Load Impact Protocols (LIP) Modifications
Joint IOU Proposal

Date: September 16, 2022

Premise

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Starting Point

The Load Impact Protocols (LIP) should be retained but modified to address the 24-hour slice-of-day framework.

Modifications

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Modifications for 2024 Test Year

Per OP 2 of Final Decision, D. 22-08-039, a proposal of modifications would address:

1. The hours in which DR resources can be shown and whether those hours must be consecutive.
2. Whether the transmission and planning reserve margin adders should be applied.
3. Whether or not the value of DR resources can vary by hour.
4. Whether, and if so, how, snap back effects should be accounted for.

LIP Modifications Proposal

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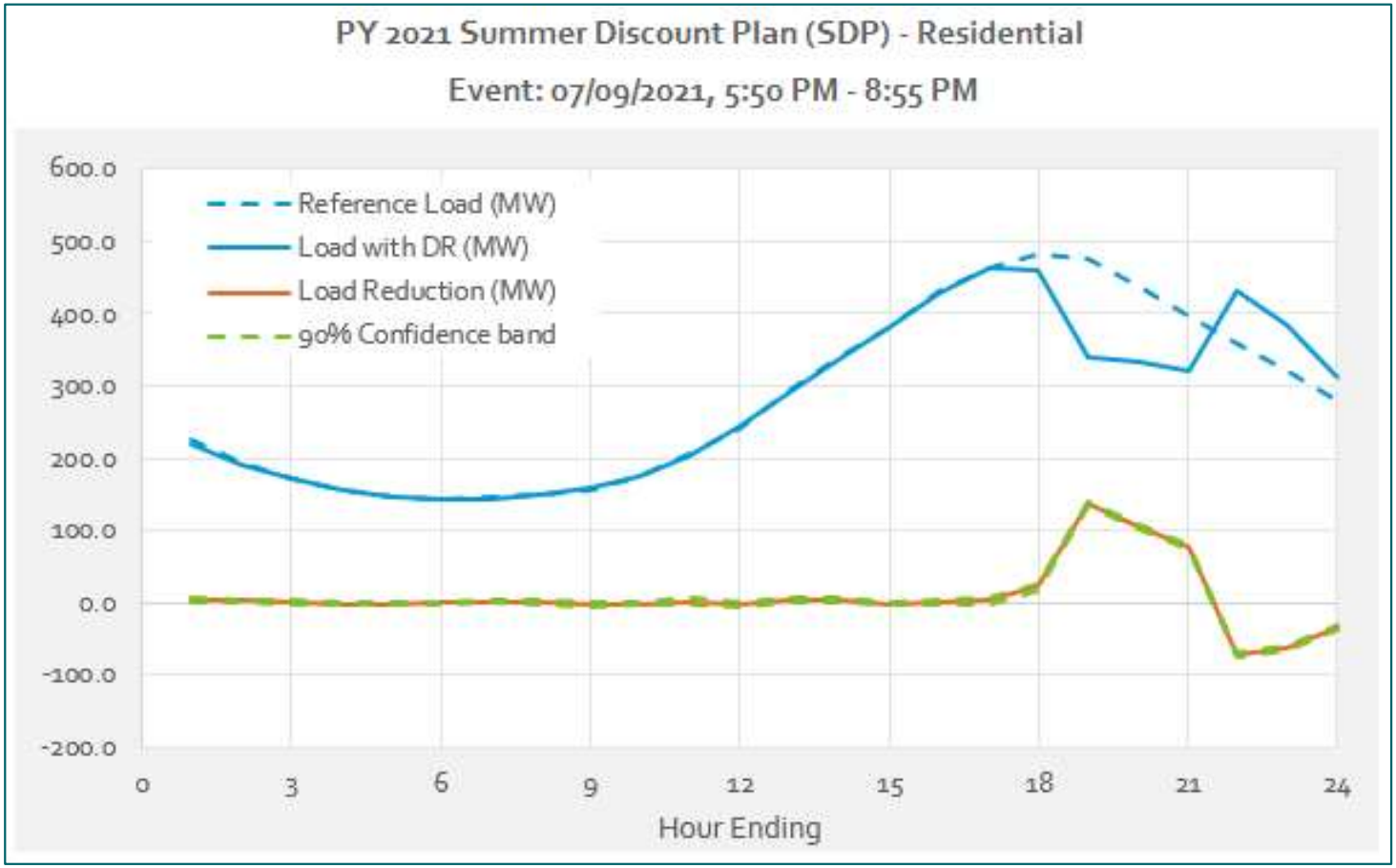
How to Address Requests for Modifications

- Hourly availability or profile for each DR program would represent expected performance of the DR program, if called upon during that hour, under the utility 1-in-2 monthly system peak day.
- Hours over which expected performance would be shown should be determined by the LSE, taking in account minimum RA requirements and program tariff/rules (e.g., max. event duration).
- Consecutive day limits and other non-daily use limits would be addressed through MCC buckets or similar.

Programs with Spillover Effects

- Requires a pre-defined call shape, including:
    - pre-cooling (for weather-sensitive programs) leading up to and snap-back after event hours to be called.
- Pre-cooling and snap-back effects would be shown on an hourly basis.

Example of Spillover Effects



Hour Ending	Reference Load (MW)	Load with DR (MW)	Load Reduction (MW)
14	339.89	335.28	4.62
15	380.14	381.18	-1.04
16	430.18	429.14	1.04
17	464.29	461.79	2.50
18	482.27	460.24	22.03
19	476.32	339.22	137.10
20	436.90	331.99	104.91
21	397.45	320.60	76.85
22	359.35	431.19	-71.84
23	319.67	382.54	-62.87
24	278.43	312.28	-33.85

Summary of Modifications

- The hours in which DR resources can be shown and whether those hours must be consecutive.
  - *Hours over which DR resources to be shown, when called upon, would be determined by LSE. Hours can be either consecutive or non-consecutive.*
- Whether or not the value of DR resources can vary by hour.
  - *Value of DR resources varies by hour. DR is a variable resource.*
- Whether, and if so, how, snap back effects should be accounted for.
  - *Pre-cooling and snapback effects should be accounted for on an hourly basis.*

Adders

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Transmission & Distribution Loss Factors

- (*Proposal*) Maintain at current level.
  - (Option 1) Included in QC value from Ex Ante.
  - (Option 2) Grossed up as credit, and sent to CAISO.

PRM - SCE

- Planning Reserve Margin (PRM)
  - Operating Reserves / Ancillary Services (OR / AS) - (*Proposal*) 0%
    - Reason: DR does not necessarily contribute to reduced procurement of OR/AS in the real-time market.
  - Load Forecasting Error - (*Proposal*) 0%
    - Reason: DR not considered to impact forecast error. Expected performance of DR resources under 1-in-10 weather scenario to be accounted for elsewhere.
  - Forced Outage - (*Proposal*) > 0%
    - Reason: LIP methodology accounts for reduced forecasts of load impacts due to historical forced outages. Apply, if LIP is retained.
    - Forced Outage = Forced Outage Rate included in the LOLE/LOLP modeling (typically 5.0-7.5%)

PRM adders - PG&E and SDG&E Proposal

- Proposal: Eliminate all PRM adders
- Rationale
  - The adder for Operating Reserves / Ancillary Services (OR / AS) should be 0, as DR does not provide AS.
  - The adders for forecasting error and forced outage should be 0
    - DR is a variable output resource, for which a buffer/planning reserve is needed to offset the variability of the resource
    - DR variability includes forecasting error and forced outage—the difference between the two uncertainties is not well defined for DR in practice

Miscellaneous

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Other Requirements

- Long-term DR QC methodology should be the same for both supply-side or load-modifying DR resources.
- Address or explore barriers or challenges against intra-cycle adjustments to DR QC during the RA compliance year to account for factors such as enrollment changes.
- Monthly QC to be worked out in the RA Workstream working groups, starting with the one on 09/21/22.

Q and A