# Reliability Demand Response Resource Bidding Enhancements: Track 2
*Draft Final Proposal*

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Policy Development

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# Agenda

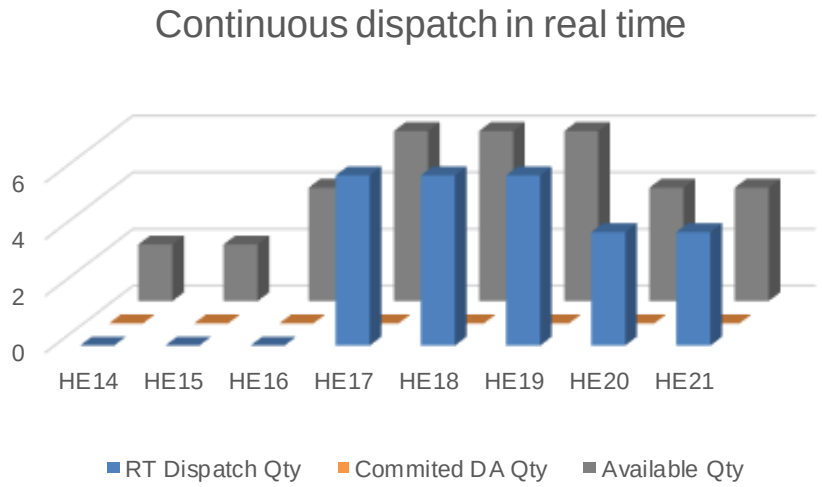
| Time | Topic | Presenter |
|---|---|---|
| 3:00-3:10 | Welcome and Introduction | Brenda Corona |
| 3:10-3:40 | Infeasible Dispatch and Discrete RDRR Registration | Anja Gilbert |
| 3:40-3:45 | WEIM Governing Body Role | Anja Gilbert |
| 3:45-3:55 | Additional Q&A | Brenda Corona |
| 3:55-4:00 | Next Steps | Brenda Corona |

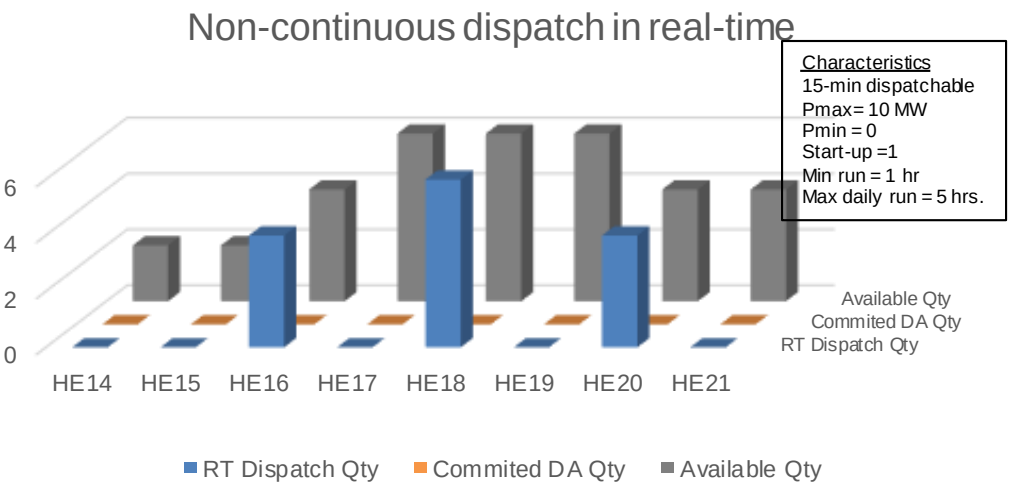
# CAISO Policy Initiative Stakeholder Process

# **TRACK 2:** INFEASIBLE DISPATCH PMIN RE-RATE

# Background: Real Time RDRR Continuous or Continuous Dispatch

- In real time RDRRs can be dispatched either continuously or non-continuously (also referred to as “infeasible” by market participants)
- In general, a resource operating at zero will be considered on-line, even at zero, unless it is at zero for the entire period



# Background Continued

- Today, with a $0/MWh minimum load cost (MLC) RDRR appears "free" and results in an infeasible dispatch
  - With CAISO's Summer Enhancements implemented, RDRR s more likely to be dispatched by the market
- CAISO first sought to fix the real time infeasible RDRR dispatch issue by examining if there were MLCs that could reflect RDRRs actual costs to reach minimum load
  - However, as the RDRR settlement outlines, RDRR is not "price responsive" but is economically dispatched once triggered
  - In addition, the retail tariffs that underpin RDRR do not incorporate the concept of minimum load, only a single load level that must be reached

# Draft Final Proposal

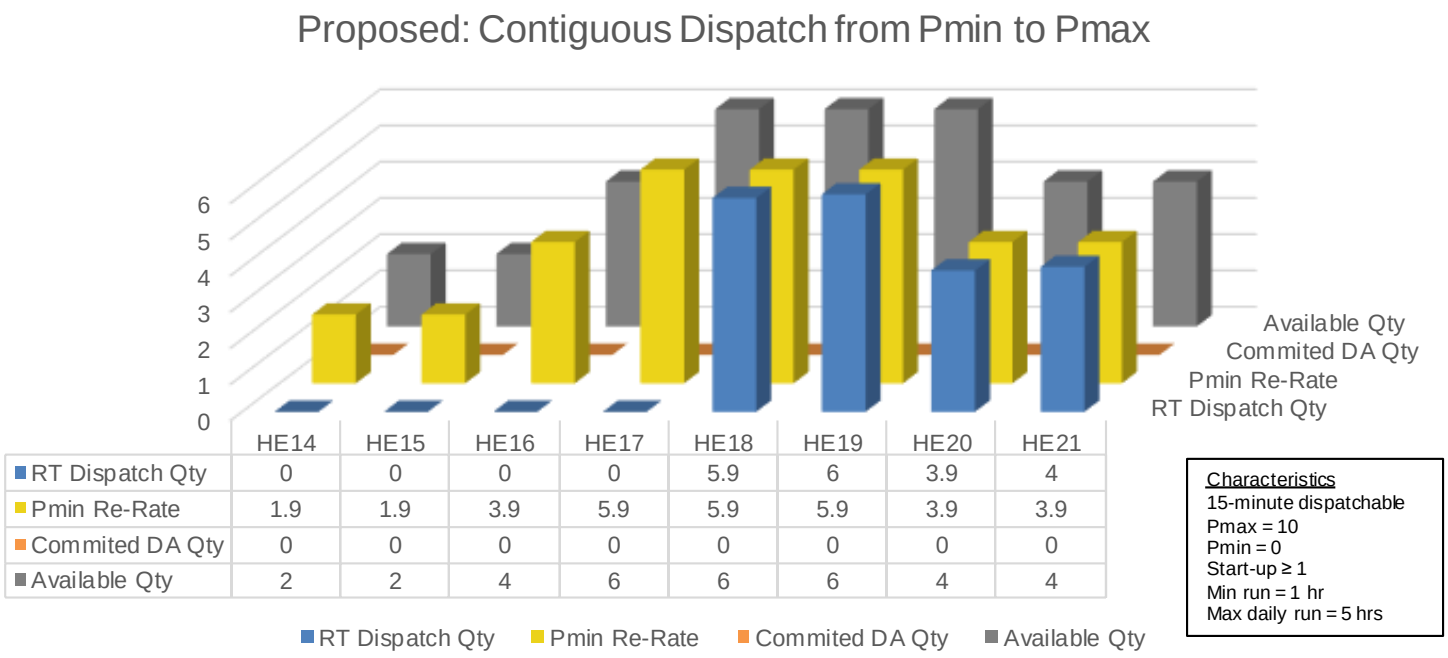
- The CAISO continues to propose to fix the infeasible dispatch issue in the optimization for discrete RDRR resources by:
  1. Setting the Pmin to a value just below the upper economic limit, using existing Pmin-rerate functionality
  2. Adding the value (bid price)*(economic limit) to the existing MLC

  This will enable the market to commit discrete RDRR, when RDRR is activated, like a generator with a non-zero Pmin
  - Pmin re-rate and MLC for pre-qualification of bid cost recovery will be published
  - Only 5-minute and 15-minute RDRR is eligible for BCR

# Example: Enabling contiguous dispatch

Process:

- Re-rate the minimum operating level (Pmin) to below the upper economic limit
- Set the minimum load cost to ($950/MWh) * (5.9MW) = $5,605 /hour




| | HE14 | HE15 | HE16 | HE17 | HE18 | HE19 | HE20 | HE21 |
|---|---|---|---|---|---|---|---|---|
| RT Dispatch Qty | 0 | 0 | 0 | 0 | 5.9 | 6 | 3.9 | 4 |
| Pmin Re-Rate | 1.9 | 1.9 | 3.9 | 5.9 | 5.9 | 5.9 | 3.9 | 3.9 |
| Commited DA Qty | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Available Qty | 2 | 2 | 4 | 6 | 6 | 6 | 4 | 4 |

Characteristics
15-minute dispatchable
Pmax = 10
Pmin = 0
Start-up ≥ 1
Min run = 1 hr
Max daily run = 5 hrs

In HE 18 when the resource is dispatched to 5.9 MW, their minimum operating limit of 5.9 and minimum load cost of $ 5,605 will be eligible for Bid Cost Recovery consideration.

# **TRACK 2:** RDRR DISCRETE CAP INCREASE

# Background: RDRR Discrete Cap

RDRRs may register as either continuous or discrete, depending on their abilities:

- Continuous (non-discrete) registration indicates that a resource can operate anywhere between its Pmin and Pmax, based on the cleared bid quantity. There is no MW cap on continuous RDRR
- Discrete registration indicates the resource has one bid segment and when dispatched will generate to its Pmax. There is a 50 MW cap on discrete RDRR

Stakeholders have requested CAISO increase/remove the current 50MW cap for discrete RDRR registration:

- RDRRs either operate together in one sub-LAP but due to the 50 MW cap are forced to be represented separately, or are larger than 50MW and cannot be split due to safety and operational reasons

# RDRR Discrete Cap: Discrete to Continuous Issues

- Imbalance Issues:
  - Discrete resources are treated as continuous in the pricing run and discrete in the scheduling run
  - The market may need to dispatch a resource at 5MW when in reality the resource can be at 50MW
  - In aggregate, this can create an imbalance that would then need to be absorbed in the CAISO's system through ACE or regulation
- Pricing Issues:
  - When a discrete resource sets prices in the pricing run, it will generally set a higher price than the price that the final, most expensive continuous resource dispatched in the scheduling run would have set
  - These final continuous resources have the incentive to deviate up from the ISO's dispatch

# Pmin Re-Rate Interaction with Discrete Registration

- The imbalance issue identified as a challenge with increasing the cap is mitigated if the Pmin re-rate functionality is implemented
- The Pmin re-rate changes what the pricing run sees as available and largely eliminates the imbalance between the pricing run and scheduling run
- For example, if we have a 50 MW RDRR:

| | Pricing Run Sees | Scheduling Run Dispatches | Potential Imbalance |
|---|---|---|---|
| Without Pmin Re-Rate | Continuous 0-50 MW<br>May pick up 5 MW | 50 MW | 45 MW |
| With Pmin Re-Rate | Continuous 49.9- 50 MW<br>May pick up 49.9 MW | 50 MW | 0.1 MW |

# Draft Final Proposal:

- The CAISO is proposing to increase the discrete RDRR cap to 100 MW, conditional on the Pmin re-rate functionality implementation.
- Any resource larger than 100 MW may apply for an exception. These resources must submit an affidavit as a part of the Master File registration process that attests:
  - The RDRR resource is located at a single site;
  - The RDRR load cannot be safely or operationally split;
  - The RDRR does not have the ability to operate continuously based on the source of load providing curtailment; and
  - To the type of load or technology providing load curtailment during RDRR events.
- Approval of any exceptions will be conditional on the affidavit, any supporting information, and CAISO's assessment if there is potential for detrimental market or operational impacts associated with allowing these resources to register above the 100 MW cap.

# WEIM GOVERNING BODY ROLE

# The WEIM Governing Body will have joint authority on RDRR Bidding Enhancements

- This bifurcated initiative proposes changes the representation of RDRR in the CAISO's market.

- As WEIM balancing authority areas may use the RDRR model, assuming they have approval from their local regulatory authority and meet the requirements of RDRR participation, this initiative is under joint WEIM authority.

- Stakeholders are encouraged to submit a response to the WEIM classification of this initiative in their written comments.

# NEXT STEPS

# Timeline

| Date | Milestone |
|---|---|
| 3/16/20222 | Stakeholder conference call on draft final proposal |
| 3/25/2022 | Stakeholder comments due on draft final proposal |
| 4/12/2022 | Publish final proposal and draft tariff language |
| 4/18/2022 | Stakeholder conference call on final proposal and draft tariff language |
| 4/28/2022 | Comments due on final proposal and draft tariff language |
| 5/10/2022 | EIM Governing Body |
| 5/12/2022 | Board of Governors Meeting |

# Comments

- Stakeholders are asked to submit written comments by March 25, 2022 through the commenting tool.
- A comment template will be posted on the CAISO's initiative webpage here: https://stakeholdercenter.caiso.com/StakeholderInitiatives/Reliability-demand-response-resource-bidding-enhancements