

DOCKETED

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Project Title:	Reliability Reserve Incentive Programs
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Description:	Workshop touches on the program background, proposed modifications to the DSGS guidelines and next steps.
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DSGS Program Staff Workshop

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



April 26, 2023



Introduction and Agenda

- **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

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



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



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)

Incentive Amount	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 incurred during the billing period in which a DSGS Program event occurred , if any
Program Months	May 1 through October 31
Program Hours	No limitation



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

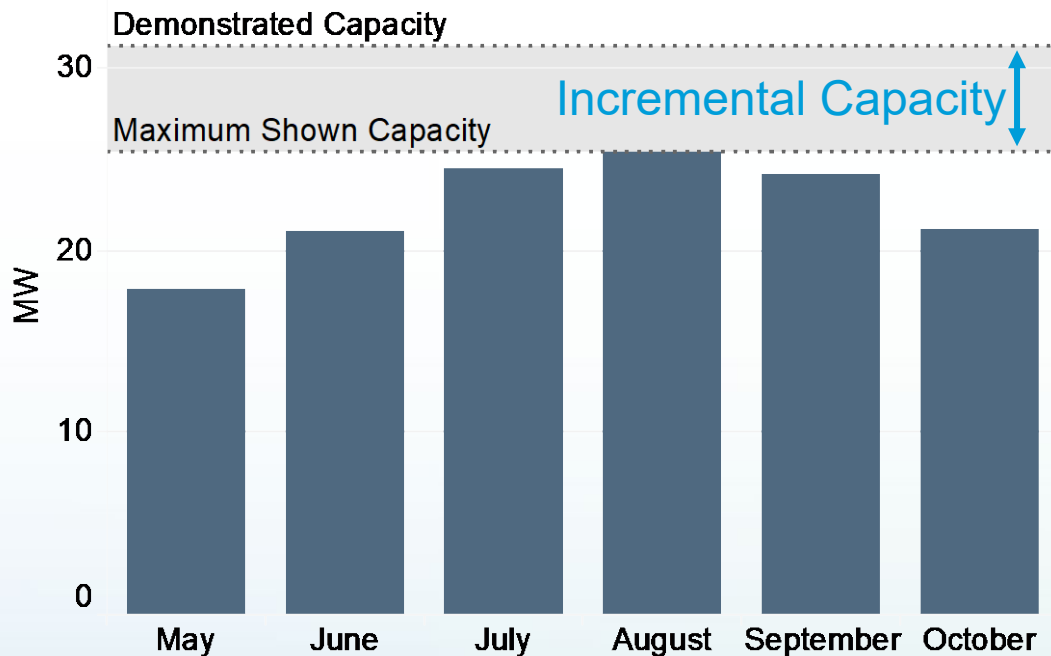
- POUs, Third-party DR aggregators*
- Custom proposal must be approved by CEC staff

*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

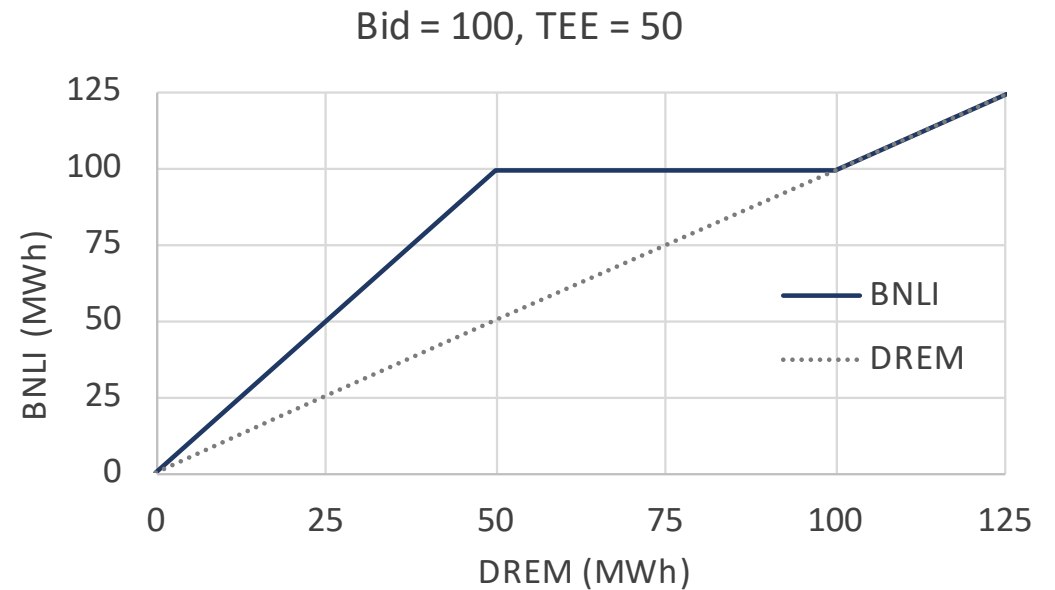


1. Hourly Performance

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 $TEE < 0.2\text{Bid}$



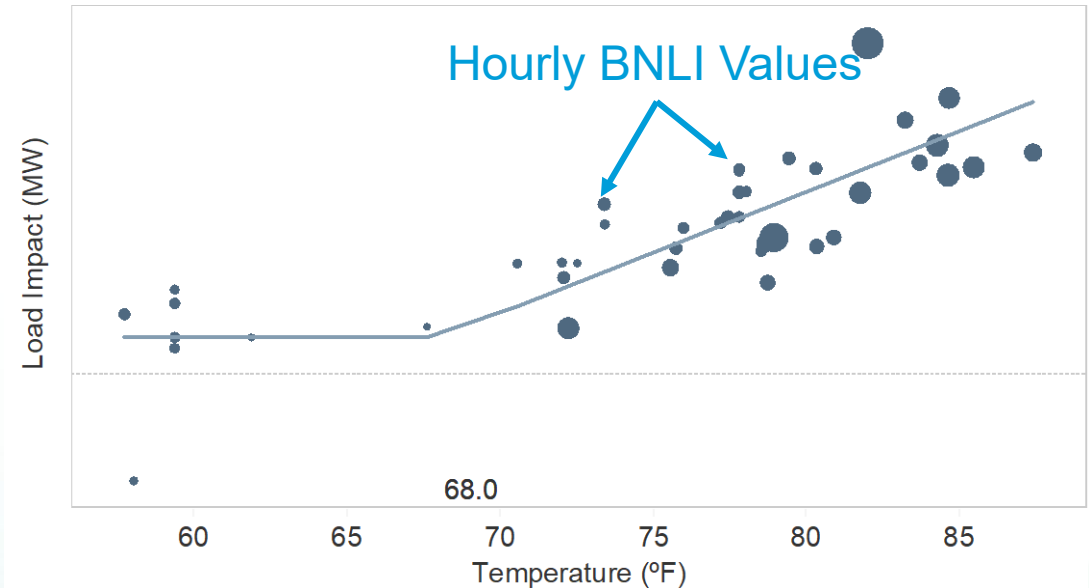


2. Load Impact Regression

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)

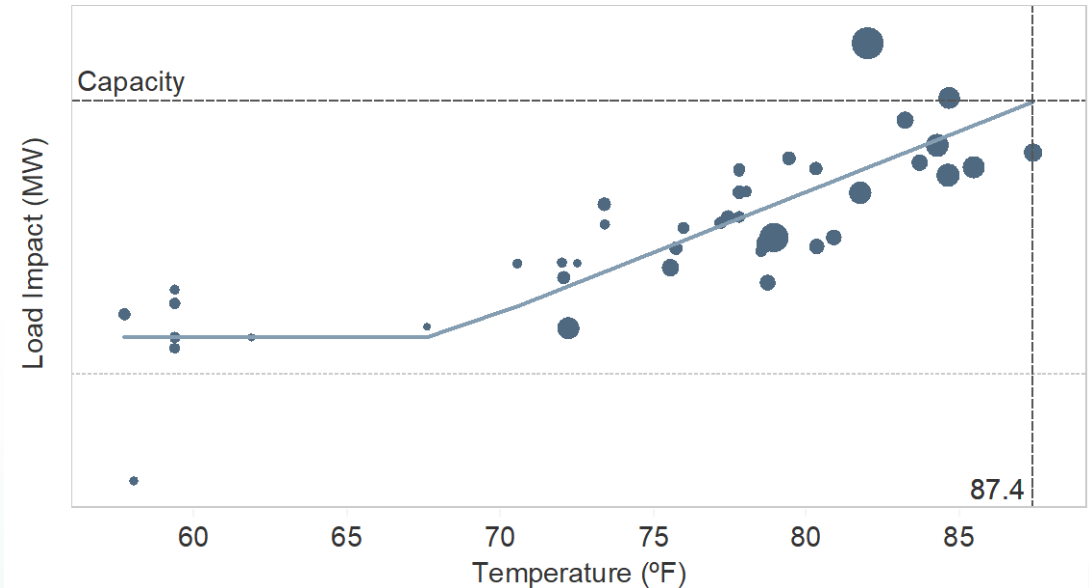


3. Demonstrated Capacity

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

- **Non-weather-Sensitive:**

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

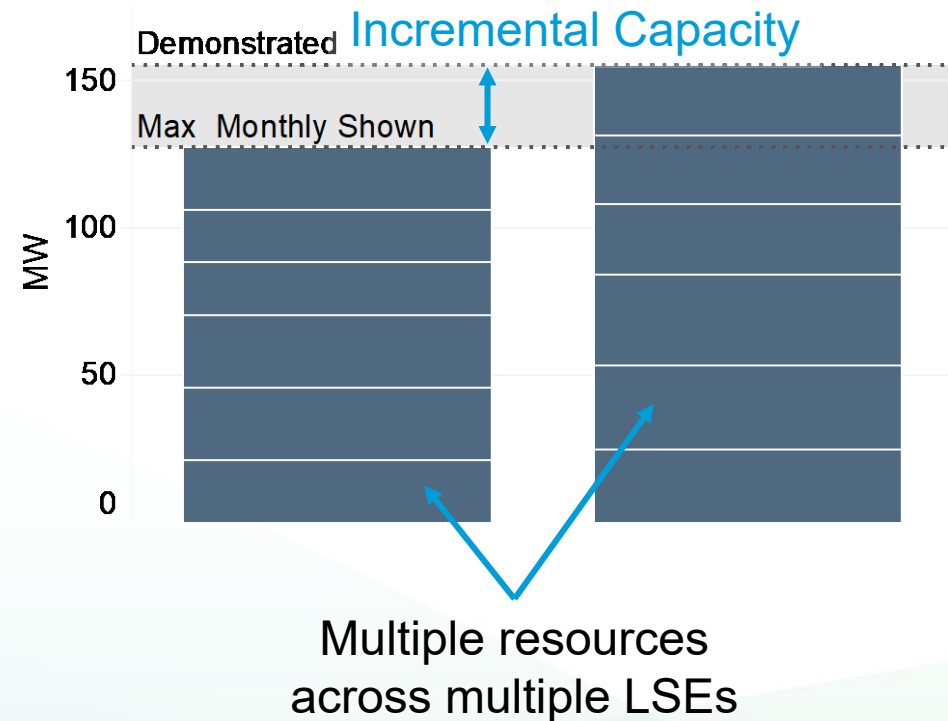




4. Calculate Incremental Capacity

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:

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

Virtual Power Plant Requirements:

- ≥ 500 kW nameplate capacity, ≥ 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

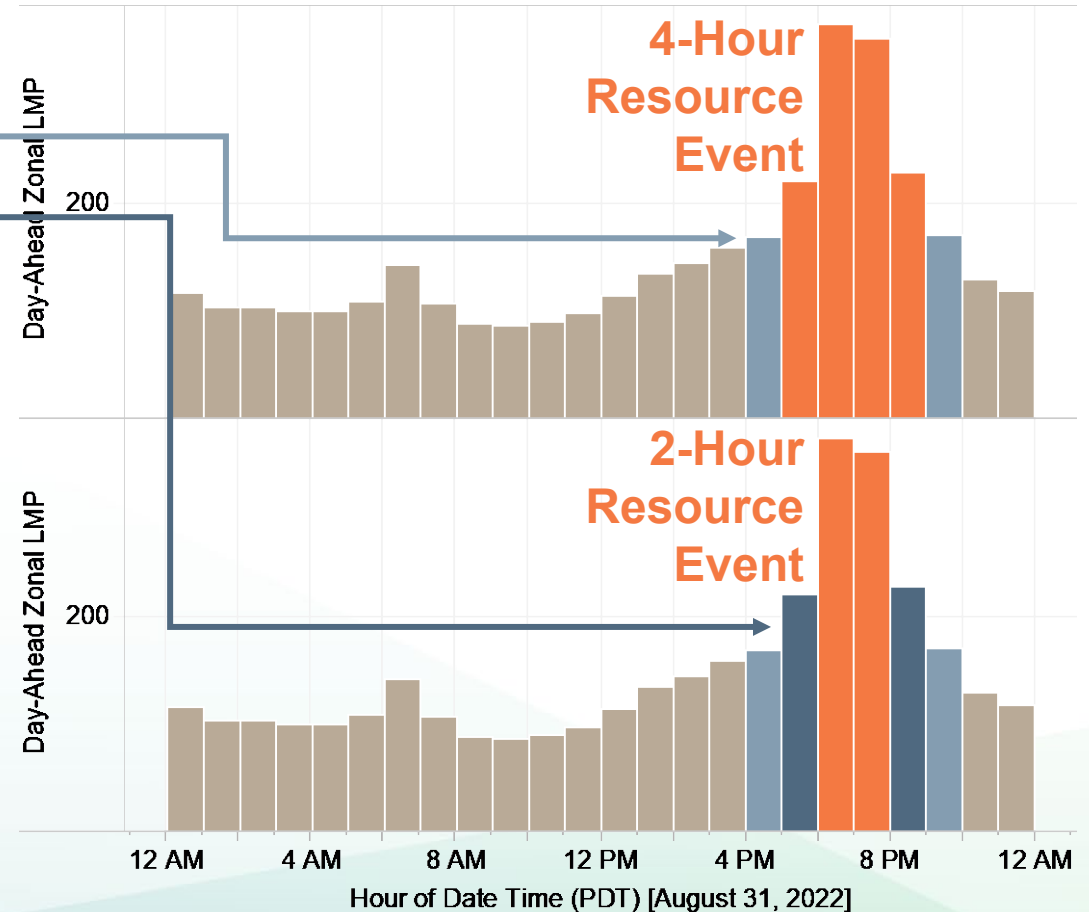
Storage Incentives by Duration (\$/kW)

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
Season	\$82.80	\$74.52	\$62.10



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:

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

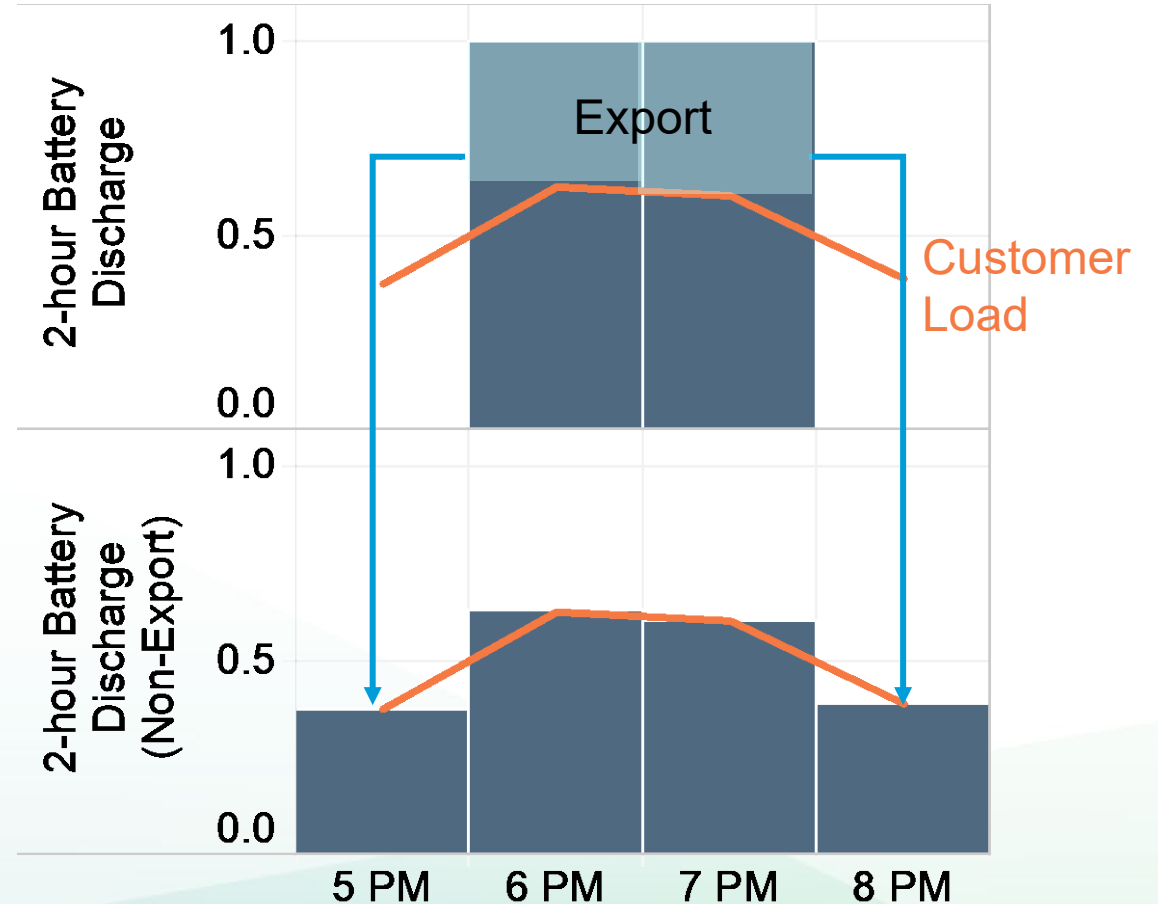
- Prescriptive Baseline:
 - Residential: 0.074 * Energy Storage Capacity (kWh)
 - Non-Res: 0.028 * Energy Storage Capacity (kWh)
- Measured at Inverter or Submeter
 - May serve BTM load or export
 - Subject to interconnection agreement
- Baseline Applicable if:
 - Permission-to-operate date before June 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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Early Summer 2023	<ul style="list-style-type: none">• DSGS Program Guidelines 2nd Edition effective• CEC to notify interested parties when incentive options are available for participant enrollment



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



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!

Additional Questions: DSGS@energy.ca.gov

Public Comment: Docket No. 22-RENEW-01