging instruments
- FERC review is the most appropriate venue for consideration.

Create flexible process for requesting new region selections in Master File fields

- ISO proposes to create flexible process for scheduling coordinators to request new fuel region values in the Master File (MF) for both ISO and EIM resources.
- ISO proposes to leverage process developed to support formation of new fuel region and extend it to the introduction of a new MF field for an auxiliary region.
- ISO will review fuel and auxiliary regions as geographically appropriate resource-specific costs supported by retail company invoices and schedules

Costs for fuel region will differ for depending on whether generator submits GHG allowances directly

A ISO's Fuel Regions	B Intra-state Transporation Rates (\$/therm)	C AB 32 CARB Fee Credit	D Cap and Trade Exemption' Credit	E Effective April 1, 2016 Effective Rate for Covered Entities	F Effective Rate for Non-covered Entities
PGE (Backbone level rate)	0.00915	0.00056		0.00859	0.00915
PGE2 (Other Customers Rate)	0.02921	0.00056		0.02865	0.02921
SCE1 (<3 million therms/year)	0.10554	0.0011	0.01932	0.08512	0.10554
SCE2 (> 3 million therms/year)	0.03688	0.0011	0.01932	0.01646	0.03688
SDG&E1 (<3 million therms/year)	0.105420	0.00041	0.02249	0.08252	0.105420
SDG&E2 (> 3 million therms/year)	0.036380	0.00041	0.02249	0.01348	0.036380

Next steps

Generator Commitment Cost Improvements

- Stakeholders are asked to submit written comments by **February 29, 2016** to InitiativeComments@caiso.com

Commitment Cost Enhancements Phase 3 (CCE3)

- Draft final proposal posted February 17 and call Feb 25
- Stakeholders are asked to submit written comments by **March 2, 2016** to InitiativeComments@caiso.com

BRE and CCE3 Draft Final Proposals will be presented at March Board of Governors Meeting and filed with FERC as a commitment cost package.