

DOCKETED

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Supply-Side DR & Stakeholder Working Group Process

CEC Demand Response Team

July 19, 2021



Outline of presentation

OUTCOMES

- Set expectations for today's workshop

SUPPLY-SIDE DR

- Provide background on the some of the issues

CPUC REQUEST

- Provide background on request for CEC to launch stakeholder working group process on supply-side DR issues

CEC PLAN

- Overview of plan to deliver on the CPUC request and advance demand response in California



Expectations for today's workshop

ESTABLISH UNDERSTANDING OF:

- Supply-side demand response
- CPUC request
- CEC plan

FORM INITIAL WORKING GROUPS

- Establish scope, schedule
- Provide process for participation

ASSESS NEED FOR NEXT WORKSHOP

- Establish purpose and timing

DETERMINE PROCESS FOR ADDRESSING REMAINING ISSUES

- Need for, and timing of, additional working groups and workshops



Supply-side demand response

Focus is on “supply-side” DR rather than “load-modifying” DR

Supply-Side Demand Response	Load-Modifying Demand Response
- Dispatched by CAISO	- Not dispatched by CAISO
- Receives RA credit	- Does not receive RA credit

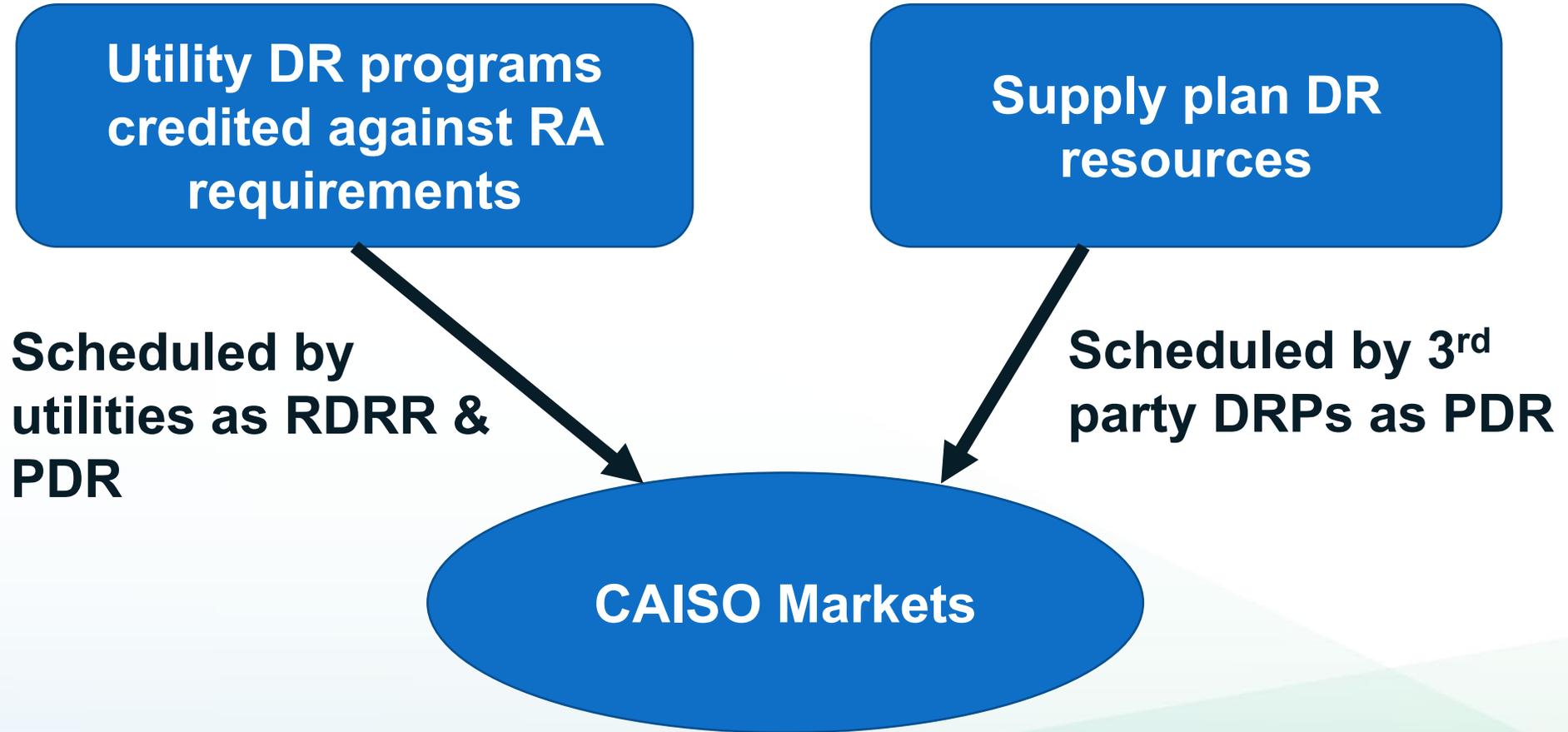


Side-bar on resource adequacy

- Jointly administered by the CAISO and CPUC (and other LRAs) in the CAISO balancing authority area.
- Seeks to secure **sufficient capacity** when and where needed to support the safe and **reliable operation** of the CAISO grid.
- CAISO and LRAs **establish RA capacity requirements** for LSEs.
- LSEs **procure RA resources** (i.e., resources with ***Qualifying Capacity*** (“QC”))
- LSEs **make RA showings** to CAISO
 - RA plans demonstrating they have met their RA capacity requirements
 - Supply plans demonstrating that they have procured RA resources that accept CAISO tariff obligations



Supply-side demand response





Supply-side DR is part of the supply stack

KEEPING THE LIGHTS ON & GRID STABLE

Requires full use of the supply stack.

DIFFERING PERSPECTIVES

On how we are planning and accounting for supply-side DR.

RELIABILITY BOTTOM LINE

Need to develop solutions that further unlock the benefits that this important resource can have for consumers and the grid.

Demand Response

Nat. Gas

Import

Solar

Hydro

Nuclear

Wind

Geothml.

Energy Storage

Biofuels



Some issues with Supply-Side DR

Not
within
CEC's
focus

Counting supply-side DR for resource adequacy (RA)

- Today: LRAs provide RA credits for DR resources not listed on supply plans; no must offer obligation; no RAAIM
- Issue: Differing perspectives regarding effect on RA program's efficacy and reliability

Primary
focus
for CEC

Methodology for determining the QC of supply-side DR

- Today: LIP-based methodology.
- Issue: How to value the reliability contributions of DR



Recent CPUC decision requests CEC launch stakeholder working group process

DEVELOP RECOMMENDATIONS FOR 2023 RA COMPLIANCE YEAR

- Comprehensive and consistent measurement & verification strategy
- Demand response qualifying capacity methodology
- Specific demand response qualifying capacity values to the extent possible

SUBMIT RECOMMENDATIONS TO CPUC

- By March 18, 2022



Overview of CEC plan to satisfy CPUC request

OPEN NEW CEC DOCKET (21-DR-01) ON DEMAND RESPONSE

- Develop work product to submit to CPUC in March 2022
- Consider emerging issues

HOLD KICK-OFF WORKSHOP JULY 19th

- Rely on working groups and workshops through remainder of year

HOLD IEPR WORKSHOP DECEMBER 3rd

- Recap stakeholder working group process and inform IEPR record

DRAFT AND SIT RECOMMENDATIONS TO CPUC

- January through **UBM** March of 2022



Illustrative Timeline

2021						2022		
Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
WS WG	WG	WG WS	WG	WG WS	IEPR WG	WS R	R	S

WS = Workshop

WG = Working Groups

IEPR = IEPR Workshop

R = Report writing

S = Submit report to CPUC



Use working groups to address specific issues in CPUC decision

1. CAISO's ELCC proposal
 2. LIP+ELCC proposal
 3. Other proposals
 4. Alignment of DR M&V for CAISO settlement with DR QC methods
 5. Enhancements to intra-cycle adjustments to DR QC during RA compliance year
 6. Phasing of modifications to DR QC methodology
 7. Reflecting changes to DR adders in DR QC methodology
- Proposed initial working group focus



Questions?



Supply-Side Demand Response Valuation

CEC Demand Response Team

July 19, 2021

Qualifying Capacity

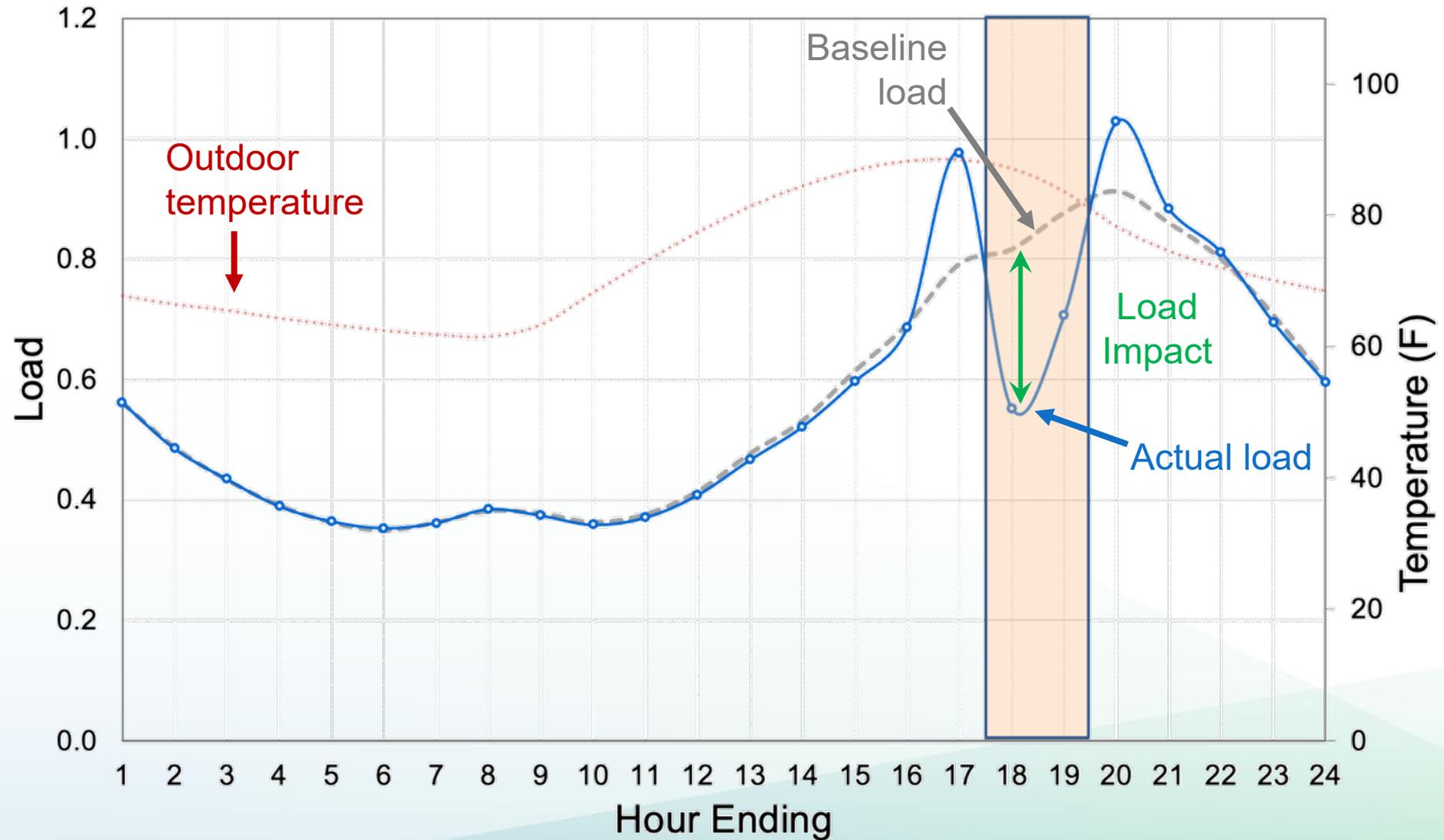
- Qualifying Capacity (QC) = maximum capacity eligible for Resource Adequacy
- Methodologies for QC valuation
 - Perfect resources: Nameplate capacity
 - Imperfect resources: Effective Load Carrying Capacity (ELCC)
 - Demand response: Capacity predicted using Load Impact Protocols
- CAISO Proposal for QC valuation of Demand Response (DR)
 - DR is an imperfect resource
 - DR QC should be measured by ELCC

Load Impact Protocols

- **Goal:** Estimate DR program impacts and predict future performance
- **Approach:**
 - A. Estimate past performance (ex-post)
 1. Collect Actual metered loads, hourly or sub-hourly
 2. Estimate counterfactual Baseline loads for event days
 3. Load impact = (Baseline kW) – (Actual kW) during events
 - B. Future performance (ex-ante) for Qualifying Capacity award
 1. Predict per customer impact for typical (1-in-2) weather
 2. Predict future number of participants by year
 3. QC = (Per customer impact) x (future number of participants)



Example LIP Analysis

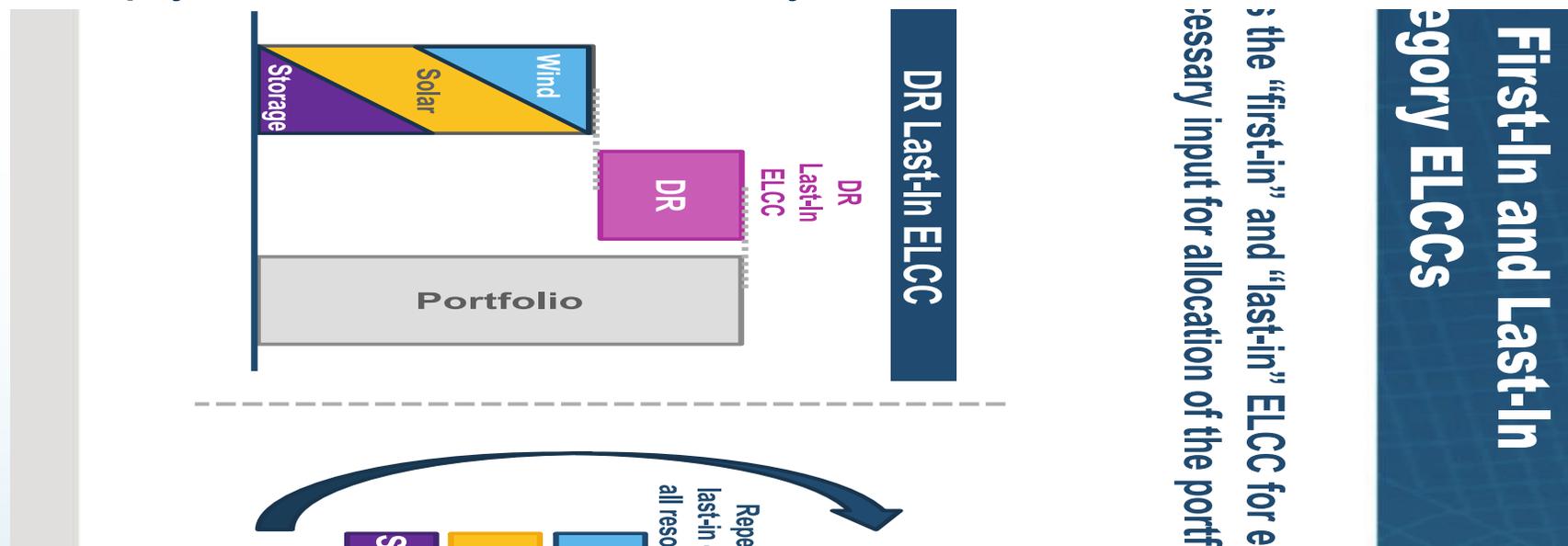


Effective Load Carrying Capacity

- **ELCC Goal:** Estimate “perfect” capacity equivalent of variable resources
- **Approach:**
 1. Calibrate existing system to target loss of load expectation (LOLE) standard
 2. Add desired resource to portfolio
 3. Remove idealized “perfect” capacity until target LOLE is restored
 4. ELCC is amount of perfect capacity

Applying ELCC to QC

1. Calculate ELCC for resource portfolio
 - Aggregate wind, solar, storage, DR, etc.
2. Calculate “first-in“ and “last-in“ ELCC values for each resource class
3. Add first-in and weighted last-in ELCC values
4. Multiply each resource class by the resource ELCC %





Questions?





Stakeholder Working Group Formation

CEC Demand Response Team

July 19, 2021



Begin with two working groups

PRINCIPLES Working Group

- Scope: Develop the set of principles that a DR QC methodology option should meet
- Purpose: Provides criteria for assessing each option
- Starting point: Proposed principles included in Energy Division's DR proposal (4-19-2021) and CAISO's RAIM exemption option for DR proposal (7-6-2021)

QC METHODOLOGY OPTIONS Working Group

- Scope: Describe the attributes of each known option
- Purpose: Defines each option using a common framework
- Starting point: ELCC, LIP+ELCC, LIP only (status quo)



Working group participation

Intended to be technical sub-groups on specific issues

- Technical expertise and knowledge of the issues is important
- Smaller number of stakeholders

Members accept obligation to make significant time commitment

- Meet frequently (every 2 weeks)
- Preparation time and download time also needed



Working group leadership

WG leads accept the obligation to work with CEC staff to:

- Ensure agendas are published and distributed prior to meetings
- Ensure that interested stakeholders are notified of meeting logistics
- Provide logistical support for virtual meetings
- Ensure that outcomes and next steps are identified for each agenda item discussed
- Ensure that WG progress and outcomes are documented and presented at the all-participant workshops as they occur



Addressing remaining issues

Additional working groups will be needed

- With progress on QC methodology, focus can then shift to other issues

Additional workshops will be needed

- Not all stakeholders will participate in all working groups
- Workshops ensure broad stakeholder participation in this process
- Forum for receiving and discussing WG outcomes and next steps



Process for joining working groups

- Use the Microsoft Office form at the link provided below to sign up
- Please sign up by COB tomorrow (July 20)
- Enter name, organization, and email address
- Select the working group(s) you want to join
- If interested, select a working group you would like to lead
- Indicate which of three date(s) you are available for the first meeting of either working group: July 27 (3-5p), August 2 (9-11a), August 9 (9-11a)

<https://forms.office.com/Pages/ResponsePage.aspx?id=RBI6rPQT9k6NG7qicUgZTiX1-4l8nwNChfVEaGWcmoFURjFUS1VBOUIPT1hDVFFHVkpaM0RCNkswQi4u>



CEC Contact Information

For process or technical questions, please contact:

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Questions?



Thank You!

