



# **DSGS Program Staff Workshop**

Draft Demand Side Grid Support (DSGS) Program Guidelines, Second Edition



April 26, 2023



# Introduction and Agenda

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- **Program Background**
- **Proposed Modifications to DSGS Guidelines**
- **Next steps**
- **Q&As**
- **Public Comment**

- Q&A: Zoom Q&A function
- Comments: Zoom “Raise Hand” function
  
- CEC Docket 22-RENEW-01



# Approach to DSGS Expansion

## Phased Approach to Accommodate Policy, Market and Operational Complexity

<b>2022</b>	<b>Phase 1:</b> Expedited Development and Launch
<b>2023</b>	<b>Phase 2:</b> <ul style="list-style-type: none"><li>• Incorporate lessons learned to streamline and simplify participation and test approaches to maximize DR</li><li>• Prepare for 2024 and beyond<ul style="list-style-type: none"><li>• Explore and resolve policy tensions and operational complexities across multiple utilities, programs and balancing areas</li><li>• Secure a third-party administrator to streamline and modernize procedures and evaluation</li></ul></li></ul>
<b>2024 &amp; Beyond</b>	<b>Phase 3:</b> <ul style="list-style-type: none"><li>• Scale</li><li>• Unlock &amp; grow cleaner resources for Strategic Reliability Reserve</li></ul>



# Policy Goals and Considerations

## Develop a Program Design to:

- **Ensure Resource Adequacy** and CAISO wholesale market participation over emergency programs
- Maximize **incremental capacity** and load reduction from demand-side resources
- Ensure **high performance** under peak & critical conditions
- Promote regular & **active participation** of clean resources in wholesale energy markets
- Provide **alternative pathway** for non-ISO customers and customers facing integration barriers
- **Grow DR and DER** markets
- Provide **incentive parity** between resource types
- **Simplify administration** during and after emergencies
- Reduce **ratepayer impacts**
- **Minimize combustion** resource use outside of emergency conditions



# Comments from the Dais



# Target Timetable for DSGS

Target Dates (Subject to Change)	Milestone
April 20, 2023	<ul style="list-style-type: none"><li>• Draft Proposed DSGS Guidelines 2<sup>nd</sup> edition Released</li></ul>
April 26, 2023	<ul style="list-style-type: none"><li>• Workshop</li></ul>
May 2023	<ul style="list-style-type: none"><li>• Public comments due May 11<sup>th</sup> by 5:00pm</li><li>• Continued collaboration with CPUC and CAISO</li><li>• Staff consideration of comments and revisions</li><li>• Release revised draft modified guidelines</li></ul>
June 2023	<ul style="list-style-type: none"><li>• CEC consideration of modified guidelines at business meeting</li></ul>
Summer 2023	<ul style="list-style-type: none"><li>• DSGS Program Guidelines 2<sup>nd</sup> Edition effective</li><li>• CEC to notify interested parties when incentive options are available for participant enrollment</li></ul>



# **Proposed Modifications to DSGS Program Guidelines**



# Program Eligibility (Chapter 2.A)





# Program Eligibility – DSGS Providers (Chapter 2.A.1)

## Current Guidelines

- POU's
- Federal Power Marketing Administrations

## Proposed Modifications

- All Retail Suppliers
- Federal Power Marketing Administrations
- Aggregators of Customers\*

\*Aggregators of customers must get **prior written permission from POU's and CCAs** before enrolling customers and **notify IOUs in writing of intent to enroll** customers



# Program Eligibility – DSGS Participants (Chapter 2.A.2)

## Current Guidelines

- All POU and Federal Power Marketing Administration customers
- Cannot be eligible to participate in a CPUC DR and emergency load reduction program

## Proposed Modifications

- All POU and Federal Power Administration customers
- The following CCA and IOU customers:
  - Participating with backup generators
  - Participating through incentive Option 2 or Option 3
  - Water agencies (water utilities, wastewater facilities, irrigation districts)
- Not enrolled in a CPUC emergency load reduction program

\*DSGS providers may include additional eligibility requirements



# **Incentive Option 1: Standby and Energy Payment (Chapter 3)**



# Incentive Option 1: Standby and Energy Payment (Chapters 3.A and 3.B)

<b>Incentive Amount</b>	Energy Payment: \$2 per kWh Standby Payment: \$0.25 per kWh  Reimbursement for incremental increases in customer demand charges that result from participation in the program and are <b>incurred during the billing period in which a DSGS Program event occurred</b> , if any
<b>Program Months</b>	<b>May 1</b> through October 31
<b>Program Hours</b>	<b>No limitation</b>



# Incentive Option 1: Standby and Energy Payment (Chapter 3.D)

## Current Guidelines

- Non-combustion resources dispatch at EEA 1
- Combustion resources dispatch at EEA 2

## Proposed Modifications

- Non-combustion resources dispatch at EEA Watch
- Combustion resources dispatch at EEA 2 unless authorized to dispatch at a lower EEA level in an executive order



# Incentive Option 1: Standby and Energy Payment (Chapter 3.E)

- Standby and Dispatch notification process clarified and updated to reflect direct participation

## Day Ahead – EEA Watch or EEA 1 Issued

- Participants notified to be ready to potentially dispatch during time frame in EEA
- Participants can provide a standby commitment of estimated kWh available

## Day Of – EEA 1 Issued (no EEA Watch)

- Participants notified to be ready to potentially dispatch during time frame in EEA
- Participants can provide a standby commitment of estimated kWh available

## Day Of – EEA Watch or EEA 1 Time Frame

- Non-combustion resources dispatch

## Day Of – EEA 2 or EEA 3 Time Frame

- All resources dispatch



# **Incentive Option 2: Incremental DR Capacity (Chapter 4)**



# Incremental DR Eligibility

## California ISO

- Third-party DR aggregators\*, CCAs, and POUs
- Pathway designed for market-Integrated Proxy Demand Resources (PDRs)

## Non-ISO

- POUs, Third-party DR aggregators\*
- Custom proposal must be approved by CEC staff

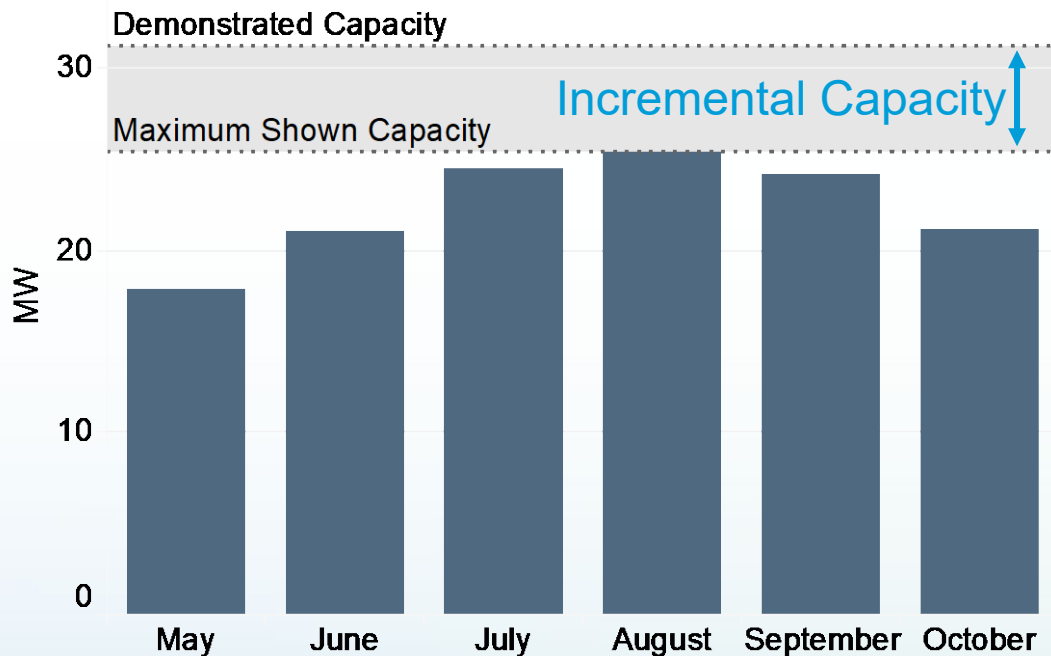
\*Third-party DR aggregators must receive POU permission to operate & enroll POU customers





# Incremental DR Incentives

## Incremental Capacity: Demonstrated – Max Shown RA



## Incentive Level:

- \$82,800 / MW-season
- Indexed monthly

Month	Capacity Value
May	\$9,000
June	\$9,300
July	\$16,800
August	\$18,000
September	\$19,200
October	\$10,500

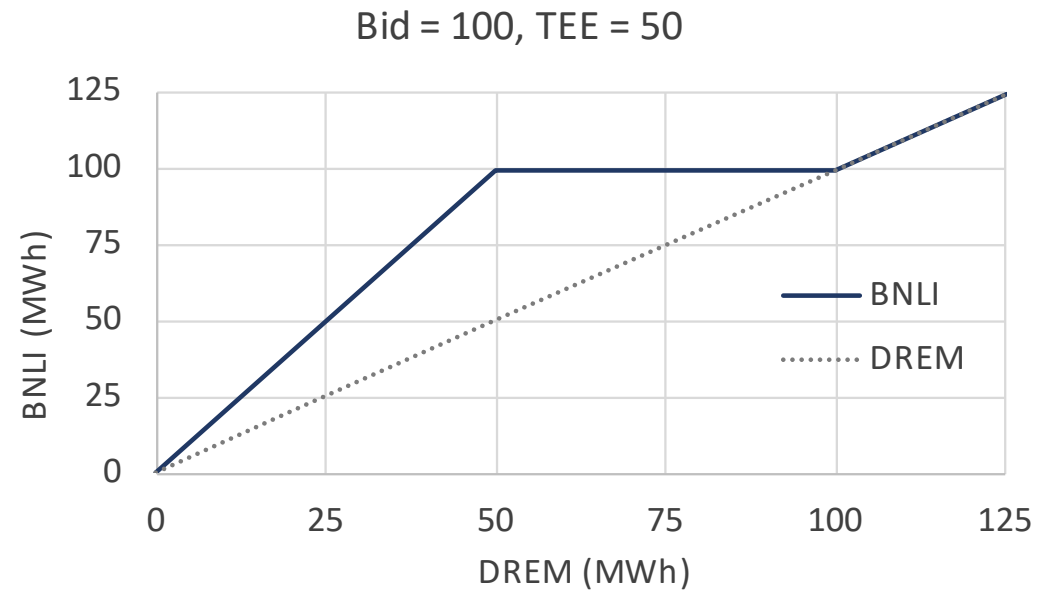


# 1. Hourly Performance

## Bid-Normalized Load Impacts

$$BNLI = \text{Max} \left( \text{Bid} \left( \frac{\text{Min}(TEE, DREM)}{TEE} \right), DREM \right)$$

- **Bid:** Bids + Self-Schedules (MWh)
  - Real Time Market
- **TEE:** Total Expected Energy (MWh)
- **DREM:** Demand Response Energy Measurement (MWh)
- Discard BNLI where  $TEE < 0.2\text{Bid}$



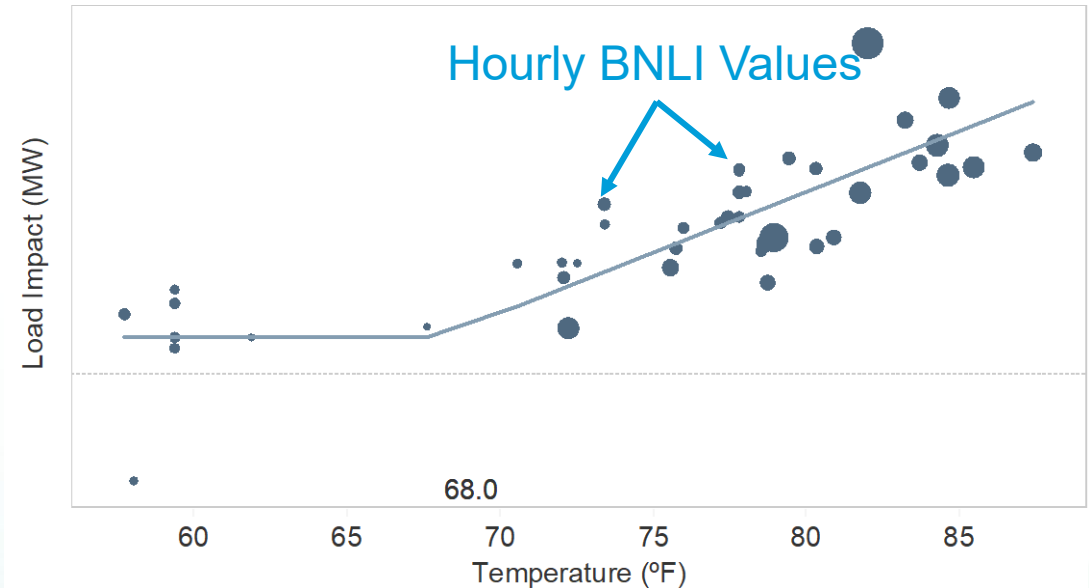


# 2. Load Impact Regression

## LMP-Weighted Regression

$$BNLI_h = \beta_0 + \beta_1 \max(Temp_h, C) + \varepsilon_h$$

- **Temp:** Average of daily high and low temperature for sub-LAP representative weather station
- **C:** Selection of highest R-squared from varying values of C
- **Weights:** Day-ahead Market Sub-LAP Locational Marginal Price



(N/A for non-weather-sensitive DR)

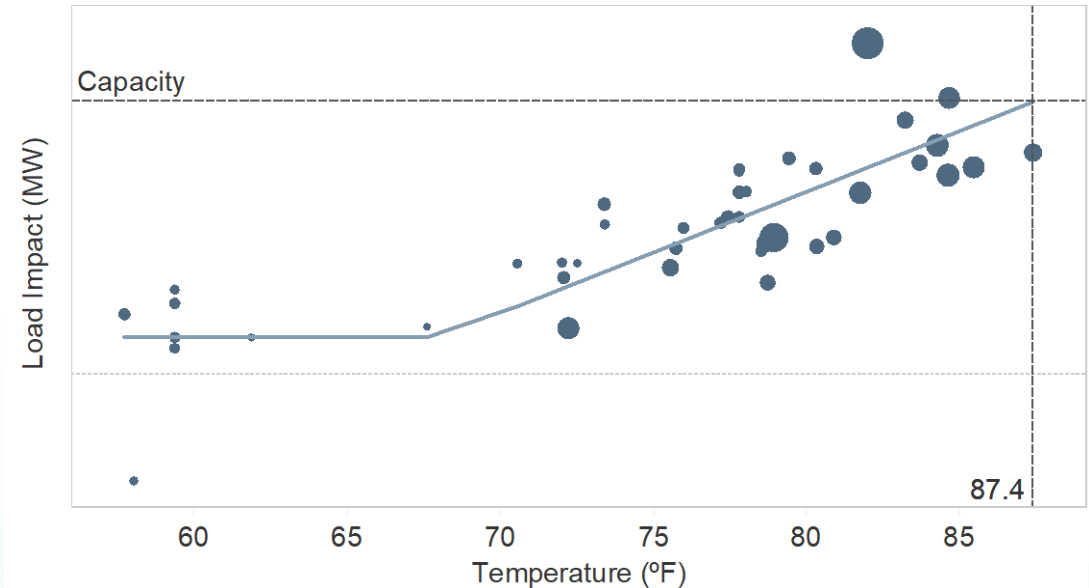


# 3. Demonstrated Capacity

- **Weather-Sensitive Resources:**  
Fitted value of regression at highest dispatch temperature

- **Non-weather-Sensitive:**

$$Capacity = \frac{\sum(BNLI_h LMP_h)}{\sum(LMP_h)}$$

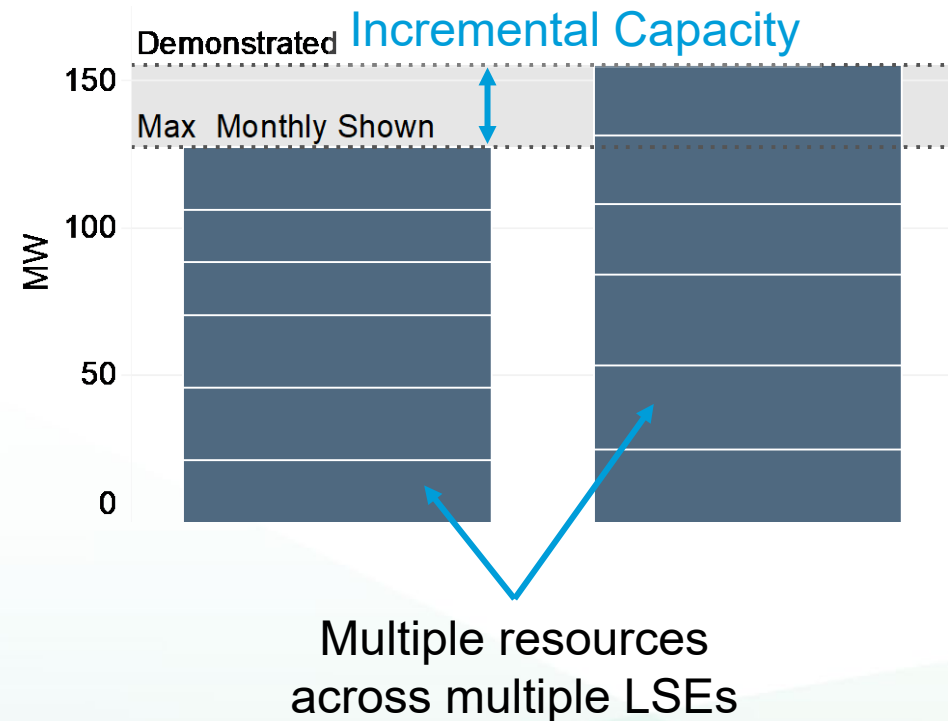




# 4. Calculate Incremental Capacity

**Incremental Capacity:**  
Demonstrated – Max Shown RA

- Monthly **Maximum Shown RA:**  
Sum resource capacity shown on supply plans across LSEs by month
  - Select month with highest total
- Total **Demonstrated** Capacity:  
Sum across resources





# **Incentive Option 3: Market-Aware BTM Storage (Chapter 4)**



# BTM Storage Provider Eligibility

## California ISO

- Third-party battery providers\*, CCAs, and POUs
- Pathway designed for response to California ISO market price signals
- Must be able to control or dispatch customer-sited batteries

## Non-ISO

- POUs, Third-party DR aggregators\*
- Custom proposal must be approved by CEC staff

\*Third-party DR aggregators must receive POU permission to operate & enroll POU customers



# BTM Storage Customer Eligibility

## Customer Requirements:

- $\geq 1$  kW, 2-hour battery
- Must follow all tariff and interconnection agreement provisions
  - Rule 21 compliance and verification

## Virtual Power Plant Requirements:

- $\geq 500$  kW nameplate capacity,  $\geq 2$ -hour discharge capability
- Estimate of VPP capacity before each participation month
- Same utility service territory
- Same nominated duration





# BTM Storage Incentives

## VPPs Defined by Nominated Duration

- Duration defines maximum event length for VPP

## Incentive Varies by Duration:

- 3-hour 90% of 4-hour  
2-hour 75% of 4-hour
- Indexed monthly

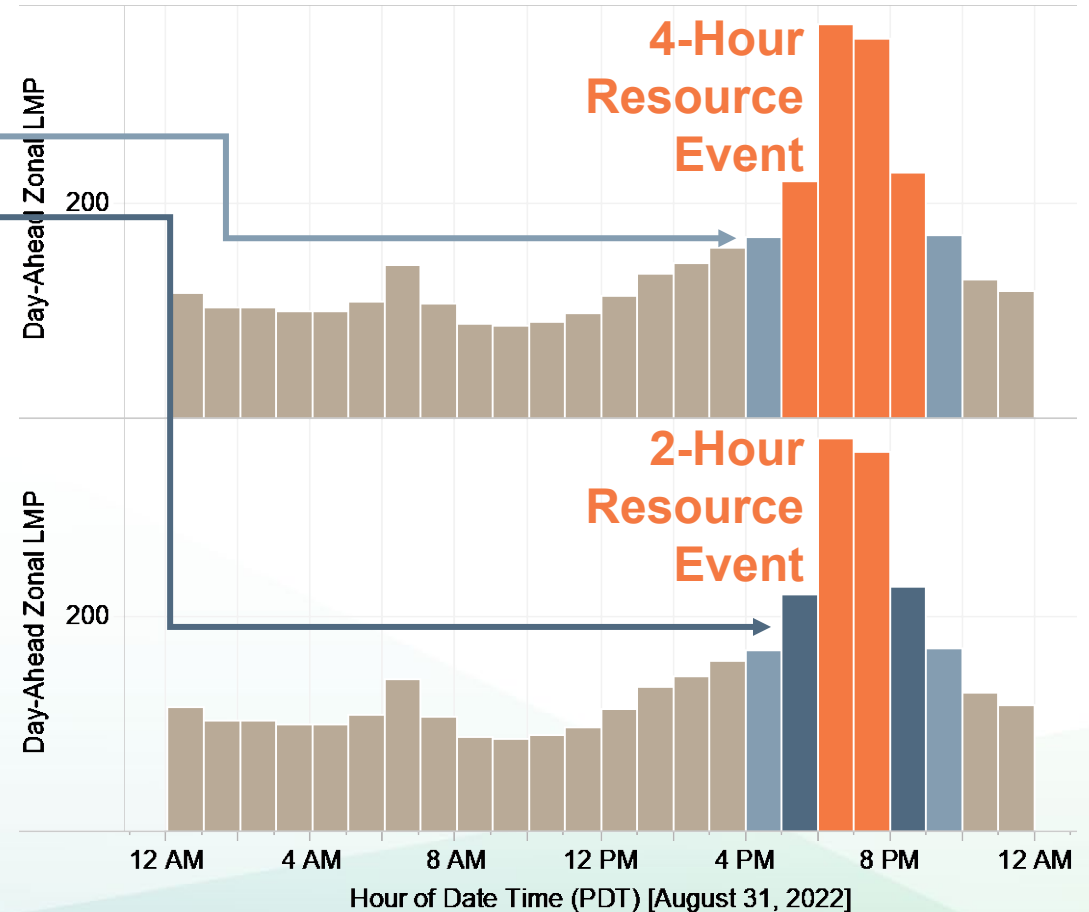
## Storage Incentives by Duration (\$/kW)

Month	4-Hour	3-Hour	2-Hour
May	\$9.00	\$8.10	\$6.75
June	\$9.30	\$8.37	\$6.98
July	\$16.80	\$15.12	\$12.60
August	\$18.00	\$16.20	\$13.50
September	\$19.20	\$17.28	\$14.40
October	\$10.50	\$9.45	\$7.88
<b>Season</b>	<b>\$82.80</b>	<b>\$74.52</b>	<b>\$62.10</b>



# Market-Aware Events

- **Event Definition:**
  - 4:00 p.m. – 10:00 p.m.
  - $LMP \geq \$200/MWh$
  - Hours with highest consecutive LMP over the VPP duration
- **LMP: Locational Marginal Price**
  - Day-Ahead Market (Hourly)
  - Path 15 Zone
    - NP15, SP15, or ZP26





# Measuring Performance

## Weighted Average of Performance During Events:

$$\frac{\text{sum}((\text{Discharge}_h - \text{Baseline}_h) \text{LMP}_h)}{\text{sum}(\text{LMP}_h)}$$

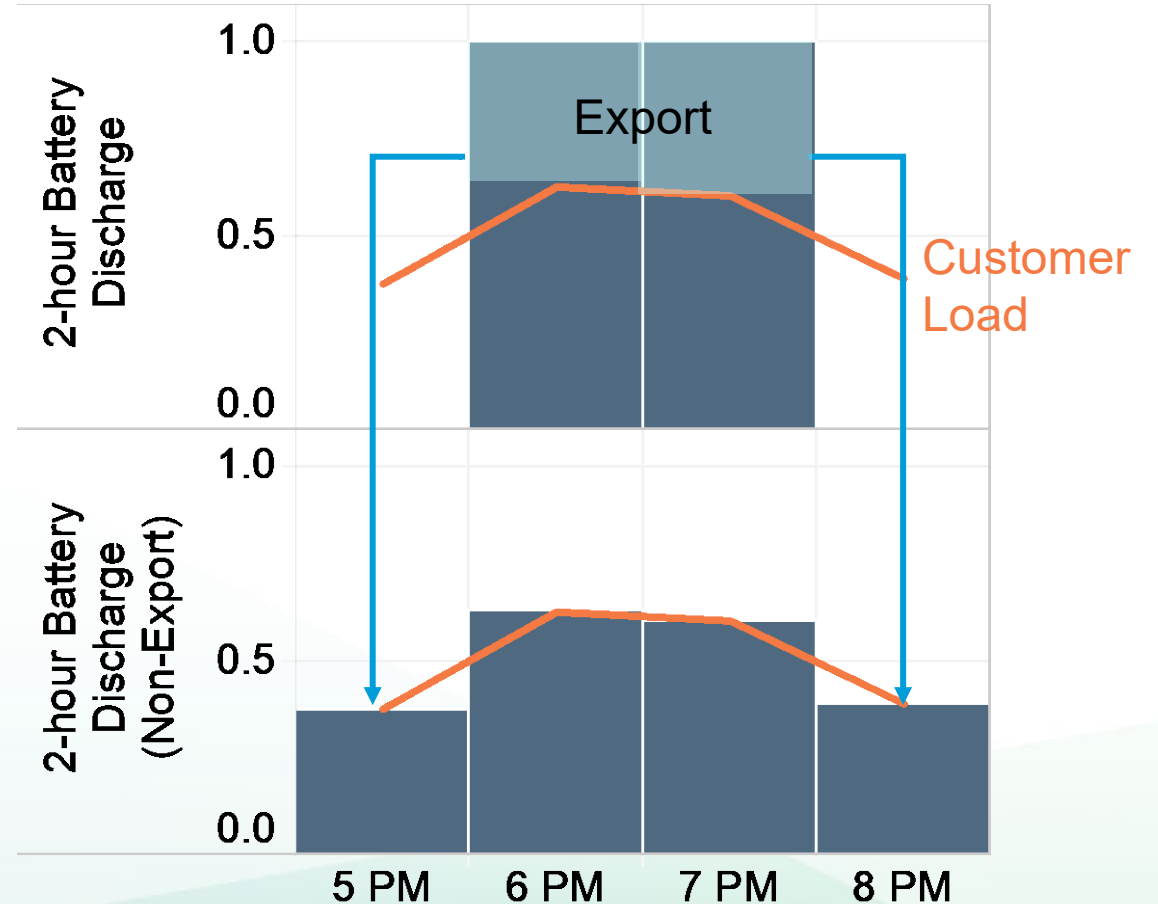
- Prescriptive Baseline:
  - Residential: 0.074 \* Energy Storage Capacity (kWh)
  - Non-Res: 0.028 \* Energy Storage Capacity (kWh)
- Measured at Inverter or Submeter
  - May serve BTM load or export
  - Subject to interconnection agreement
- Baseline Applicable if:
  - Permission-to-operate date before June 1, 2023
  - Or Receives SGIP funding



# Interconnection Agreement Compliance

## Aggregator must verify, provide, and comply with all applicable interconnection agreements

- CEC may withhold incentives from resources found to be in violation of interconnection agreements or tariffs
- Options for export and non-export resources
  - Example: 2-hour battery may participate as 4-hour resource





# Other Program Requirements





# DSGS Provider Enrollment Package (Chapter 2.C.1)

- Description of **how the DSGS provider will verify load-reduction resources** used by participants.
- Description of **how the DSGS provider will verify participant eligibility** prior to enrollment of participants.
- **Which DSGS incentive options** the DSGS provider will offer.
- If offering Incentive Option 1:
  - Description of how the DSGS provider will **implement the dispatch loading** order requirements
  - Description of **how the DSGS provider will verify actual incremental load reduction amounts**
- If offering Incentive Option 2 or Incentive Option 3:
  - Description of how the DSGS provider meets the **eligibility requirements** specific to the incentive option and **how the DSGS provider plans to implement the program**
- If the DSGS provider is an aggregator of customers:
  - A description of the **types of customers and load reduction resources** the DSGS provider plans to enroll and the **utility territories** in which the DSGS provider plans to operate
  - **Written permission from POUs and CCAs**
  - **Evidence of the notification to the IOU** of intent to enroll customers



# Participant Enrollment (Chapter 2.C.2)

- Direct Participation Eligibility:
  - Only for Incentive Option 1
  - Only if enrollment through participant's load-serving entity is not possible
  - The CEC will work with the participant's load-serving entity, as appropriate, to confirm eligibility within 10 business days.
- Participant Enrollment Package
  - Now includes information needed to verify participant eligibility with the load-serving entity



# Program Reporting (Chapter 2.D)

## Enrolled Participation Reports

- Updated to reflect direct participation and new incentive options
- Incentive Option 2
  - California ISO Resource ID(s) for all resources
  - Number of end-use customers and customer class, sector, or load type of customers for each Resource ID
- Incentive Option 3
  - Number of end-use customers and nameplate capacity in kW and storage energy capacity in kWh for each customer

## CARB Reports

- DSGS providers must determine with their participants who is responsible for submitting the reports
- Direct participants responsible for submitting the reports
- Incentive payments contingent on submitting the report





# Program Payments (Chapter 6)

## Proposed modifications:

- Provide a pathway for direct participants to submit claims for incentive payments
- Specify information required for incentive payments under Incentive Option 2 and Option 3
- No specific deadlines to submit: first-come-first-served
- Increase time frame to supplement an incomplete application from 5 business days to 10 business days
- Limit administrative costs to 5% of incentive payments if an electrical corporation



# Options 2 and 3 Claim Package (Chapter 6.C.2.a)

## Option 2

- Real-time market bids and self-schedules (in kWh) by Resource ID
- Total Expected Energy (kWh) by Resource ID
- Demand Response Energy Measurement (kWh) by Resource ID and by end-use customer (service account ID)
- Customer-weighted average of daily high and low temperature by dispatch

## Option 3 (for each participant)

- Participant service account ID
- Permission to operate date
- Indication of SGIP funding
- California ISO Path 15 Zone
- Hourly submetered or battery inverter charge and discharge data (kWh) for the entirety of each month participated



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# Questions for Feedback

- For utilities, do the guidelines include appropriate data to enable eligibility verification and dual enrollment checks?
- Are the incentive values appropriate to spur incremental load reduction while maximizing the value of the strategic reliability reserve?
  - Do you have suggestions for other reference points for capacity incentives?
- Do the guidelines ensure that recipients of incentives deliver appropriate value? For example,
  - Option 2: Should a bid cap be considered? If so, how much?
  - Option 3: Should a day-of trigger be considered?



# Q&A





# Public Comment

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## Zoom

- Use the “raise hand” feature to make verbal comments



## Telephone

- Dial \*9 to raise your hand
- \*6 to mute/unmute your phone line. You may also use the mute feature on your phone



## When called upon

- Your microphone will be opened
- Unmute your line
- Spell your name and identify your organization, then start your comment



# Thank You!

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**Additional Questions:** [DSGS@energy.ca.gov](mailto:DSGS@energy.ca.gov)

**Public Comment:** Docket No. 22-RENEW-01