

DOCKETED

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Southern California Edison's Electric System Reliability Activities Related to Aliso Canyon

Kevin Wood

May 22, 2017

2016 Achievements

2017 SCE Demand Response Portfolio

Program	LA Basin LCA	All Other Regions	Total Resource
Ag Pumping Interruptible	4	49	53
Base Interruptible	484	183	667
Summer Discount Plan - Commercial	31	9	40
Summer Discount Plan - Residential	199	56	255
Critical Peak Pricing	15	1	16
Demand Bidding	5	2	7
Capacity Bidding	21	10	31
Aggregator Managed Portfolio	60	19	79
Peak Time Rebate	9	3	12
Local Capacity Requirement – Aliso Bridge	2	0	2
Total	830	331	1,161

- SCE 2017 ex-ante portfolio-level impacts (MW) under a 1-in-10 weather scenario for August peak day.
- August 2017 forecasted MW are inclusive of incremental Aliso Canyon Mitigation efforts.

Project Structure

- Leveraged existing company areas already in place for general emergency responsiveness.
- Assigned dedicated project leadership with structured coordination across the company.

Communications

- Develop general messaging; coordinate with external stakeholders, state agencies, other utilities as necessary; social media & website updates; customer and employee messaging and calls to action.
- Develop and deliver Summer Readiness campaigns
- Participate in joint-agency conservation education campaign
- Develop SCE specific materials across multiple channels, and multiple languages, in preparation for and in the event of outages

Electric Supply Operations

- Work with state agencies and other utilities to assess and mitigate impacts from Aliso Canyon

Emergency Response

- Update Electric Emergency Action Plan (a.k.a. Rotating Outage plan) and conduct annual table top exercise. Use existing process/framework with enhancements/customization for Aliso Canyon
- Activate the Incident Command System during events
- Conduct town hall meeting with SCE Large Business Customers

Demand Side Management

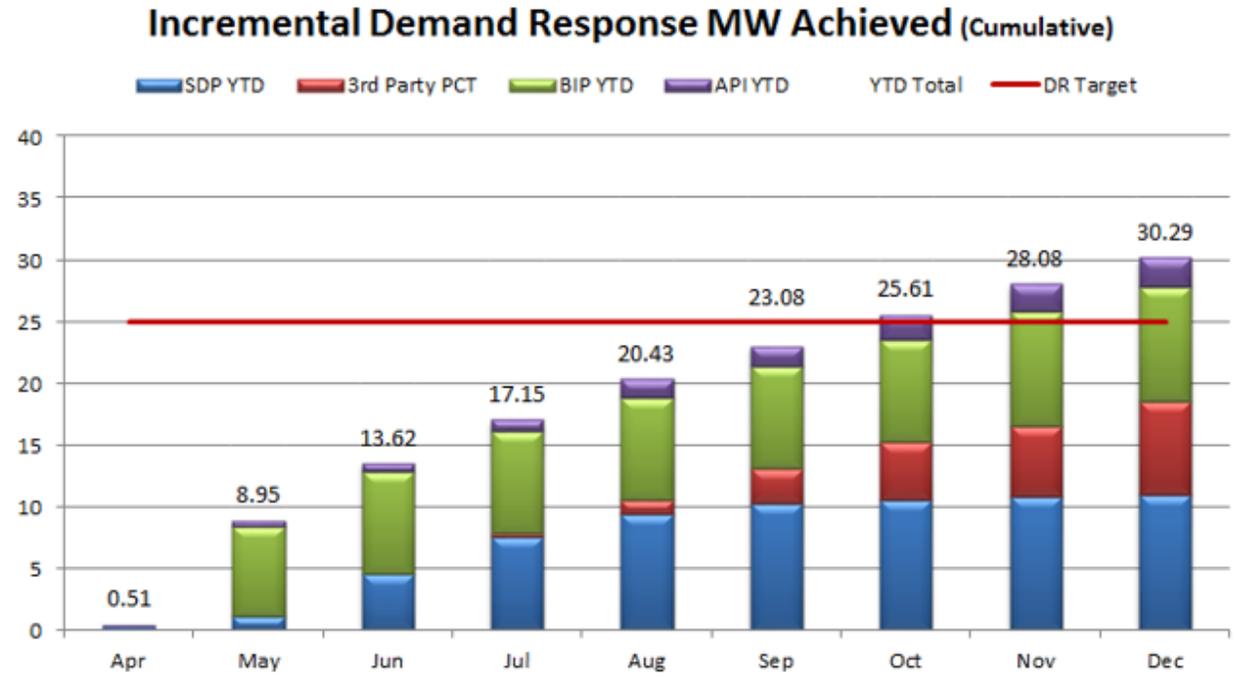
- Ensure existing DSM portfolio is ready; enhance and increase current DSM programs; conduct competitive solicitation for new DSM ideas; review current LCR and PRP RFOs to determine if any contracts can be accelerated into 2016.

Regulatory Engagement

- Coordination with state agencies; respond to state agency requests; secure funding as necessary

2016 Operational Activities and Incremental Procurement of Resources

- Successfully managed gas procurement and scheduling activities during constrained summer and winter gas system conditions
 - Managed gas supplies and gas burns under stringent SoCalGas balancing requirements
 - Developed and implemented alternative CAISO bidding strategies
 - Implemented and operationalized new inertie real-time call option product
- Leveraged a diverse portfolio of traditional and innovative resources, adding over 260 MW of newly available resources.
 - Added over 30 MW of traditional DR resources and collaborated with the So Cal Gas to offer residential customers up to \$125 rebate for Smart Thermostat Program participation.
 - Increased Energy Efficiency and Income Qualified activities.
 - Pursued and procured new Energy Storage resources



Other Incremental Resources	Incremental MW
EE – Low Income: Energy Savings Assistance Program	2.7
EE – Accelerated Deemed and Customized Projects	0.9
LCR – Accelerated Local Capacity Resource Contracts	6.7
ES – Energy Storage	62
DR – Accelerated Solicitation	11
Real Time Inertie Call Option Contract	150
Total	233



Legend

- ★ Aliso Canyon Gas Storage
- Cities
- ★ SCE Owned
- ★ Third Party Owned

Pursuant to CPUC Resolution E-4791, SCE held a competitive storage procurement solicitation, resulting in 5 energy storage projects totaling 62 MW.

GRAPELAND EGT



Purpose:
Emergency
Proclamation → CPUC
Resolution E-4791 &
Operational Flexibility

Location:
Rancho Cucamonga,
CA

BESS Size:
• 10 MW/4.3 MWh

Gas Turbine Size:
• 50 MW

**Commercial
Operation:**
Received CAISO
confirmation on
12/30/16

Systems are bid into
CAISO wholesale
generation market for
spinning & non-
spinning reserve and
regulation

Purpose:

Governor Brown's
Emergency
Proclamation→CPUC
Resolution E-4791

Location:

Ontario, CA
Adjacent to SCE's Mira
Loma Peaker &
Substation

Size:

- 20 MW/80 MWh
- Energy for 15,000 homes for 4 hours

**Commercial
Operation:**

Received CAISO
confirmation on
12/30/16

Systems are bid into
CAISO wholesale
generation market for
day ahead and real
time dispatch



2017 Planned Activities

2017 Planned Activities

Energy Supply

- Continue to operationalize new Energy Storage resources
- Continue to pursue appropriate balancing rules for SoCalGas customers
- Continue to pursue procurement activities (e.g. 2016 Energy Storage RFO, 2017 Integrated Distributed Energy Resource Pilot) which could result in additional storage (and other preferred resources) within and outside of the Aliso Canyon impacted area.

Communications

- Monitor activities, implement or adjust prepared messaging and outage materials as needed
- Launch DSM marketing campaigns including Smart Thermostat Rebate, Summer Discount Plan and Income Qualified Energy Savings Assistance program

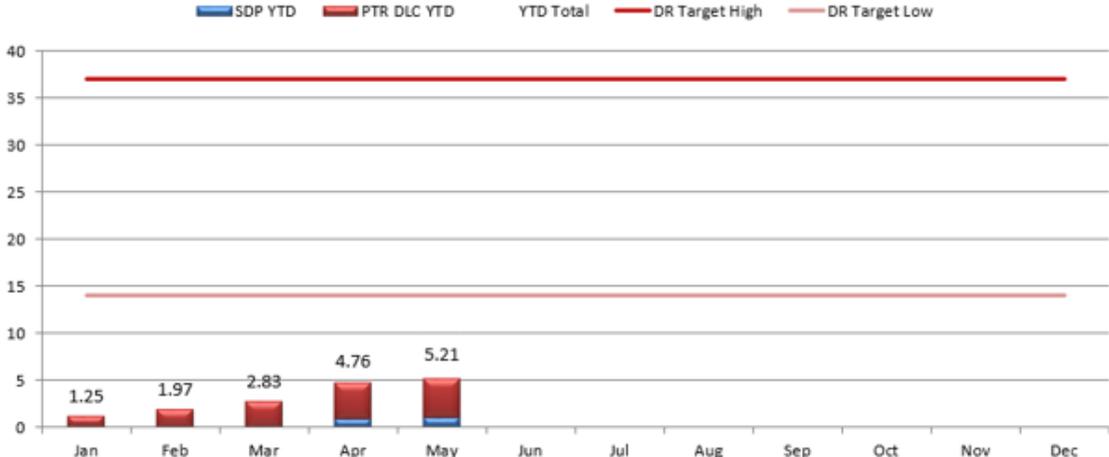
Emergency Response

- Continue to implement established Emergency Response, similar to 2016.

Demand Side Management

- Enroll 14 – 37 MW of incremental Demand Response in our 3rd Party Smart Thermostat Rebate Program and Summer Discount Plan.
- Continue Energy Savings Assistance Program (ESA) activities.
- Target 232 MW of Energy Efficiency Savings

2017 Incremental Demand Response MW Achieved (Cumulative)



2017 Energy Efficiency Pipeline

Segment	Cumulative Quarterly Forecast			
	YTD Q1	YTD Q2	YTD Q3	YTD Q4
Residential	12	31	48	72
Business	7	21	32	45
Partnerships	0	1	2	3
Codes & Standards	27	54	81	108
ESAP	1	2	3	4
Total MW	46	109	165	232

Appendix

2017 Demand Response Portfolio

Program	Customer Class	Geographic Dispatch [1]	Integrated into CAISO Market	Type	Customer Notification	Event Triggers [2]	Availability & Limitations
Agricultural & Pumping Interruptible	Agricultural	Yes	Yes	Reliability	Day-Of	CAISO Stage 1 Emergency and Warning Notice; CAISO Stage 2 Emergency; SCE discretion.	Year-round, 1 event per day, 4 per week, 25 per month, 150 hours per year, not more than 6 hours per event.
Base Interruptible Program	Large Commercial & Industrial (>200kW)	Yes	Yes	Reliability	Day-Of	CAISO Stage 1 Emergency and Warning Notice; CAISO Stage 2 Emergency; SCE discretion.	Year-round, 24 hours a day. Monthly limit is 60 hours and annual limit is 180 hours. 1 event per day with 6 hour max. 10 events per month.
Summer Discount Plan - Commercial	Commercial & Industrial	Yes	Yes	Price-Response	Day-Of	CAISO request (prompted by Alert or Warning notice); SCE discretion; high energy prices.	Year-round, 24 hours a day. Max of 6 hours per day with an annual limit of 180 hours.
Summer Discount Plan - Residential	Residential	Yes	Yes	Price-Response	Day-Of	CAISO request (prompted by Alert or Warning notice); SCE discretion; high energy prices.	Year-round, 24 hours a day. Max of 6 hours per day with an annual limit of 180 hours.
Critical Peak Pricing	Residential, Commercial, Industrial, Agricultural	No	No	Price-Response	Day-Ahead	High temperatures; CAISO request (prompted by Alert or Warning notice); SCE discretion; load or price forecasts.	Year-round on weekdays (except holidays); from 2pm to 6pm. Annual limit 12 events.
Demand Bidding Program	Commercial, Industrial, Agricultural	No	No	Price-Response	Day-Ahead	High temperatures; CAISO Stage 1 or higher emergencies; CAISO request (prompted by Alert or Warning notice); SCE discretion; load or price forecasts.	Year-round on weekdays (except holidays) from 12pm to 8pm. No limit on the number of events.
Capacity Bidding Program	Commercial, Industrial, Agricultural	Yes	Yes	Price-Response	Day-Ahead & Day-Of	When markets indicate that a 15,000 Btu/kWh heat rate thermal resource is or should be dispatched; CAISO request (prompted by Alert or Warning notice).	Year-round on weekdays (except holidays) from 11am to 7pm. Max event length is up to 8 hours and monthly limit is 30 hours.
Aggregator Managed Portfolio & LCR Aliso Bridge	Commercial, Industrial, Agricultural	Yes	Yes	Price-Response	Day-Of	Varies based on contract terms.	Availability and limitations vary by contract.
Peak Time Rebate (w/ Smart Thermostat)	Residential	No	No	Price-Response	Day-Ahead	High temperatures; CAISO request (prompted by Alert or Warning notice); SCE discretion; load or price forecasts.	Year-round. No limit on number of events. Events fixed 4 hour duration from 2 to 6pm. Events can be called any non-holiday weekday.

[1] The ability to call the program by specific regions within the SCE service territory.

[2] Trigger description is summarized. Refer to Tariff sheet for precise trigger descriptions.