# Demand Response, Use Limitations and Exemption from RAAIM in CCE3

Barbara Barkovich & Nora Sheriff, CLECA
June 15, 2016

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# June 15 Workshop Goal

- Identify the issues
  - How to sufficiently clarify that PDR and RDRR, once the daily/monthly/annual use limitation is hit, will be able to use an outage card and not be subject to RAAIM/replacement
  - This treatment must continue until the costs/risks are addressed in post-bifurcation DR programs, tariffs, contracts
- Determine procedural home/timing for resolution
  - If the RAAIM and obligation for replacement is in the tariff, the current exemption must be in the tariff as well

# Critical Context: *In the beginning…*

- Tariff defines DR as a default use-limited resource
  - "A resource that, due to design considerations, environmental restrictions on operations, cyclical requirements, such as the need to recharge or refill, or other non-economic reasons, is unable to operate continuously."
- RSI 1committed to *not changing* the default use-limited status of DR or the must offer obligation set in FRACMOO
- RSI 2 said it was "not proposing any changes to the definitions, rules, or parameters originally established in FRACMOO stakeholder process"(2nd Revised Straw Proposal, at 29)

# Critical Context: Now…

- Default use-limited status is being eliminated for DR
- Risk is application of RAAIM once actual use-limit is hit
- Applying RAAIM to use-limited resources upon exhaustion of annual use limitations may de facto alter the MOO, which may also impact prices sought by the resources, as it could impact their costs (e.g., adding substitution resource costs should the use limitation be reached)
- Interim solution is nature of work-outage card – for daily or monthly use limits.
  - Also needs to apply for annual use limits
  - Needs to apply UNTIL we can take the RAAIM risk into consideration for the 2018-beyond DR

# Critical Context (3): DR Undergoing Significant Transformation

- Working to achieve full bifurcation by January 1, 2018
  - Load modifying DR will be reflected in the Energy Commission's Integrated Energy Policy Report forecast
  - Supply side DR will be integrated into CAISO wholesale markets
- Existing utility programs being integrated
  - SCE integrating ~90% of its DR (CBP, AMP, BIP, API, Summer Discount Plan)
  - PG&E integrating BIP, CBP, Smart AC, ongoing pilots
  - SDG&E integrating CBP, BIP, AC Cycling

# Critical Context (4)

- No significant programmatic, tariff or contract changes in 2016
- Transitional changes in 2017, approved by CPUC
- Why does this matter?
  - *Existing DR programs, tariffs and contracts did <u>not</u> anticipate RAAIM applicability to Supply Side DR, because of DR's default use-limited status*
- We don't want to lose existing DR that can make it through the tricky transition or risk new DR that may be developing

# Four Types of Supply Side DR (1)

1. Utility DR programs
   - Approved by the CPUC with terms, conditions and incentives usually in a retail tariff
   - In some, aggregators may combine customers to participate in the utility DR program
   - If/when integrated into the CAISO markets, bid in by the utility
2. Utility aggregator-managed programs (AMP)
   - The utility has a contract, approved by the CPUC, with the aggregator to provide DR services by aggregating customers
   - Traditionally, if AMP participate in the CAISO markets, they would be bid in by the utility

# Four Types of Supply Side DR (2)

## 3. DRAM or pro forma contract DR

- Third-party DR to be bid into the CAISO market on a pilot basis
- Bid in by a non-utility scheduling coordinator
- Utility contract with the third party DR provider that covers a capacity payment and provision of free scheduling coordinator services during the pilot phase

## 4. Third Party Direct Participation

- Possibility of third-party DR providers directly bidding their DR resources (built by aggregating various customers) into the CAISO's markets without utility involvement, except as the meter data management agent
- Could start bidding into CAISO's markets this summer, although there is no CPUC requirement or directive requiring this timing

# How Some DR worked in 2015 (1)

- SCE Summer Discount Plan:
  - 180 hours of availability
  - 2015: 35 hours of actual use, with 30 events
  - Ex post load impact for SCE's peak
    - 9/8, 4-5 pm ~421 MW total SDP load drop
      - 74 MW from commercial customers
      - 347 MW from residential customers
    - CAISO peak: 9/10, but it was not hot
  - 2016: CPUC Decision on 2017 bridge funding would reduce the minimum threshold for economic dispatch from 40 hours to 20 hours to address residential customer attrition concerns

# How Some DR worked in 2015 (2)

- PG&E Smart AC:
  - 100 hours of availability during “summer” (5/1-10/31)
  - 2015: 38 hours of actual use, with 11 events
  - Ex post average load impact ~10 MW/event
- Base Interruptible Program (integrated as RDRR)
  - *NOTE: if multiple BIP events occur and RDRR is dispatched frequently, there are larger issues facing the state*
  - 180 hours of availability year-round; events last 4-6 hrs; trigger conditions per CAISO tariff
  - Feb. 6, 2014 “polar vortex” actual event
  - 2015 hours of actual use – test events
    - PG&E: 12 hours (5 dispatches, multiple retests for certain customers); July 30, 2015: load impact 242.6 MW
    - SCE: 2.5 hours (1 dispatch) Sept. 24, 2015: 692.1 MW
    - SDG&E: 4 hours (1 dispatch) Aug. 28, 2015: confidential

# CCE3 Proposal Language: Design Capability Characteristics

- Page 46 draft final proposal: “In the event the design capability value for either maximum daily starts or maximum MSG transitions is one per day, the market based value can also reflect one per day.”
- Program/Tariff/Contract which defines the “resource” could limit it to one event per day,
  - One start per day would be a design value to be reflected in the Max daily start field
  - Running out of starts matters because
    - Some DR programs limit events to once a day to minimize customer fatigue/other reasons
    - This better manages a resource that also has annual use limitations

# Design Capability

- CLECA understanding of CAISO legal/staff position
  - DR resources would not exist without the DR programs or contracts
  - The programs/contracts are what defines the resource
  - Thus DR is included in the “design capability” reference and can be “exempt” from RAAIM and replacement requirements until the “design” takes RAAIM into consideration
  - **THIS IS NOT SUFFICIENTLY CLEAR FROM THE PROPOSAL LANGUAGE**

# Issue #1: Design Capability

- Design Capability Value should include design of LRA-approved tariffs or contracts for PDR and RDRR that restrict the resource to one start per day to recognize physical capability of the resource
  - Should tie into variations in MOO for different resources, which are not the same (e.g., flex, system, local)
  - Would apply to IOU DR programs, aggregator contracts with IOUs,  DRAM contracts, and third party DRPs outside DRAM unless they allow more than one start per day

# Issue #2:
# Exemption from RAAIM for PDR/RDRR

- It must be clearly spelled out that, during the transition, once daily, monthly, and annual use limitations are hit, PRD and RDRR are exempt from RAAIM and replacement costs
- This exemption must continue until the next cycle of DR programs, contracts and tariffs are developed with the ability to take RAAIM into consideration, approved by the CPUC, and implemented

# Issue #3:
# Bid insertion & mitigation exemption

- PDR and RDRR should continue to be exempt from bid insertion and bid mitigation
- For purposes of taking inherent use limitations into account, the CAISO should consider development of either start-up or opportunity cost or some other means to ration the resource
- 1) to enable most efficient use of the resource
  - If you only have 20 hours of a/c cycling, don't use it up before the best time to use it
- 2) to mitigate customer fatigue

# Issue # 4 - Bidding Strategy Issues

- Bidding at the bid cap can't solve removal of use limited status and risk of RAAIM –
  - because it will not result in the resource being dispatched except like an emergency resource
    - Some DRPs want/need dispatches for market revenues
    - PDR is not supposed to be an emergency resource
  - NOTE: even if bid at bid-cap, DR can be committed in RUC (due to zero commitment costs); at present this is happening in DRAM; RSI 1 provisions to exclude long-start DR from RUC have not yet gone into effect; once they do, short-start DR will still be subject to RUC if it has no commitment costs, even if this is reversed in real-time market

# Issue # 4 (cont'd) - Bidding Strategy Issues

- CAISO market systems make it very hard to address with bidding strategies
  - In the DAM, the IFM commits resources that have non-zero Pmin on the basis of commitment costs
  - Since DR has no commitment costs, it is committed regardless of offer price up to its Pmin, i.e. it is always dispatched to that level, which runs up against use limits; only solution is to have zero Pmin
  - If are allowed to have commitment costs, could put in a high start-up or minimum load cost to avoid too frequent dispatch, but might then not be dispatched enough given low market prices
  - Also have to deal with the Net Benefits Test – which is very complicated. If bid below NBT, face Default Load Adjustment; also for excess real-time energy
  - Bottom line: It is hard to pick a reasonable start-up or minimum load cost for DR, but not having one is also a problem when managing a resource with use limitations

# Issue # 4 (cont'd) - Bidding Strategy Issues

- Consider possibility to permit inc/dec of Day Ahead Bids closer to real time if real time conditions warrant (e.g,. not as hot as forecast, so not as much a/c load and possibly not at much load overall) to manage use limitations

# Why the tariff and not the BPM?

- There are high-level process concerns regarding the BPM and tariff involves a more formal process
- If the RAAIM and replacement obligation and default use limited status (or lack thereof) are in the tariff, the exemption should be as well; tariff language must be clear