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
• CCDEBE Phase 2
  – Commitment cost mitigation
  – Negotiated commitment costs
  – Hourly minimum load bids
Reference Level Background
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.
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’s changing?

Today, the ISO calculates the reference levels using fuel cost from external vendors and Masterfile. There is 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) will:

- Enable suppliers to request adjustments to reference levels before the market runs
  - Give ISO audit authority to ensure appropriateness of requested adjustments
- Provide for the after the fact recovery of costs that could not be verified before the markets run
### Terminology

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

* Except for non-resource specific resources, non-generating resources, and certain use-limited resources (per tariff section 30.4.2).
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.
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 may be calculated differently than the supplier requires, 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.
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
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 ≤ reasonableness threshold the request will be approved
  – If request > reasonableness threshold, reference level will be set to reasonableness threshold (partially approved)

• Approved and partially approved values will be used in the next market run
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

<table>
<thead>
<tr>
<th>Days with published GPI</th>
<th>Days without published GPI (weekends/days after holiday)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>1.25</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>14,000</td>
<td>$3</td>
<td>$0.85</td>
<td>$3.85</td>
<td>$1,016.2</td>
<td>$3454</td>
<td>$310</td>
<td>$4,627.50</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Min Op Level (MW)</th>
<th>Heat Rate at Pmin (Btu/KWh)</th>
<th>Commodity Gas Price Index ($/MMBtu)</th>
<th>Transportation cost ($/MMBtu)</th>
<th>Reasonableness Threshold Fuel Region Price ($/MMBtu)</th>
<th>O&amp;M + GMC + GHG + MMA</th>
<th>Run-hour Opportunity Cost ($/h)</th>
<th>Reasonableness Threshold Default Minimum Load Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>14,000</td>
<td>$3</td>
<td>$0.85</td>
<td>$4.60</td>
<td>$1,016.2</td>
<td>$310</td>
<td>$5,152.20</td>
</tr>
</tbody>
</table>
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
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

<table>
<thead>
<tr>
<th>Status</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st audit failure</td>
<td>On ineligibility list for 60 day following the start effective date</td>
</tr>
<tr>
<td>Subsequent audit failure</td>
<td>On ineligibility list for 180 day following the start effective date</td>
</tr>
</tbody>
</table>

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 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 PPT on the applicable trade day.
  - Check the radio button entitled “Manual Reference Level Request” and include;
    - Trade date
    - Market
    - Resource ID
    - Requested fuel or fuel equivalent cost
    - 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 can request after-market reference level adjustments
After-market cost recovery
Request for after-market cost recovery is available to recover additional costs when a resource is capped at their reasonableness threshold.

• Reasons:
  – The SC made a reference level change request that exceeded the reasonableness threshold
  – The ISO was unable to verify a manual request due to insufficient time or insufficient supporting documentation
What are the conditions for after-market cost recovery?

• The scheduling coordinator made a reference level change request and the commitment cost or default energy bid was not approved or was capped at the reasonableness threshold
• The unrecovered costs must be based on actual fuel costs not expected cost
• The scheduling coordinator must provide supporting documentation
• The after-market cost recovery submission is made within 30 days of the trade day that the resource incurred unrecovered costs
Scheduling coordinators submit an after-market cost recovery requests through CIDI

• The subject of the request should be “After-market cost recovery” and include:
  – Resource ID
  – Trade date
  – Market
  – Requested fuel or fuel equivalent cost
  – 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
SIBR Requirements
This is the same concept as submitting a price curve for Energy.
**SIBR - Default Energy Cost Request Example**

|--------|------------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|------|

<table>
<thead>
<tr>
<th>Pumping</th>
<th>Hour</th>
<th>Price curve(s)</th>
<th>Distribution</th>
<th>Level</th>
<th>Shutdown</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>13h</td>
<td>32.00</td>
<td>500.00</td>
<td>113847028</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>48.67</td>
<td>500.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Requesting new DEB of $500 between 32 MW and 48.67 MW. Note: MW values must match heat rate break points submitted in the RDT.
SIBR – Default Start-up Bid Request

This would be the same concept as the Start-up Cost Curve.
SIBR – Default Start-up Bid Request Example

Requesting a new start-up bid of $22,222. Note: Cooling times must match the RDT.
Break for Questions
Changes to this screen:

- Default Bid Type Dropdown will include new types:
  - Manual consult
  - Ex-Ante

- Interval Start Time/Interval End Time

- Publication Timestamp added after the last column
CMRI – Default Commitment Costs

Commitment cost type:
- Manual consult
- Ex-Ante
- Original
Changes to this screen:

- Default Bid Type Dropdown will include new types:
  - Manual consult
  - Ex-Ante

- Publication Timestamp added after the last column
Break for Questions
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.
Break for Questions
Wrap Up
## Updated Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>September 21</td>
<td>FERC tariff filing response <em>(requested)</em></td>
</tr>
<tr>
<td>October 1</td>
<td>CCDEBE Phase 1 – Production Go-Live <em>(estimated based on current timeline)</em></td>
</tr>
</tbody>
</table>
References

• Proposed Revision Request for the Business Practice Manuals - https://bpmcm.caiso.com/Pages/default.aspx
• 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:
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