What to Know About Incentive Option 2 Claims

October 31st, 2023

Agenda

- Introduction/Background
- Option 2 Overview
- Review of Incentive Calculation
- Option 2 Claim Package Requirements
- Submitting Claim Packages
- Overview Payment Timeline
- Q & A

DSGS Provider Webinar Series

	Option 1	Option 2	Option 3
Date	11/7/2023 1pm-2pm	10/31/2023 1pm-2pm	10/19/2023 1pm-2pm
Topic	Standby and Energy Payments	Incremental Market-Integrated Demand Response Capacity Pilot	Market-Aware Behind-the-Meter Battery Storage Pilot
Target Audience	DSGS Option 1 Providers	DSGS Option 2 Providers	DSGS Option 3 Providers

Option 2 Overview

- Incentive payments are based on one seasonal demonstrated capacity value that is incremental to resource adequacy capacity commitments
- Incremental demonstrated capacity is the difference between the demonstrated capacity calculated for the resource under DSGS guidelines and that resource's highest resource adequacy commitment (highest water mark to highest water mark)
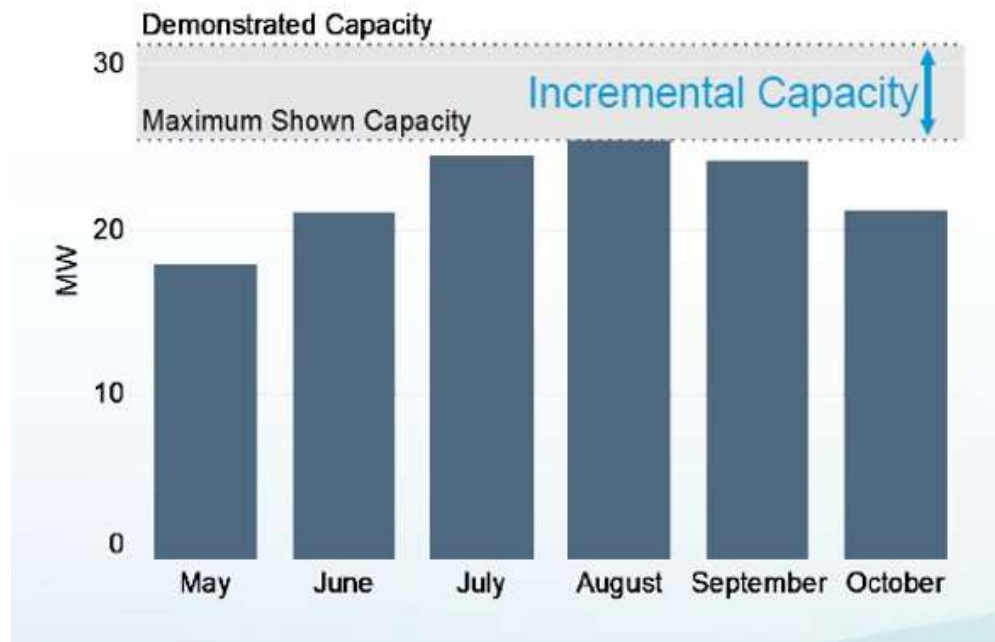
Reference Chapter 4 Section E of the DSGS Guidelines for more information on incremental demonstrated capacity calculations.

Option 2 Overview

Incremental DR Capacity Prices by Month ($/MW)

- The DSGS incremental DR capacity prices vary by month
- Demonstrated capacity is determined based on resource availability and energy delivered during awarded event hours in the defined daily availability window (4-10pm)
- Resources must show availability by bidding into the real-time market for 3 consecutive hours during the availability window each day between May 1 and October 31
- Resources will incur a 0 for any intervals in which the resource does not meet the daily bidding requirement
- DRPs are also responsible for develop enough dispatches in each month to construct a demonstrated capacity model
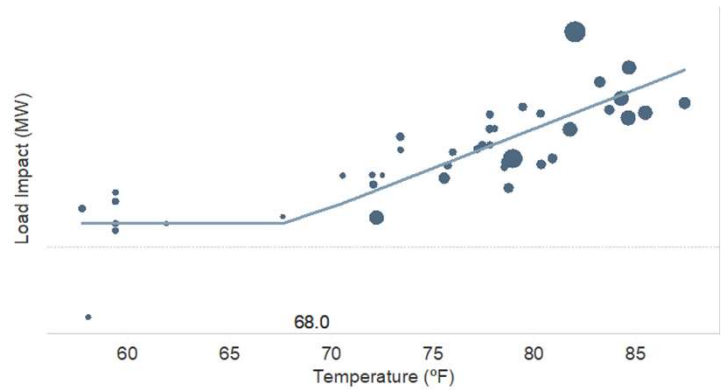
Month	Capacity Value ($/MW)
May	$9,000
June	$9,300
July	$16,800
August	$18,000
September	$19,200
October	$10,500
Total	**$82,800**

Reference Chapter 4 Section E of the DSGS Guidelines for more information on incremental demonstrated capacity calculations.

Option 2 Aggregation Characteristics Determined by Provider

Weather sensitivity

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

Figure 4: Graphical Illustration of ISO Sub-LAPs

Resource Aggregation

Reference Chapter 4 Section E of the DSGS Guidelines for more information on incremental demonstrated capacity calculations.

Review of Incentive Calculation - Aggregate Level Inputs

| Input Symbol	Equation	Description
Offer	$$Offer_{a,h} = \sum_{r=1}^{n} Bid_{r,h} + SelfSched_{r,h}$$	The real-time bid quantity at a price no greater than $600/MWh plus self-schedules during each hour. The offer value for aggregation *a* (consisting of n Resource IDs *r*, where $n \geq 1$) in hour *h*.
DREM	$$DREM_{a,h} = \sum_{r=1}^{n} \sum_{i=1}^{12} DREM_{r,h,i}$$	*DREM* is the delivered energy value (MWh) determined in CAISO settlement processes. DREM for aggregation *a* (consisting of n Resource IDs *r*, where $n \geq 1$) in hour *h* over all 5-minute intervals *i*.
TEE	$$TEE_{a,h} = \sum_{r=1}^{n} \sum_{i=1}^{12} TEE_{r,h,i}$$	*TEE* is the total expected energy (MWh) an aggregation is expected to deliver to the CAISO based on real-time market schedules. TEE for aggregation *a* (consisting of n Resource IDs *r*, where $n \geq 1$) in hour *h* over all 5-minute intervals *i*.
Temp	$$Temp_{a,d} = \frac{\sum_{c=1}^{n} \frac{1}{2}\left(TMax_{c,d} + TMin_{c,d}\right)}{n}$$	*Temp* is defined on a daily basis, based on the average high and low temperatures across all customers participating in the aggregation. The *Temp* value for aggregation *a* (which may consist of one or more Resource IDs within a single sub-LAP) on date *d*, where *c* is the index for customers dispatched on date *d* and *n* is the number of customers.

Review of Incentive Calculation - Equations

Determine Bid Normalized Load Impact (BNLI)

$$BNLI_h = \text{Max}\left(Offer_h\left(\frac{\text{Min}(DREM_h, TEE_h)}{TEE_h}\right), DREM_h\right)$$

For Weather Sensitive Resources:
Determine the equation that describes the BNLI relationship to temperature (*estimated BNLI*)
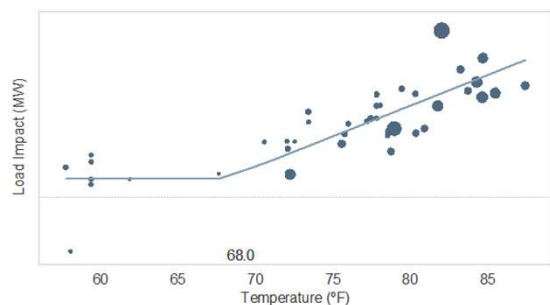
Source: CEC staff analysis

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

For Non-Weather Sensitive Resources:
Determine the equation that describes the BNLI relationship to temperature

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

Example Weather Sensitive Incentive Calculation - Setup

- **Resource ID:** PGF1_1_PDRP28
- **Offer:** 2 MW, 5-8pm, 7 days/week, $550/MWh
- **Event History:**
  - 7/3 18-20
  - 7/26 18-20
  - 8/16 19-20
  - 9/6 18-20
  - 9/7 19-20

Example Weather Sensitive Incentive Calculation - Step 1 Determine BNLIs

$$BNLI_1 = Max(Offer_1*(Min(DREM_1, TEE_1)/TEE_1), DREM_h)$$
$$BNLI_1 = Max(2*(Min(1.5, 1)/1), 1.5) = Max(2*(1/1), 1.5)$$
$$BNLI_1 = 2$$

Event Hour Index	Event Hour	Offer	DREM	TEE	BNLI
1	7/3 HE 19	2	1.5	1	2.00
2	7/3 HE 20	2	2.25	2	2.25
3	7/26 HE 19	2	2.5	2	2.50
4	7/26 HE 20	2	1.75	1.5	2.00
5	8/16 HE 20	2	1.5	1.75	1.71
6*	9/6 HE 19	2	1	0.25	-
7	9/6 HE 20	2	2.5	2	2.50
8	9/7 HE 20	2	3	2	3.00

*When TEE <0.2 * Offer then the event shall be omitted from the calculation of demonstrated capacity*

Example Weather Sensitive Incentive Calculation - Step 2 Determine the Equation of Estimated BNLI as a function of temperature

BNLI vs. Temp

● BNLI (MWh) — 0.0688*x + -3.28

BLNI(t) = 0.069t - 3.28, where t = temperature
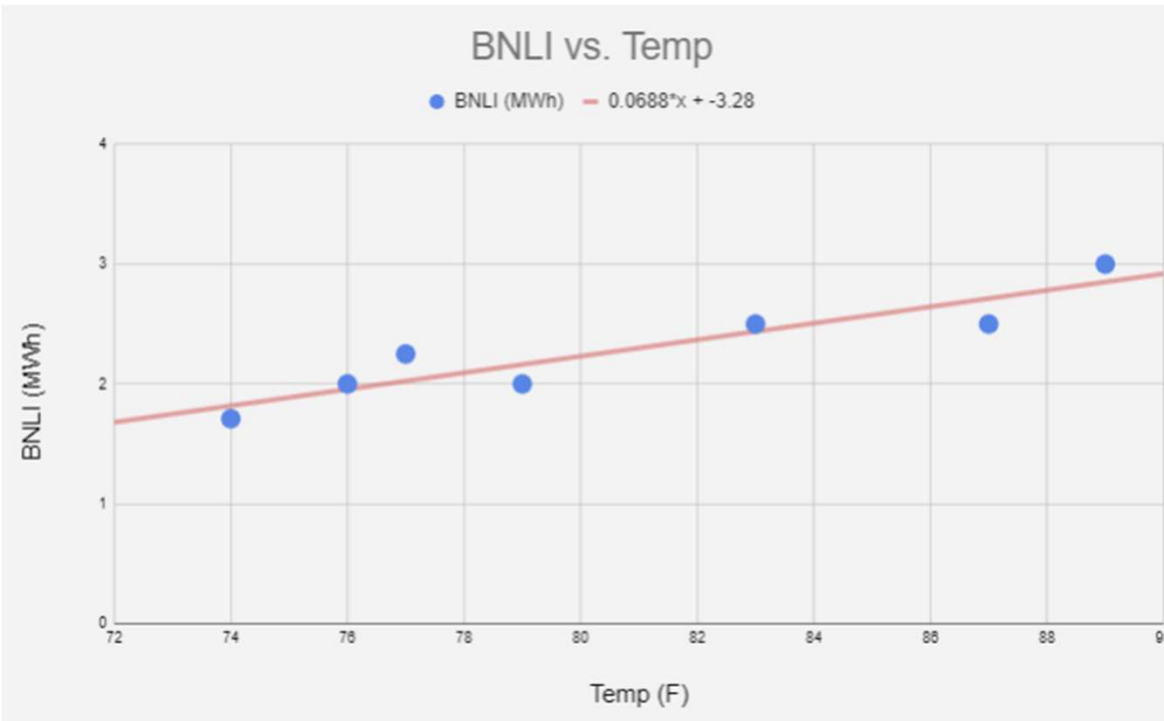
Event Hour Index	BNLI	Temp	$/MWh
1	2.00	76	750
2	2.25	77	750
3	2.50	87	750
4	2.00	79	750
5	1.71	74	750
6	-	81	750
7	2.50	83	750
8	3.00	89	750

Example Weather Sensitive Incentive Calculation - Step 3 Determine Demonstrated Capacity from BNLI Profile
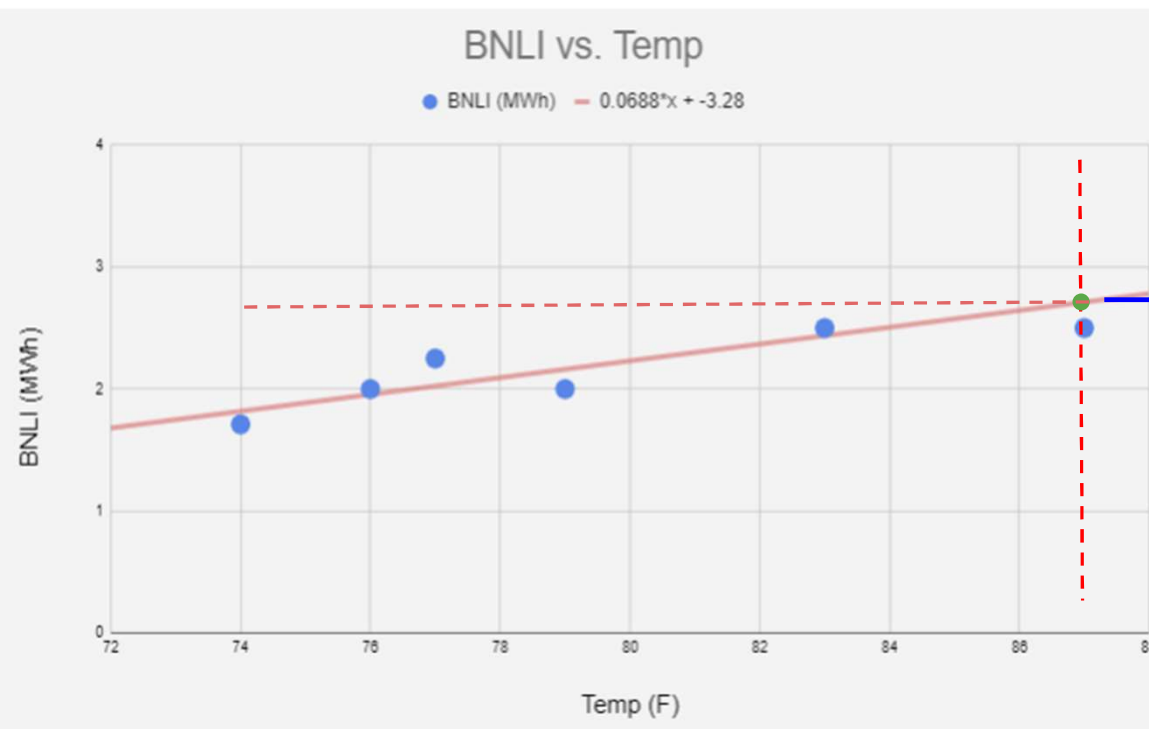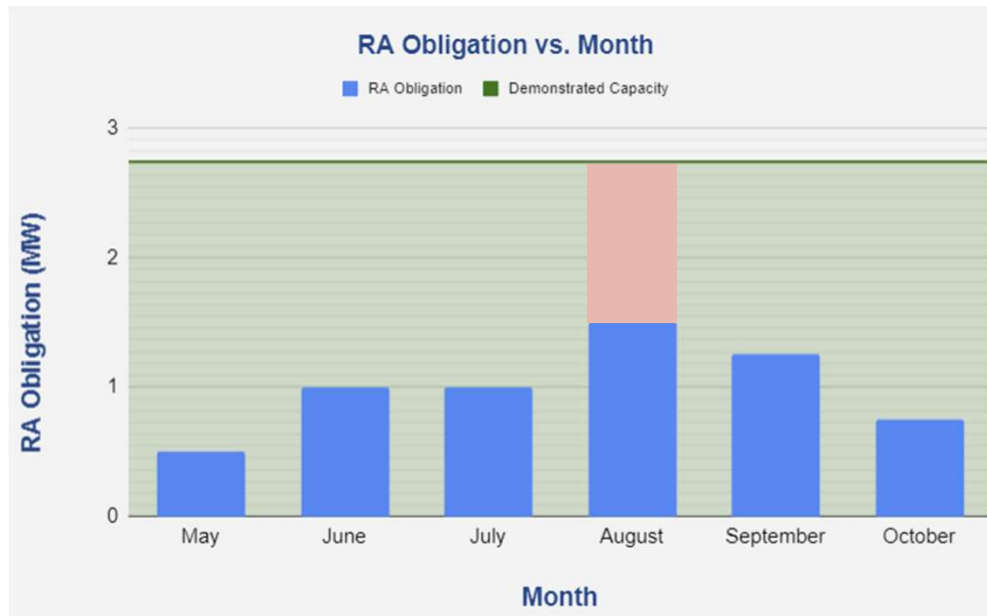

Demonstrated Capacity = 0.068*X - 3.28
Demonstrated Capacity = 0.068(89) - 3.28
Demonstrated Capacity = 2.77 MW

Example Weather Sensitive Incentive Calculation - Step 4 Determine Incremental Demonstrated Capacity

Demonstrated Capacity = 2.77 MW
Incremental Demonstrated Capacity = 2.77 - 1.5 = 1.27 MW

RA Obligation vs. Month

Month	RA Obligation (MW)
May	0.5
June	1.0
July	1.0
August	1.5
September	1.25
October	0.75

Example Weather Sensitive Incentive Calculation - Step 5 Determine Overall Incentive

Incremental DR Capacity Prices by Month ($/MW)

Incremental Demonstrated Capacity = 1.27 MW

Overall Incentive = 1.27 MW * ($16,800 + $18,000 + $19,200 / MW)
***Note that only July, August, and September will be incentivized given the resource's participation in the 2023 season.

Overall Incentive with 30% bonus = $68,580 * 1.3

Overall Incentive = $89,154.00

Month	Capacity Value ($/MW)
May	$9,000
June	$9,300
July	$16,800
August	$18,000
September	$19,200
October	$10,500
Total	**$82,800**

Option 2 Claim Package Requirements

Option 2 providers will submit claims at the end of the season initiating the incentive payment process for all aggregations they have enrolled in DSGS.

The Option 2 Claim Package includes:

- DSGS provider name and primary contact for claim communications. This contact information should include name, title, email address, and phone number
- Reporting period applicable for each aggregation
- Payee data record (STD-204). If the designated payee has already submitted a complete STD-204 form with a prior reimbursement claim and has received a payment within the past year from the CEC, a new STD-204 is not needed.
- Aggregation details, if not electing to have performance calculated at Resource ID level
- Selection of whether each aggregation is weather sensitive
- Signed attestation, submitted under penalty of perjury, as to the accuracy and completeness of the information submitted and agreeing to the terms and conditions of the DSGS program guidelines.
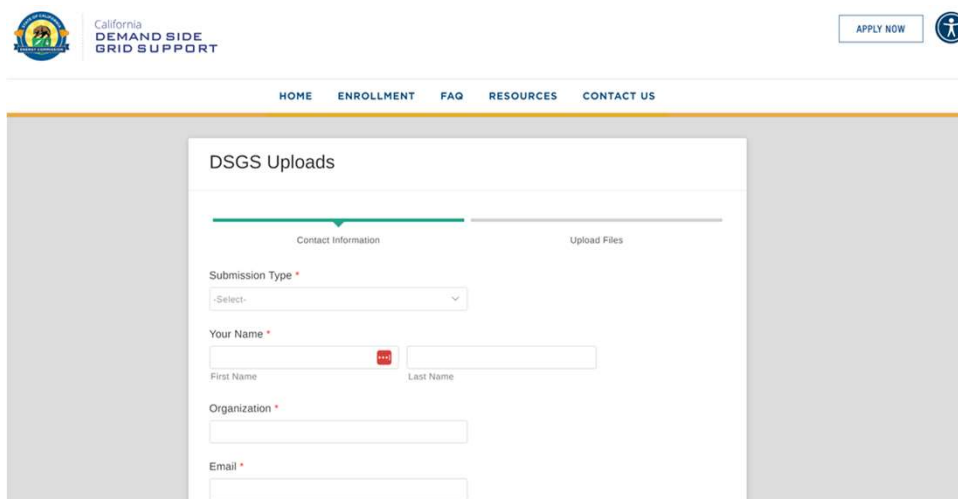
Option 2 Claim Package Requirements (continued)

If requested by the CEC, Option 2 Providers must provide the following:

- Real-time market bids and self-schedules (in kWh) by Resource ID
- Total Expected Energy (TEE, in kWh) by Resource ID
- Demand Resource Energy Measurement (DREM, in kWh) by Resourced ID
- Customer-weighted average of daily high and low temperature by dispatch event

Submitting Claim Packages

- To submit a claim package, place the claim form and all supporting documentation into a zipped folder and upload to the DSGS Website at: https://dsgs.olivineinc.com/upload/
  - Navigate to program website upload link
  - Select "Option 2 Claim Package" under Submission Type
  - Fill in all required fields

Overview Payment Timeline

Description of Activity	Timeline
Providers submit claim package	12/1/2023*
CEC retrieves market participation data from CAISO	2/14/2023
Olivine delivers performance & settlement results to providers	3/29/2024**
Providers review and approve claim amounts	4/12/2024**
CEC disburses checks to providers	5/10/2024**

*This is the recommended deadline to submit to ensure providers are paid as soon as possible when market data becomes available. Claims may be accepted after this date.

**These are estimated timeframes and will be finalized as we get closer to the dates. We will keep providers up to date on any timeline changes.

Q&A