



Commitment Cost & Default Energy Bid Enhancements (CCDEBE) Phase 1

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Topics that will be covered in this session:

- Reference level background and terminology
- Reference level change requests
- SIBR requirements
- After the fact cost recovery
- Auditing
- CMRI reports
- Fuel index calculations

Topics that will not be covered:

- Items that are now permanent in the tariff
 - Aliso Canyon D+2 publication
 - Day-ahead market process to update gas prices
- FERC Order 831
 - Energy bid cap
 - After-market recovery of incremental energy costs
- CCDEBE Phase 2
 - Commitment cost mitigation
 - Negotiated commitment costs
 - Hourly minimum load bids

Break for Questions

Reference Level Background



Currently the ISO calculates cost based on reference levels and they are used in the following situations:

- ✓ Reference levels are used to cap commitment cost bids
- ✓ When a resource's energy bid is subject to market power mitigation, the market uses their default energy bid
- ✓ ISO uses a resource's default energy bid when settling residual energy and exceptional dispatch
- ✓ ISO produces generated bids for resource adequacy, or to complete an incomplete bid

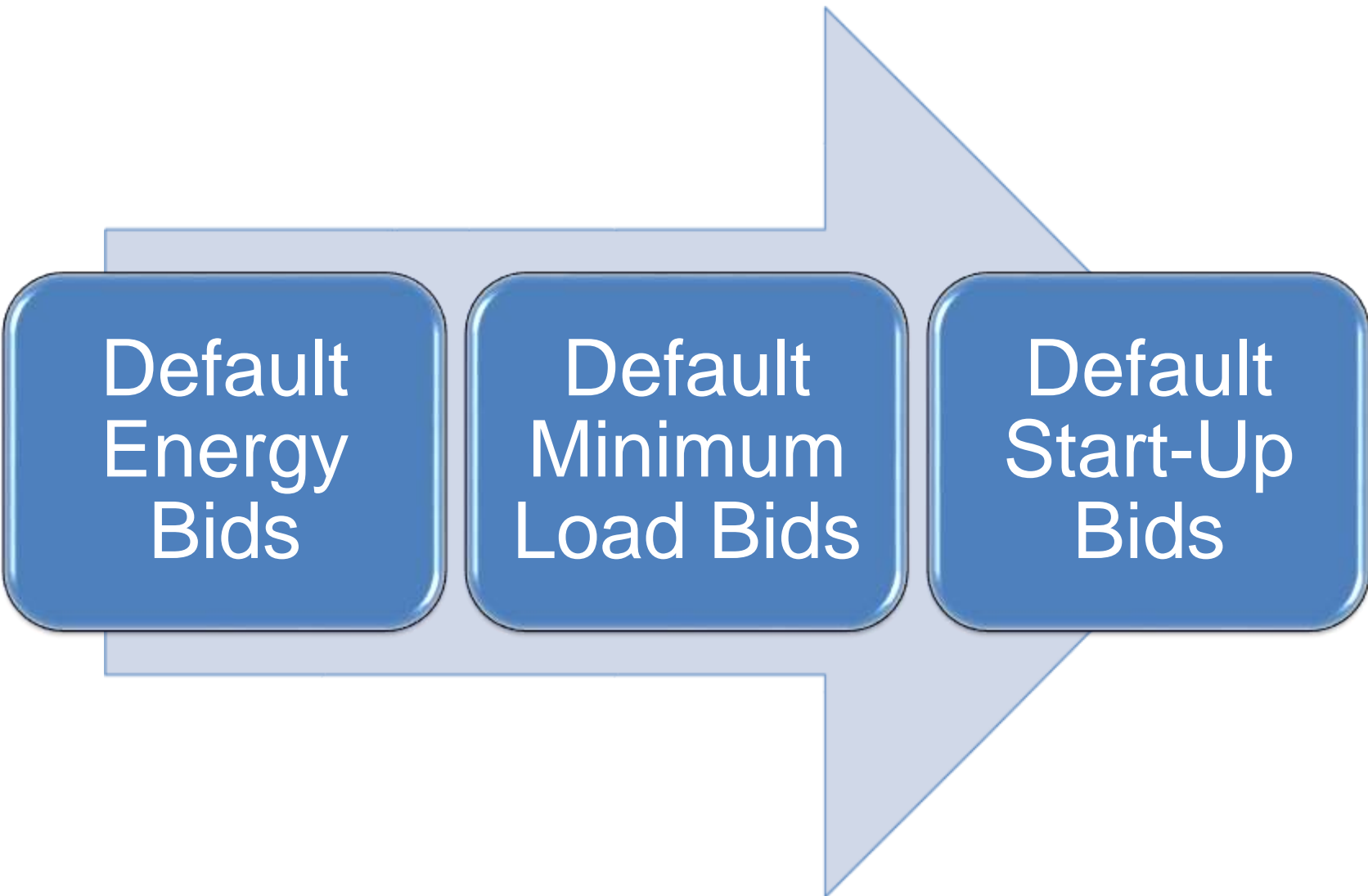
What has changed?

Previously, the ISO calculated the reference levels using fuel cost from external vendors or registered in Master File. There was no opportunity for suppliers to request changes to these costs if they differ from the CAISO calculation.

The **Commitment Costs and Default Energy Bid Enhancements** (CCDEBE) project has:

- Enabled suppliers to request adjustments to reference levels before the market runs
 - Given ISO audit authority to ensure appropriateness of requested adjustments
- Provided for the after-market recovery of certain costs that could not be verified before the markets run

When we talk about “reference levels” we mean:



Default
Energy
Bids

Default
Minimum
Load Bids

Default
Start-Up
Bids

What a reference level?

A resource's reference level represents the incremental cost of operation under most circumstances.

Terminology

Term	Definition
Proxy Cost Minimum Load Costs	The <u>ISO's estimate</u> of a resource's variable commitment costs.
Proxy Cost Start-Up Costs	
Proxy Cost Transition Costs	
Default Minimum Load Bid	The <u>ISO's calculation</u> a of resource's commitment cost bid cap using the proxy cost methodology.*
Default Start-Up Bid	
Default Transition Bid	
Revised Default Minimum Load Bid	The <u>SC's calculation</u> of costs using the proxy cost methodology and increased fuel price with no Commitment Cost Multipliers or Default Energy Bid Multipliers.
Revised Default Start-Up Bid	
Revised Default Transition Bid	
Revised Default Energy Bid	

* Except for non-resource specific resources, non-generating resources, and certain use-limited resources (per tariff section 30.4.2).

Applications that are impacted:

SIBR

- allow submittal of automated ex-ante cost adjustment requests (before the market)

CMRI

- provide additional information for default bids

CIDI

- allow submittal of manual ex-ante cost adjustment requests (before the market)
- allow request for after-market cost recovery
- support audit process

Break for Questions

Reference Level Change Requests



Scheduling Coordinators may find that reference levels do not accurately reflect their actual or expected fuel costs

- The ISO calculates reference levels using master file resource parameters and fuel or fuel-equivalent cost inputs.
- Because the fuel inputs used by the ISO may differ from a supplier's actual cost expectation, suppliers can request a reference level adjustment to update default commitment costs and default energy bids.
- This section describes the process for reference level change requests.

There are two options for submitting reference level change requests – automated and manual

1. Automated Reference Level Request

- Submit change request in SIBR, prior to the close of the applicable market
- Use the following formula
 - Default proxy commitment cost formula **without the Commitment Cost Multiplier**
 - Variable-cost based default energy bid formula **without the DEB Multiplier**
 - Change only the fuel cost value

(Continued on next slide)

There are two options for submitting reference level change requests – automated and manual

1. Automated Reference Level Request (continued)

- If timely, ISO systems will compare the request to a reasonableness threshold
 - If request \leq reasonableness threshold, the request will be approved
 - If request $>$ reasonableness threshold, requested reference level will be set to reasonableness threshold (partially approved)
- Approved and partially approved values will be used in the next market run
- SCs must retain supporting documentation to justify the automated reference level change request

SIBR - Default Energy Adjustment Request

Bids - MAPTEST SIBR - 0 - Internet Explorer

California ISO

SIEMENS MAPTEST SIBR

Bids Trades Convergence Bids Energy forecast Ind Viewer OTC Viewer Admin

Market: Day Ahead Real Time Date: 09/27/2019 Coordinator: ZISO Apply Reset

Bid summary

Must add product in UI (right click then select "Add Product")

Status	Resource type	Resource ID	State	Daily	Hourly	Energy	Energy Adj	STD	ETC	ETP	TOR	TOP	RMT	BAS	LOF	LPT	LSG	Gen	Load	RU	RD	SR	NR	LFD	LFU	Down	Up	Submitted	Market status
--------	---------------	-------------	-------	-------	--------	--------	------------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	------	----	----	----	----	-----	-----	------	----	-----------	---------------

Energy Energy Adj Daily Hourly SS-STD SS-ETC SS-ETP SS-TOR SS-TOP SS-RMT SS-BAS SS-LOF SS-LPT SS-LSG Gen SS Load SS AS-RU AS-RD AS-SR AS-NR AS-LFD AS-LFU RM

Energy Adj details

Pumping RUC

Hour	Price curve(s)	Distribution pair	Level	Shutdown cost	Cost	Price	Quantity
------	----------------	-------------------	-------	---------------	------	-------	----------

Price curve(s)

Quantity	Price [\$]
----------	------------

Distribution Pair(s)

Dist. factor	Dist. location
--------------	----------------

Price

Qty

No Data found

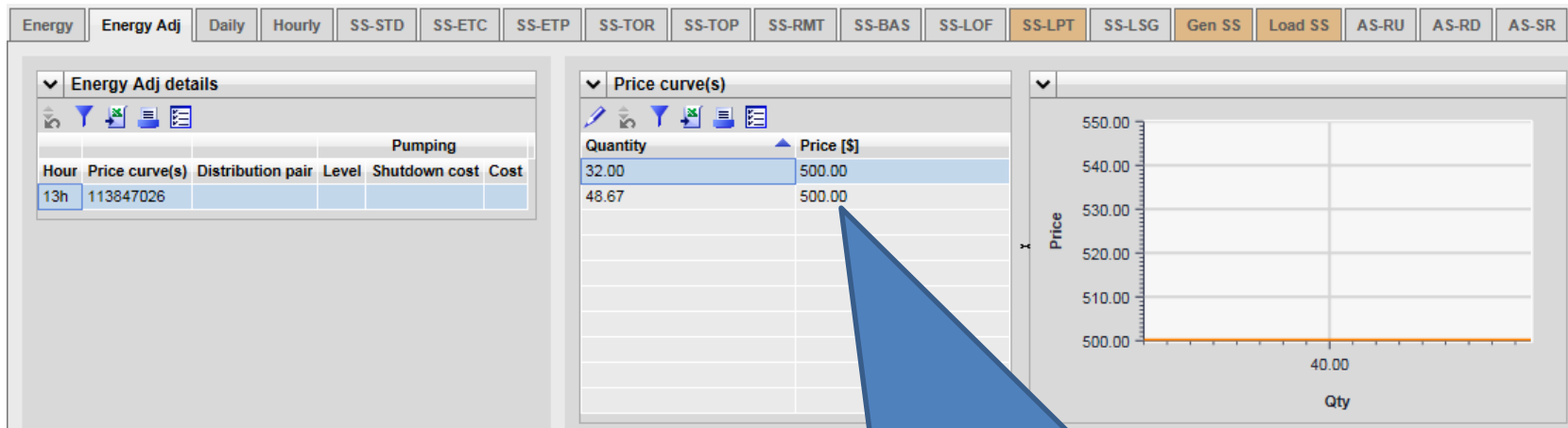
This is a similar concept as submitting a price curve for Energy

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09/27/2019 11:26 PDT

SIBR - Default Energy Adjustment Example



Requesting new DEB of \$500 between 32 MW and 48.67 MW.
Note: MW values must match break points as the DEB of the resource.
Recommend using CMRI report to confirm that MW break points match
between DEB adjustment and DEB.

SIBR – Default Startup Cost Adjustment and Default Minimum Load Adjustment Request

EnergyEnergy AdjDailyHourlySS-STDSS-ETCSS-ETPSS-TORSS-TOPSS-RMTSS-BASS-LOFSS-LPTSS-LSGGen SSSLoad SSSAS-RUAS-RDAS-SRAS-NRAS-LFDAS-LFURM

Daily details

Ramp Rates

Energy limits

Charge limits

Default minimum

Minimum load costOp. Reserve [MWh]Regulating [MWh]MinimumMaximumMinimumMaximumInitial stateBlock bid hoursLoad AdjustmentLoad Adjustment OriginDefault Startup Cost Adjustment OriginResource name

Startup time curve

Cooling time

Startup time

Startup cost curve

Cooling time

Cost [\$]

Default startup cost adjustment curve

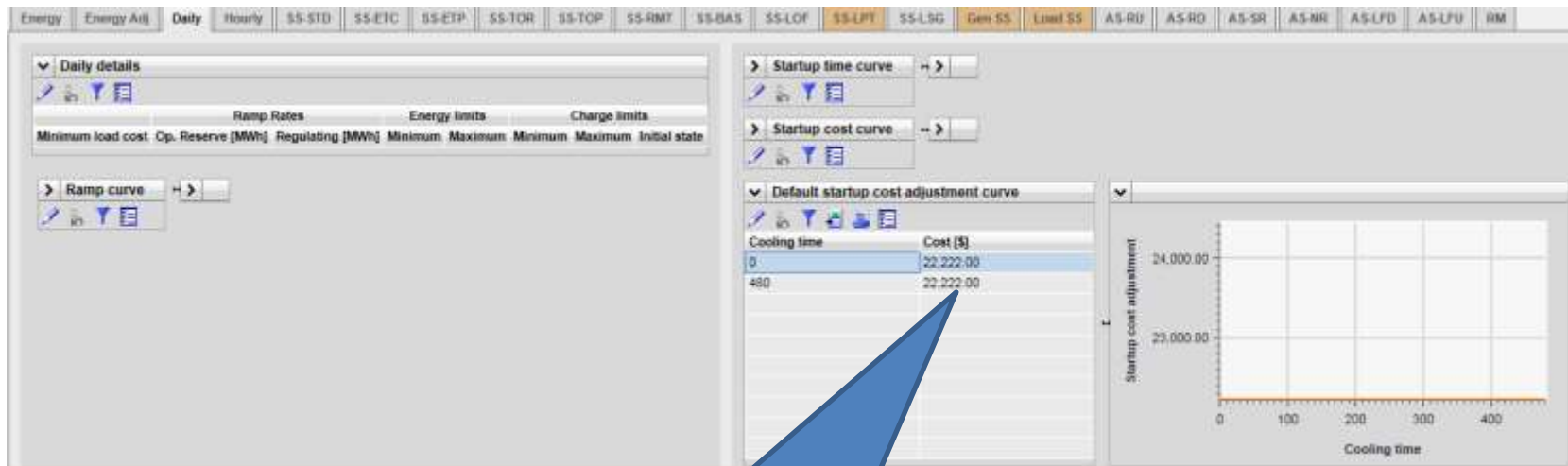
Cooling time

Cost [\$]

Default Minimum Load Adjustment:
This is the \$/run-hour value that the SC is requesting that their Default Minimum Load Bid be adjusted to

Default startup cost adjustment curve: This is the \$/start-up value that the SC is requesting that their Default Startup Load Bid be adjusted to.
Note: must match cooling times of Startup Cost Curve defined in GRDT

SIBR – Default Start-up Bid Request Example



Requesting a new start-up bid of \$22,222.
Note: Cooling times must match the RDT.

What is a reasonableness threshold?

A reasonableness threshold is a CAISO-calculated reference level value that accounts for a margin for fuel or fuel equivalent cost volatility.

Used to screen automated reference level change requests

Fuel Price Scalar for gas resources applied to commodity GPI

Reasonableness Threshold fuel region price =

(Fuel Price Scalar x Commodity gas price index) + Total transportation cost

Days with published GPI	Days without published GPI (weekends/days after holiday)
1.1	1.25

Fuel Price Scalar for non-gas resources applied to fuel-equivalent cost always = 1.1

Example: Minimum Load Cost for gas resource for day without published index

- Default Minimum Load Cost

Fuel region price = Commodity gas price index + Total transportation cost

Min Op Level (MW)	Heat Rate at Pmin (Btu/ KWh)	Commodity Gas Price Index (\$/MMBtu)	Transportation cost (\$/MMBtu)	Fuel Region Price (\$/MMBtu)	O&M + GMC + GHG + MMA	Proxy Minimum Load Cost	Run-hour Opportunity Cost (\$/h)	Default Minimum Load Cost (Proxy*1.25 + Opp Cost)
40	14,000	\$3	\$0.85	\$3.85	\$1,016.2	\$3,454	\$310	\$4,627.50

- Reasonableness Threshold

Fuel region price = (1.25 x Commodity gas price index) + Total transportation cost

Min Op Level (MW)	Heat Rate at Pmin (Btu/ KWh)	Commodity Gas Price Index (\$/MMBtu)	Transportation cost (\$/MMBtu)	Reasonableness Threshold Fuel Region Price (\$/MMBtu)	O&M +GMC + GHG + MMA	Run-hour Opportunity Cost (\$/h)	Reasonableness Threshold Default Minimum Load Bid
40	14,000	\$3	\$0.85	\$4.60	\$,1016.2	\$310	\$5,152.20

Keep in mind that although supporting documentation does not have to be submitted for automated reference level requests, any request may be audited and contemporaneous supporting documentation will be needed.

Process for audit of reference level change request

1. Audit request will be sent to the SC through CIDI requesting pertinent information
2. A response is required within 5 business day of the request
3. SC must provide cost calculations and attach contemporaneously available documentation that justifies the change request
4. The ISO will evaluate and respond to the SC information within 10 business days of receipt

Process for audit of reference level change request (continued)

5. ISO response will be:

- Documentation is sufficient and supports the requested change
 - CIDI case will be closed
- Documentation does not support the change
 - SC will be placed on ineligibility list and will not be allowed to submit further change requests for a set amount of time (described in the next slide)
- More information is needed
 - ISO will request clarification
 - Review period will be put on hold
 - Once additional information is received the 10 day review period will begin

If an SC is placed on the ineligibility list:

1. They will receive written notification from the ISO and status will begin 2 business days later
2. ISO will update Masterfile reflecting ineligibility status

Status	Consequence
1 st audit failure	On ineligibility list for 60 day following the start effective date
Subsequent audit failure	On ineligibility list for 180 day following the start effective date

3. To dispute audit results an SC may request to proceed with alternative dispute resolution (ADR) process within 5 business days

Note that failure of simultaneous multiple audits will not result in compounded consequences

There are two options for submitting reference level change requests – automated and manual

2. Manual Reference Level Change Request

- This process should be used when the resources reference level costs are not fully accepted through the automated process
- Submit “Inquiry Ticket” in CIDI by 8:00 am Pacific Time on the day of the applicable market run.
 - Check the radio button entitled “Manual Reference Level Change Request” and include;
 - Trade date
 - Market
 - Resource ID
 - Requested fuel or fuel equivalent cost (\$/MMBtu for gas resources, \$/MWh for non-gas resources)
 - Volume of gas expected to be purchased (MMBtu)
 - Supporting documentation

There are two options for submitting reference level change requests – automated and manual

2. Manual Reference Level Request (continued)

- The request will be processed in the order it is received
- The ISO will validate the information
- Requests verified prior to the day-ahead market will be used in the day-ahead market
- Requests verified for real-time will be used as soon as practicable
- If the request cannot be verified on the same trade day, it will be rejected
- Scheduling coordinators may be eligible for cost recovery if their manual request is rejected

There are two options for submitting reference level change requests – automated and manual

2. Manual Reference Level Request (continued)

- **IMPORTANT:** SCs must check the box “Manual Reference Level Change Request” on their CIDI ticket submission in order to be considered. This ensures that the ISO is able to receive and process the ticket in a timely manner.

▼ Case Information

Review for Price Correction

☐

Metering Inquiry ⓘ

☐

Manual Reference Level Request ⓘ

☒

Break for Questions

Reference Level Documentation



Scheduling Coordinators must submit the total reference level value:

- Reference levels must be calculated using the Proxy cost methodology for Default Commitment Costs and variable-cost based methodology for Default Energy Bids without including the Commitment Cost Multiplier or DEB multiplier.
- Resource characteristics (pmin, heat rate, start-up time, etc) must match Masterfile data
- Reference level values should include the following components:
 - Fuel- or fuel-equivalent costs
 - Variable operations and maintenance cost adder
 - Grid management charge adder
 - Major maintenance adder (if appropriate)
 - Greenhouse gas compliance costs (if appropriate)
 - Opportunity cost adders (if appropriate)

Documentation must be made available justifying the increase in fuel costs

- Must be based on prevailing costs:
 - Day-ahead - shows that the price is based on next-day procurement
 - Real-time – shows that the price is based on same-day or next-day procurement
- Non-standard gas trading days - fuel prices must be the most recent available
- Reflects prudent procurement practices

Supporting documentation may include:

Quotes from natural
gas suppliers

Gas purchase
invoices

Evidence of a bid
price that was part
of an unsuccessful
good faith effort to
purchase fuel

Other appropriate
documentation
demonstrating fuel
or fuel-cost
equivalents

After-market cost recovery



Request for after-market cost recovery is available to recover additional costs only under certain pre-defined circumstances

- Reasons:
 - The SC made an automated reference level change request in SIBR that exceeded the reasonableness threshold
 - The ISO was unable to verify a manual request due to issues on the ISO's end (e.g. insufficient time to approve the request)
- Important note: the after-market cost recovery process is not intended to be a process through which SCs can recover any costs. There are strict eligibility requirements to qualify and only certain fuel or fuel-equivalent costs can be recovered through this process.

What are the conditions for after-market cost recovery?

- The scheduling coordinator submitted a manual request via CIDI which was not approved or an automated request via SIBR which was capped at the reasonableness threshold
- The after-market cost recovery submission is made within 30 days of the trade day that the resource incurred unrecovered costs
- The unrecovered costs must be based on actual incurred fuel or fuel-equivalent costs, not expected cost*
- The scheduling coordinator must provide supporting documentation

* If automated request was based on expected costs, and the resource's actual costs exceed these expected costs, these additional costs are not eligible for cost recovery

Scheduling coordinators submit an after-market cost recovery requests through CIDI

- The subject of the Inquiry Ticket should be “**After-market cost recovery**” and include:
 - Resource ID
 - Trade date
 - Market
 - Requested fuel or fuel equivalent cost (\$/MMBtu for gas resources, \$/MWh for non-gas resources)
 - Supporting documentation
 - Requested cost components
 - DEB
 - Minimum load
 - Start-up costs
 - Transition costs

Scheduling coordinators submit an after-market cost recovery requests through CIDI

- Additionally the request must include:
 - Data and calculations supporting the scheduling coordinator's claim to the unrecovered costs it seeks, including invoices for the unrecovered costs
 - An explanation of why after-market cost recovery is justified

More on the after-market cost recovery process

- ISO will review the request and determine cost recovery eligibility within 60 days after the trade day.
 - If eligible, costs will appear on the next possible settlement statement in bid cost recovery.
 - If not eligible, the ISO will provide a written explanation
- If the ISO is unable to verify cost eligibility within 60 days, we will provide the scheduling coordinator with a 30 day extension to file a cost recovery request with FERC.
- If the ISO rejects an after-market recovery request, a scheduling coordinator may file for cost recovery with FERC.

Break for Questions

CMRI



CMRI – Default Energy Bid Curves Screen

California ISO | Customer Market Results Interface

Day-Ahead Real-Time Post-Market **Default Bids** Convergence Bidding Forecast Transmission Constraints Intertie Flow Information Reference LSE Energy Imbalance Market Phase Shift

Start Date: 10/07/2019 Entity: [ALL] Resource: Default Bid Type: [ALL] Apply Reset

End Date: 10/07/2019 Market: [ALL] Peak: [ALL]

Default Energy Bid Curves

Interval Start Interval End SC ID Resource Configuration Market Peak Adder Default Bid Type Bid Segment 1 Type Bid Segment 1 [MW] Bid Segment 1 [\$] Bid Segment 1 Type Bid Segment 10 Type Bid Segment 11 [MW] Bid Segment 11 [\$] Bid Segment 11 Type Publication TimeStamp

No Data found

Report Generated: 10/07/2019 12:47:31

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Changes to this screen:

- Default Bid Type Dropdown will include new types:
 - Manual consult
 - Ex-Ante
 - Threshold
- Interval Start Time/Interval End Time
- Publication Timestamp added after the last column

CMRI – Default Commitment Costs

Note: \$ values shown in CMRI will now represent the Default cost, not the Proxy cost. For unadjusted amounts, the values shown here are now 125% of the Proxy cost of the resource.

California ISO | Customer Market Results Interface

Day-Ahead Real-Time Post-Market **Default Bids** Convergence Bidding Forecast Reference LSE Energy Imbalance Market Phase Shifter Gas Burn Reliability Coordination

Start Date: 02/24/2021 Entity: [ALL] End Date: 02/24/2021 Resource: [Ap]

Default Commitment Costs

Minimum Load Costs

Interval Start Time	Interval End Time	Market Type	Commitment Cost Type	SC ID	Resource	Configuration	Minimum Load Cost [\$ / Hour]	Publication Time Stamp
No Data found								

Start-Up Costs

Interval Start Time	Interval End Time	Market Type	Commitment Cost Type	SC ID	Resource	Configuration	Bid Segment 1 [min]	Bid Segment 1 [\$]	Bid Segment 2 [min]	Bid Segment 2 [\$]	Bid Segment 3 [min]	Bid Segment 3 [\$]	Publication Time Stamp
No Data found													

Transition Costs

Interval Start Time	Interval End Time	Market Type	Commitment Cost Type	SC ID	Resource	Transition Cost [\$] From Configuration To Configuration	Publication Time Stamp
No Data found							

Commitment cost type:

- Manual Consult
- Ex Ante
- Threshold
- Proxy

Break for Questions

Wrap Up



References

- Attachment O of the Business Practice Manual for Market Instruments -
<http://www.caiso.com/rules/Pages/BusinessPracticeManuals/Default.aspx>
- SIBR User Guide –
<http://www.caiso.com/Documents/SIBRSchedulingCoordinatorUserGuide.pdf>
- CIDI User Guide -
http://www.caiso.com/Documents/NewCustomerInquiry_DisputeandInformation_CIDI_UserGuide.pdf
- Stakeholder process documents for CCDEBE -
http://www.caiso.com/informed/Pages/StakeholderProcesses/CommitmentCosts_DefaultEnergyBidEnhancements.aspx

Final Questions



For more detailed information on anything presented, please
visit our website at:

www.caiso.com

Or send an email to:
CustomerReadiness@caiso.com

Appendix

Terminology

Proxy Cost

- The ISO's estimate of variable costs for minimum load, start-up, and transition costs

Default Minimum Load Bid

- The ISO's calculation of the resource's minimum load cost
- $(1.25 \times \text{Proxy Min Load Cost}) + \text{Runhour Opportunity Cost}$

Default Minimum Start-Up Bid

- The ISO's calculation of the resource's start-up cost curve
- $(1.25 \times \text{Proxy Start-Up Cost}) + \text{Start-Up Opportunity Cost}$

Default Transition Bid

- The ISO's calculation of the resource's transition cost
- $(1.25 \times \text{Proxy Transition Cost}) + \text{Transition Opportunity Cost}$

Tariff section 30.4 contains the details related to these terms.

More Terminology

Revised Default Commitment Cost Bid

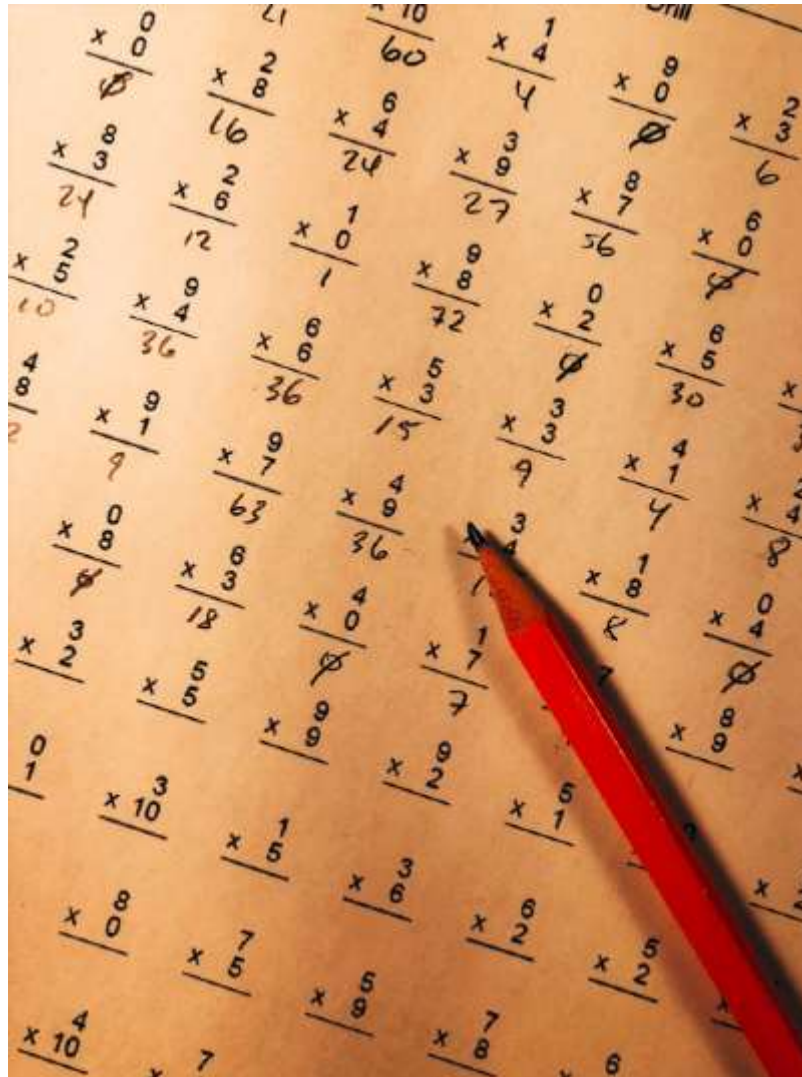
- Default Commitment Cost Bids produced as part of an accepted automated or manual Reference Level Change Request, which are calculated without including the Commitment Cost Multiplier.

Revised Default Energy Bid

- The Default Energy Bid produced as part of an accepted automated or manual Reference Level Change Request, which are calculated without including the Default Energy Bid Multiplier.

Appendix A contains the details related to these terms.

Consolidation of Gas Price Indices



Consolidation of the published gas price indices

Updates to the CAISO tariff to reflect the current gas publications for the real-time market.

Gas price index calculation

Use a minimum of one gas price to determine the blended commodity gas price index

Use a Monday-only ICE gas price when available and sufficiently liquid for both the DAM and RTM.