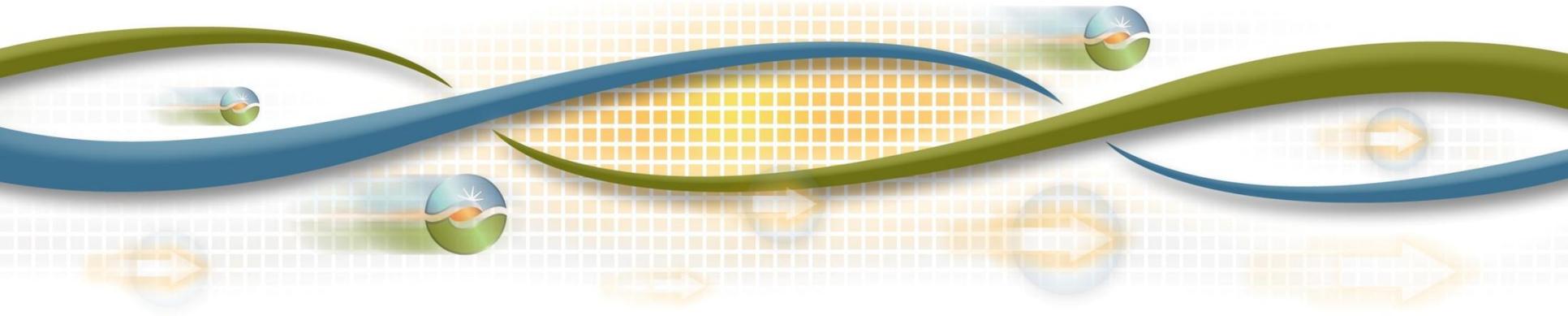


Energy storage and distributed energy resources (ESDER) stakeholder initiative

Alternative Performance Evaluation Methodologies

Working Group Meeting
October 27, 2015
8:00 a.m.-10:00 p.m. (Pacific)



Agenda

Time	Agenda Item	Speaker
8:00-8:10	Introduction, Stakeholder Process	Tom Cuccia
8:10-8:20	Background/Set-up	ISO Team
8:20-8:40	Presentation of joint proposal from AMS, SolarCity, and Stem	Manal Yamout
8:40-9:50	Discussion	All
9:50-10:00	Next Steps	Tom Cuccia

ISO Stakeholder Initiative Process (policy development phase)

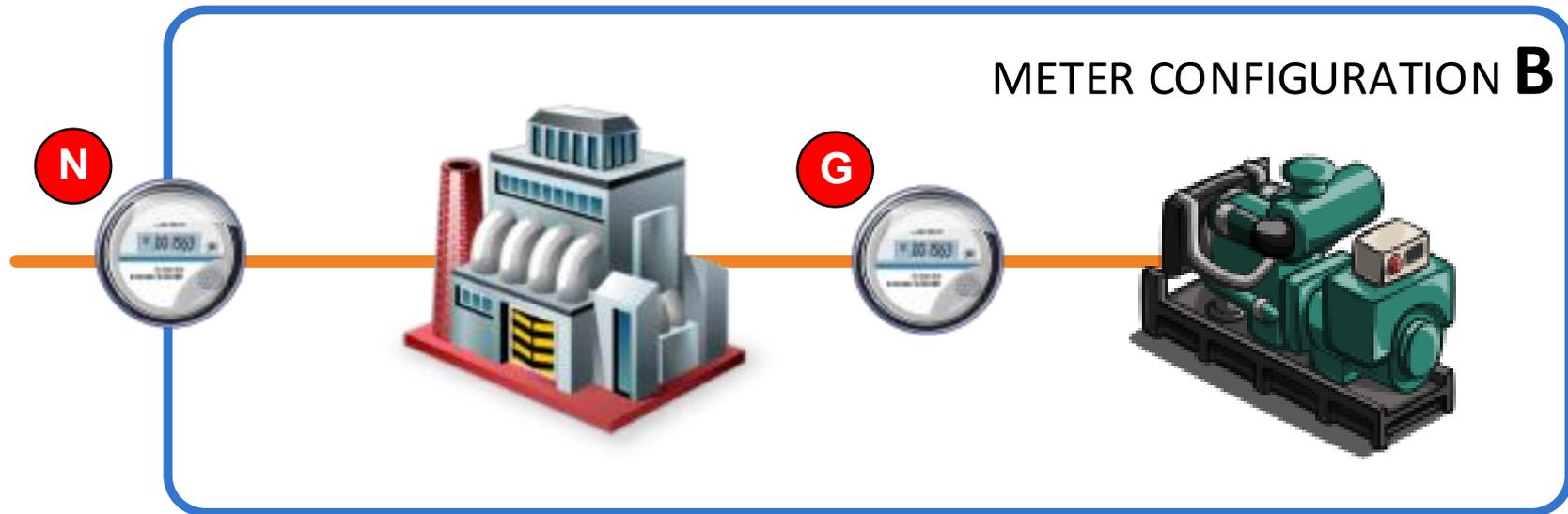


Stakeholder process schedule

Step	Date	Event
Education Forum	April 16 & 23	Hold education forums
Proposed ESDER Scope & Schedule	May 13	Post proposed scope & schedule
	May 21	Stakeholder web conference
	May 29	Stakeholder comments due
Revised ESDER Scope & Schedule	June 10	Post revised scope & schedule
	June 17	Stakeholder comments due
Issue Paper & Straw Proposal	July 30	Post issue paper and straw proposal
	August 6	Stakeholder web conference
	August 18	Stakeholder comments due
ESDER Working Group	August 27	ESDER working group web conference
	September 3	Stakeholder comments due
Revised Straw Proposal	September 17	Post revised straw proposal
	September 28	Stakeholder web conference
	October 9	Stakeholder comments due
ESDER Working Group	October 12	ESDER working group meeting
	October 19	Stakeholder comments due
ESDER Working Group	October 27	ESDER working group web conference
	October 29	Stakeholder comments due
Draft Final Proposal	November 2	Post draft final proposal
	November 9	Stakeholder web conference
	November 20	Stakeholder comments due
Board Approval	December 17-18	ISO Board meeting

Background on ISO identified MGO issue for metering configurations B2 & B3

Metering configuration B enables using the MGO performance evaluation method



- Enables load consumption to be derived separate from the generator/device (as described in previous slide)
- Directly measure performance of generator output with MGO by reading the physical meter (G)

Metering configuration B provides for the possibility of three participation options each with its own performance evaluation methodology

- Option B1 – load reduction only
- Option B2 – generation offset only
- Option B3 – load reduction and generation offset

B2 & B3 are the focus of today's discussion

Metering configuration B – Option B2 (generation offset only)

- Only the generation device would be a registered asset in the PDR/RDRR.
- Demand response performance would be evaluated using the metered quantity G (i.e., metered generator output or “MGO”).
- For ISO dispatch interval t ,
Performance Measurement = Gt
- **ISO identified issue: MGO cannot distinguish dual use, i.e., a PDR/RDRR dispatch response and a coincident retail response (e.g., provision of demand management services to the on-site load).**

Metering configuration B – Option B3 (load and generation)

- Both the load and generation device would be registered assets in the PDR/RDRR.
- Demand response performance would be evaluated using both the Option B1 and Option B2 methods.
- For ISO dispatch interval t ,
Load Performance Measurement = $(B - (Nt - Gt))$
Generation Performance Measurement = Gt
- Thus, total performance measurement would be $((B - (Nt - Gt)) + Gt)$
- **ISO identified issue: Same as that noted under option B2.**

Distinguishing the quantity of output in response to a PDR/RDRR dispatch from that for retail purposes introduces a retail-adjusted G value called $G_{t_{\text{adjusted}}}$

- The ISO believes that for Options B2 and B3, the quantity G_t should be adjusted to remove the energy output used for retail purposes.
- This $G_{t_{\text{adjusted}}}$ would be calculated as G_t minus the portion of the energy output in interval t used for retail purposes.
- Thus, the performance measurement would instead be:
Option B2: $G_{t_{\text{adjusted}}}$
Option B3: $((B - (Nt - Gt)) + G_{t_{\text{adjusted}}})$

Possible methods for estimating the adjusted generation output used for retail purposes in interval t

Using a baseline:

Establish a “baseline” of the generation device’s output using (G) metered quantities during non-dispatch intervals. Non-dispatch intervals could be selected by:

- a. Conducting a “look back” of comparable non-dispatch intervals (e.g., 45 days using 10-in-10), or
- b. Random selection to establish a baseline.

Employing a capacity set-aside:

Multiply the portion of the device’s retail set-aside capacity specified at registration by interval t and subtract from G_t metered energy use.

At Oct 12 working group meeting, the ISO invited stakeholder input, ideas and possible revisions

Presentation of joint proposal from AMS, SolarCity, Stem and CESA Posted on the ISO website at:

<http://www.pub.oa.caiso.com:21083/Documents/Presentation-AlternativeProposal-EnergyStorageandDistributedEnergyResources10272015.pdf>

Next Steps

Request for stakeholder comments by October 29, 2015

Comments mailbox initiativecomments@caiso.com

Step	Date	Event
ESDER Working Group	October 27	ESDER working group web conference
	October 29	Stakeholder comments due
Draft Final Proposal	November 2	Post draft final proposal
	November 9	Stakeholder web conference
	November 20	Stakeholder comments due
Board approval	December 17-18	ISO Board meeting