



Battery Program Update and Significant Change

April 26, 2023

Agenda

- Update on Efficiency Maine Battery Plans
 - Small Battery Program Update
 - DERMS Provider
 - Program Design
 - Large Battery Program Update
 - Review of Program Guidelines
- Significant Change
 - Need for the change
 - Specifics of the change
 - Proposed Motion

Small Battery Program Preview

What is a DERMS?

DERMS: **D**istributed **E**nergy **R**esource **M**anagement **S**ystem

- A system that controls distributed energy resources (DERs) like batteries and EV chargers to manage load in response to certain grid conditions.
- It is not an autonomous decision-making tool but instead a mechanism for measure control.

Trust awarded to Virtual Peaker through competitive solicitation

- Virtual Peaker used by Green Mountain Power for their battery and managed EV charging program
- Will provide measure enrollment (*Relay*), ISO-NE peak forecasting (*Envision*), and measure control (*Shift*).

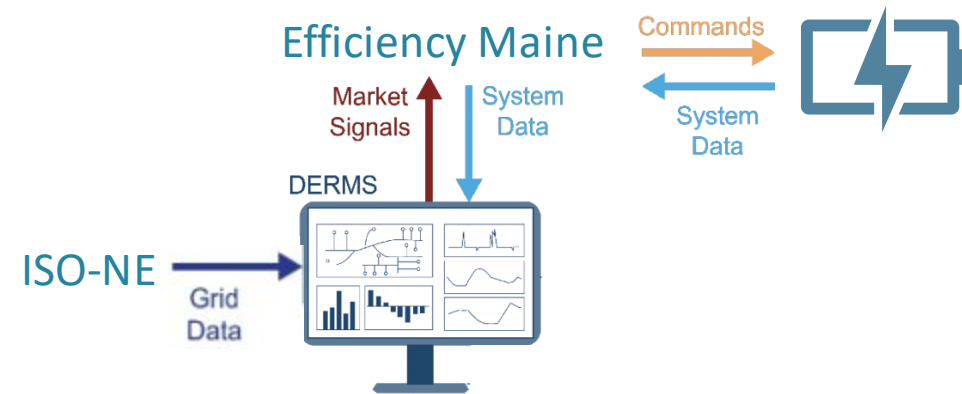


Figure 1. Example DER aggregation program structure and component interaction

Small Battery Program - Measure Considerations

Bring Your Own Device (BYOD) Small Battery Dispatch

- New and existing battery systems are eligible
- Lost opportunity measure
- Incentive offered per available, enrolled kW of maximum continuous discharge capacity
- Capped at 20kW inverter capacity, per "site" (premises)
- One year term with annual automatic re-enrollment, for up to five years
- Residential and volumetric small commercial (SGS, B1) customers are eligible
- Stand-alone and solar tied units permitted

Enrollment target of roughly 200 customers enrolled in the DERMS by June 1, 2023

Customer Enrollment (*Relay*)

Individual customers (residential and volumetric commercial) as well as aggregators can enroll measures in the program.

Current eligible battery manufacturers:

- Enphase IQ Battery
- Sonnen Battery
- Tesla Powerwall 2.0

Virtual Peaker can add additional OEMs as consumer need dictates.

Virtual Peaker will provide a "white labeled" branded microsite integrated into the Efficiency Maine website that will collect customer information and enroll measures per program rules.

Example Microsite Landing Page (Fortis)



[Do you qualify](#) [Apply today](#)

Join Peak Saver and save

Earn cash incentives by participating in our Peak Saver Pilot Program. [Terms and conditions](#) apply.

Sign up your electric vehicle (EV), EV charger or thermostat.

[Sign Up](#) →

Please note we are no longer accepting new thermostat connections as part of this pilot. If you still wish to connect your device you will be contacted for potential participation if this pilot becomes a permanent offer; however you will not receive any participation incentives for this current pilot or be asked to participate in Peak Saver Pilot events.

Find out if you're eligible for a **FREE** hot water tank controller or pool pump controller

[Click to See](#) →



Example Microsite Landing Page (Green Mountain Power)

The screenshot shows a landing page with an orange background. At the top left is the Green Mountain Power logo. The navigation menu includes: GMP & You, My Account, Outage Center, Residential, My Business, and Help. A search icon and a 'Log In' button are on the top right. The main heading is 'Bring Your Own Device'. Below it is a paragraph: 'Get up to \$10,500 toward your home battery purchase when you enroll and share your stored energy with GMP! You choose the battery. You choose your installer. You choose the amount to enroll.' To the right of the text is a photograph of a family of four sitting on a couch and looking at a tablet together.



Join now!

We designed our BYOD program in partnership with Renewable Energy Vermont. You choose the amount of energy you'd like to enroll, and then get enhanced incentives – the biggest upfront payments of any utility in the country. You're saving money, and helping all GMP customers save, too!

Work with a company of your choice to buy your battery, and once you have it, you can start the enrollment process by going

 Need Help?

Peak Forecasting (*Envision*)

Targeting ISO-NE system peak

- June 1 – September 31
- 2pm – 7pm window
- Targeted dispatch, no more than 15 calls per season
- A maximum of 3 hours per event

Virtual Peaker will provide EMT with at least day-ahead forecast information but will defer to the Trust staff to decide whether to call an event.

Measure Deployment (*Shift*)

- Program incentives are based off capacity, not performance
- Only customer obligation is to maintain connectivity
- Incentives will be in line with what is seen in other northeast programs
- Customers are notified at least four hours prior to an event via email, text message, and smart phone apps
 - There are no customer actions necessary for participation in an event
 - There is always an opt-out option
 - No penalty for non-performance
- Virtual Peaker platform will prioritize charging of battery to ensure minimum state of charge for contracted capacity by event start.

Measure Deployment (*Shift*)

Measures are placed into "platoons" that allow the Trust to group by geography, device type, program type (load shifting, NWA), etc.

The screenshot displays a web interface for managing 'Houses'. The main heading is 'Houses', with sub-tabs for 'Approved Houses', 'Pending Houses' (which is active and shows a count of 51), and 'Archived Houses'. Below the heading, there is a 'Pending Houses' section with a 'Map View' toggle (currently off), a 'Filters' dropdown set to 'Default', and a search bar. The table below lists several pending houses with the following columns: Billing Key, Users, Address, Program, Date, Devices, and Actions. Each row includes a checkbox, a pencil icon for editing, and a vertical ellipsis for more actions.

<input type="checkbox"/>	Billing Key ^	Users ↕	Address ↕	Program ↕	Date ↕	Devices ↕	Actions
<input type="checkbox"/>	camtest11	Ana Test address	89 E Op Ave, Climax, KY 00000	byod	01/07/2022	1	⋮
<input type="checkbox"/>	8444327688	Anna Anna	90 Ut Road 112, Baudette, MN 00000	byod	08/31/2022	0	⋮
<input type="checkbox"/>	7897897897		825 E Market St, Louisville, KY 40204	byod	05/24/2022	0	⋮
<input type="checkbox"/>	7897897897		825 E Market St, Louisville, KY 40204	byod	05/26/2022	0	⋮
<input type="checkbox"/>	7897897897		825 E Market St, Louisville, KY 40204	byod	05/27/2022	0	⋮
<input type="checkbox"/>	7897897897		825 E Market St, Aberdeen, KY 40206	byod	05/27/2022	0	⋮
<input type="checkbox"/>	7897897897		825 E Market St, Louisville, KY 40204	byod	05/27/2022	0	⋮
<input type="checkbox"/>	6441111111	Annnna Annnna	41 De Mel Ave, Louisville, KY 40214	byod	08/31/2022	0	⋮
<input type="checkbox"/>	485655258	TEST2 RedTeam	234 N Main St, Abbeville, LA 75852	byod	05/12/2022	0	⋮

Large Battery Program Review

Energy Storage System (ESS) PON Summary

- Performance based incentive of \$200 per kW, per year, for 5 years
 - For example, 100 kW = \$20k per year, or \$100k total for 5 yr award
- Based on 15 deployments during summer peak demand conditions – targeting the ISO NE ICAP hour
- Payment in fall after evaluation period

Eligible Projects

- KW reductions must be behind the meter (reductions in grid supplied power)
- Size must be greater than 20 kW and incentives capped at 3,000 kW
- Must be approved by the Custom Review Team and accept contract

Application Requirements

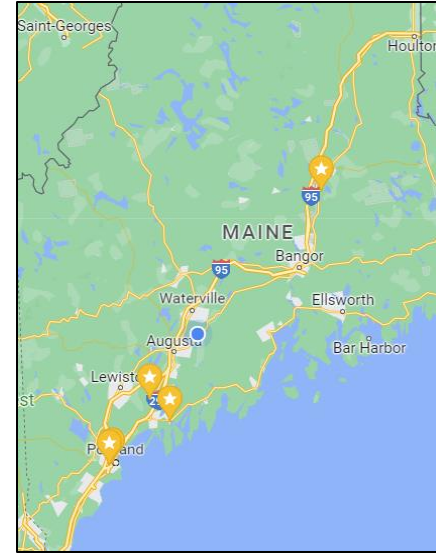
1. Technical and financial proposal
2. Management and resource adequacy

ESS PON Outreach Update

6 large projects currently in development

Outreach efforts

- Have met with most major battery developers active in the Northeast and many potential customers



Web Presence

- Created a webpage on the Custom homepage
- Posting a list of available battery vendors (May 2023)

Webinars

- Presented at Maine Quarterly Energy Storage Forum coordinated by Governor's Energy Office (Feb 2023)
- Met with working group of battery vendors (Jan 2023)

Energy Storage System Projects



Efficiency Maine's Energy Storage System (ESS) Pilot Program Opportunity Notice (PON) offers performance based incentives for the deployment of energy storage systems during summer peak demand conditions.

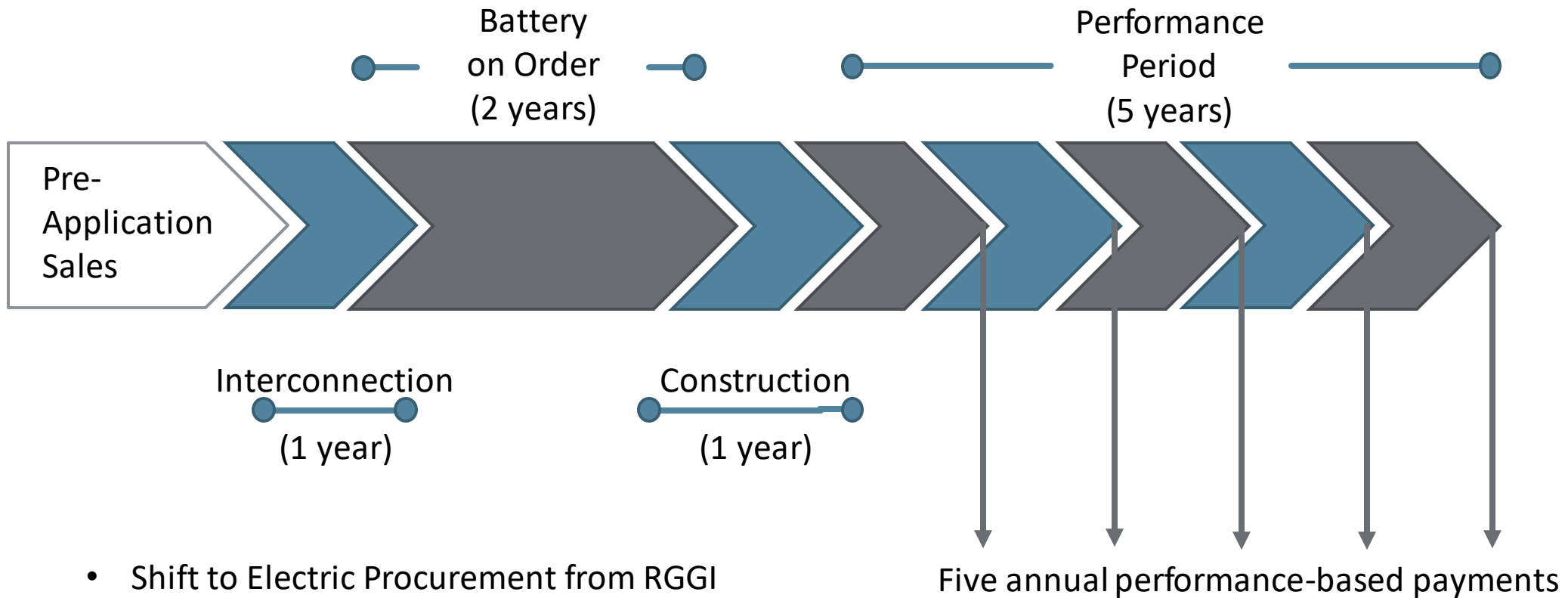
All demand metered customers (commercial, nonprofits, institutions and government) are eligible to participate.

Significant Change for Large Batteries

Background

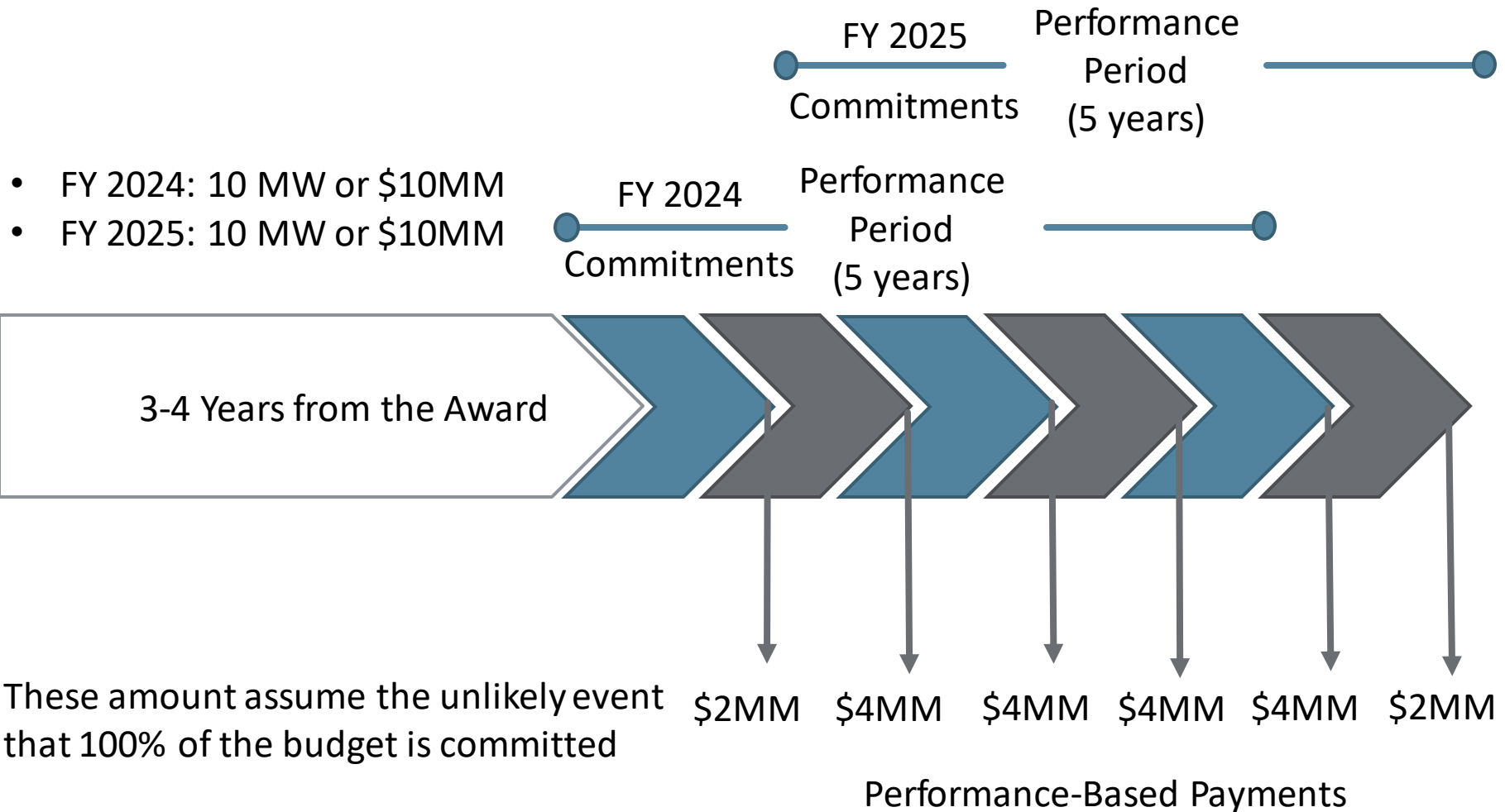
- Fall of 2021: Approved Pilot at Critical Care Facilities
 - CMP's coincident peak rate only available to critical care facilities
- Fall of 2022: Approved expansion of the Pilot to all demand metered customers
 - CMP will offer their coincident peak rate to all demand metered customers (7/1/23)
 - Versant will offer a coincident peak rate (7/1/23)
 - Large Batteries are cost effective electric measures

Proposed Approach



- Shift to Electric Procurement from RGGI
- Shift to DMP from Innovation
- Collect and Pay incentives in the year the batteries perform.

Timing of Incentive Payments



Draft Board Motion:

Proposed motion

The Board authorizes Staff to seek approval from the PUC for a significant change to the Triennial Plan that would allow the Trust to commit up to \$10 million a year in new electric procurement in fiscal years 2024 and 2025 in the Demand Management Program.

