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SCE DR Proposals for RA

Local RA Counting Criteria & Double Penalty Issue

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DR resources with contractual response time greater than 20 minutes could meet local capacity requirements

CAISO's Criteria for Local DR Eligibility:

A resource must be capable of (1) responding (delivering energy reduction) within 20 minutes or (2) being available for a sufficient number of pre-dispatches (i.e. starts per month) to count toward local capacity requirements.

Local Area Demand Response MW¹ and Contractual Response Times

Local Area	Less than 20 Minute Response Time	30 Minute Response Time	Greater than 30 Minute Response Time	Day Ahead Dispatch
LA Basin	305	473	22	1
Big Creek / Ventura	89	42	5	0
Total MW	394	515	27	1

More than 500 MW of DR in SCE local areas would not be eligible for Local RA if only programs with a 20 minute response time are considered. However, SCE is determining how much DR with a greater than 20 minute response time is capable of meeting meet local capacity criteria by studying:

- The number of pre-dispatches and other attributes required for “slow DR” resources to count towards local capacity requirements (currently in progress);
- **The ability of DR resources with contractual response times greater than 20 minutes to realize energy reductions within 20 minutes (as load ramps down to meet the contractual requirement).**

¹ Resource Adequacy Compliance Materials - 2017 Total IOU Demand Response program totals by Program and Local Area

<http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=12447>

SCE Program Totals, August Monthly Peak, Before Adjusting for Avoided Line Losses

Historical BIP-30 dispatch shows that significant MW are delivered within 20-minutes from a 30-minute program

Base Interruptible 30-Minute Response Program (BIP-30)
Example Performance based on Historical Dispatch Data

Local Area	Total MW		Historical Dispatch 0-15 Minute Response	Historical Dispatch 15-30 Minute Response
LA Basin	473 MW		179 MW	364 MW
Big Creek Ventura	42 MW		16 MW	32 MW
Total Local Area	515 MW		<u>195 MW</u>	396 MW

Results are not final
and are for discussion
purposes only

- Using data from most recent dispatch, up to 40% of a 30-minute program's capacity in local areas may respond in 20 minutes meeting the local capacity needs.
- This example is based on a single program's performance in one day, to find the actual amount of 20-minute response that can be reliably provided:
 - Analysis will need to consider additional data (more than one day's results);
 - Analysis will need to take into account potential lag time between a CAISO dispatch and resource performance (e.g., time for SCE to notify DR participants to reduce load) and measurement period limitations.

Double-Penalty for DR should be eliminated – similar to how renewable resources are treated

DR and renewables RA process comparison

Step	DR	Solar / Wind
Capacity Determination	Load Impact Protocols (LIP) based on historical performance	Exceedance based on historical performance
CAISO Bidding	Bid based on RA capacity	Bid based on CAISO forecast
Weather-Dependent Performance	Yes (for weather sensitive programs)	Yes
RAAIM ¹ Penalty	<u>Not Exempt</u>	<u>Exempt</u>

- Load Impact Protocols use historical performance to determine expected capacity
 - Other data, such as current enrollment etc. is also considered
- If the DR resource bids or performs at less than QC, it is exposed to RAAIM penalties
 - E.g. on a cool summer day, when DR is less likely to be needed, the resource would still be penalized for “under-performance”
- This issue should be jointly addressed between the CPUC and the CAISO.

¹ Resource Adequacy Availability Incentive Mechanism (RAAIM)

The requirement to integrate DR to receive capacity value should be re-examined

- While a large portion of DR programs have been successfully integrated into the CAISO market, this effort has identified issues with the requirement to integrate *all* DR programs into the market.
- SCE believes this is an opportune time to re-examine this requirement based on the experience of integrating DR programs over the past few years. This re-examination should include:
 - Determining if integrating a DR program is required in order to realize its capacity benefit on the system.
 - Determining the appropriate venue to make any recommended changes. SCE recognizes that the capacity values assigned to resources is inherently a RA proceeding issue, but the requirement to integrate DR in order to receive RA credit was decided in past DR proceedings.

Next Steps

- Local Capacity counting (“ramp rate”) proposal should be further discussed in this proceeding
- Double penalty issue for DR should be addressed in coordination with the CAISO stakeholder processes
- Re-examine the requirement that dispatchable DR should be integrated to receive capacity value
- For questions and comments, please contact:

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