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Filer:	Raquel Kravitz
Organization:	California ISO
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APPENDIX

Key Activities Table by Agency outlined in the Demand Response and Energy Efficiency Roadmap, December 2013

<https://www.caiso.com/documents/dr-eeroadmap.pdf>

Goal 1: Ensure consistent assumptions in CAISO, CEC, and CPUC planning and procurement processes

	Activities associated with goal	CAISO, CEC, CPUC
1	Identify process interaction and dependencies	Coordination via the Joint Agency Steering Committee (JASC) and the Executive Oversight Committee (members from CEC, ISO, CPUC and ARB)
2	Identify and implement adjustments to processes	

Goal 2: Modify load shape to reduce resource procurement requirements, mitigate over-generation, and moderate ramp

	Activities associated with goal	CPUC	ISO	CEC
1	Create targeted EE programs and incentives to locations and time periods	All three electric utilities have implemented targeted DSM efforts in response to a CPUC decision directing them to do so (D.14-10-046 Ordering Paragraphs 12 and 13). Results from these efforts are being used to inform locational targeting efforts in the DRP/IDER proceedings and in the EE Business Plans currently under consideration by the Commission.		
2	Investigate and define retail rate options	Late-shift TOU and demand charge reforms under review in GRC Phase 2s. IOUs to propose more complex optional residential TOU rates in 2018 RDWs. PG&E and SCE “matinee pricing” pilot proposals withdrawn in lieu of broader rate changes.		GFO-15-311: awardees will compare DR capabilities under existing with experimental tariff structures

Goal 2: Modify load shape to reduce resource procurement requirements, mitigate over-generation, and moderate ramp (con't)

	Activities associated with goal	CPUC	ISO	CEC
3	Develop approach to align retail rates with grid conditions	D.17-01-006 adopted guidelines for TOU periods and rate design (TOU OIR)	Developed TOU periods & submitted into CPUC OIR	GF0-15-311 Group 3: developing a transactive signal that reflects grid conditions
4	Execute pilots and measure load shape impacts of above measures	Residential opt-in TOU pilots now underway. Default TOU pilots begin March 2018. By summer 2018, data will be available.		<ul style="list-style-type: none"> Published a staff report on Translating Aggregate Energy Efficiency Savings Projections into Hourly System Impacts, CEC-200-2016-007 GFO-15-311: 7 pilot projects ~ \$29M split between supply and load-following DR

Goal 2: Modify load shape to reduce resource procurement requirements, mitigate over-generation, and moderate ramp (con't)

	Activities associated with goal	CPUC	ISO	CEC
5	Implement effective load reshaping measures	TOU changes underway. BTM storage (SGIP, LCR and Storage RFOs) being deployed.		
6	Evaluate Flex Alert program effectiveness and transfer administration and funding	Approved transfer of the program to CAISO.	Completed – in 2016 helped reduce peak by max 540 MW	
7	Develop centralized electrical location mapping tool			Energy Maps of California at www.energy.ca.gov/maps/

Goal 3: Clarify ISO needs for DR and EE to be most effective in planning and operations

	Activities associated with goal	CPUC	ISO	CEC
1	Capture DR resource types and operational attributes in base catalog to support ISO transmission planning process		Published in 2013 and part of planning process	
2	Include DR and EE resources in selected ISO transmission planning studies		Via JASC	
3	Perform study of local areas impacted by SONGS		Completed	

Goal 3: Clarify ISO needs for DR and EE to be most effective in planning and operations (con't)

	Activities associated with goal	CPUC	ISO	CEC
4	Develop flexible RA requirements for DR and ISO must offer obligation for flexible resources	Adopted flexible requirements in 2013.	FRACMOO was implemented in 2014	
5	Develop ISO must offer obligation for use-limited local and system RA and standard capacity product for DR		RSI (RAAIM) and CCE3	

Goal 4: Ensure resources are procured and developing to meet capability, timing, and location needs

	Activities associated with goal	CPUC	ISO	CEC
1	Develop more granular forecasts for EE	Removed from 2018+ P&G scope due to AB802 and SB350 implementation needs.		<ul style="list-style-type: none"> Via JASC, Demand Analysis Working Group (DAWG) and IEPR proceedings. Title-20 data collection regulations will provide data to inform more granular forecasts
2	Develop criteria for classification of demand-side programs	Adopted bifurcation policy for DR resources in 2014. Refined in 2015.		GFO-15-311 pilots can provide useful input for this task

Goal 4: Ensure resources are procured and developing to meet capability, timing, and location needs (con't)

	Activities associated with goal	CPUC	ISO	CEC
3	Include load-modifying DR programs in demand forecast	Implemented in 2014.		Long-term hourly forecasting model over 10 year period, including additional achievable EE and DR programs will be included in the 2017 and future IEPR Energy Demand Forecasts
4	Revise RA counting for DR programs classified as supply resources	Under development.		

Goal 4: Ensure resources are procured and developing to meet capability, timing, and location needs (con't)

	Activities associated with goal	CPUC	ISO	CEC
5	Develop policy guidance for DR and EE programs targeted to meet needs	IDER pilot authorized to test competitive solicitation and shareholder incentive framework to defer / avoid traditional T&D investment with DER alternatives (including EE and DR)		Via Energy Action Plan and IEPR Proceedings

Goal 4: Ensure resources are procured and developing to meet capability, timing, and location needs (con't)

	Activities associated with goal	CPUC	ISO	CEC
6	Develop approach to monitor progress of DR and EE program development and implementation	EE EM&V and DR LI studies inform best available information and potential studies		<ul style="list-style-type: none"> • Via IEPR Proceedings • Updates to Title-20 data collection regulations, data to be collected starting in 2018; SB 350 EE savings targets – In 2017-2018, establishing methods to track and report progress on the SB 350 savings targets

Goal 4: Ensure resources are procured and developing to meet capability, timing, and location needs (con't)

	Activities associated with goal	CPUC	ISO	CEC
7	Develop multi-year forward RA requirements and procurement mechanism	Have been considered, but not adopted.		
8	Develop market-based replacement for ISO backstop capacity (CPM replacement)		Competitive Solicitation Process developed	
9	Develop DR auction pilot	Approved DRAM pilots for deliveries in '16-'19.	Deferred to DRAM	GFO-15-311 awardees participating in DRAM

Goal 4: Ensure resources are procured and developing to meet capability, timing, and location needs (con't)

	Activities associated with goal	CPUC	ISO	CEC
10	Evaluate and measure DR and EE program effectiveness	DR and EE programs are regularly evaluated for savings and effectiveness.		Via Energy Savings DAWG Subgroup, Demand Response DAWG Subgroup and Demand Response Measurement and Evaluation Committee (DRMEC, (CEC is member), results to be incorporated into SB 350 EE tracking and reporting

Goal 5: Increase DR program and pilot participation in ISO market developing operations experience and providing feedback for policy refinement

	Activities associated with goal	CPUC	ISO	CEC
1	Complete CPUC Rule 24	Approved in 2013.		
2	Implement ISO RDRR		Implemented in 2014. SCE integrated in 2016; PGE began in 2017	
3	Bid DR resources into ISO markets	IOUs are required to bid DR by 2018. (SCE started in 2015). DRAM resources are bid.	Implemented proxy demand response in 2010	
4	Expand ISO metering and telemetry options		Completed in 2014	

Goal 5: Increase DR program and pilot participation in ISO market developing operations experience and providing feedback for policy refinement (con't)

	Activities associated with goal	CPUC	ISO	CEC
5	Refine and automate wholesale DR registration process	Authorized funding for infrastructure to support IOU/3P DR registration (2015- present)	Completed in 2016	
6	Execute PG&E intermittent resource pilot in ISO market	Approved PG&E's IRM2 pilot in 2012 and Excess Supply pilot in 2014	Conducted in 2015	

Goal 5: Increase DR program and pilot participation in ISO market developing operations experience and providing feedback for policy refinement (con't)

	Activities associated with goal	CPUC	ISO	CEC
7	Modify and implement ISO NGR – PDR model		Continues to be discussed	
8	Define and execute pilot programs and assess resource flexibility capabilities		Refined pilot process	GFO-15-311 pilots will provide data on customer capabilities



The Energy Commission's EE Programs

- Adopted 2013 and 2016 Building EE Standards – Title 24,
- Opened D.17-BSTD-01 for pre-rulemaking on proposed 2019 Building EE Standards that will be in effect as of January 01, 2020– Title 24,
- Adopted 2016 Existing Buildings EE Action Plan and next update is on or before January 1, 2020,
- Adopted 2016 Appliance Efficiency Regulations -Title 20 (CEC-400-2017-002) and continues to rulemakings for updates,
- Implementing HERS program and Proceeding to improve HERS program (Docket No. 12-HERS-1),
- Offering energy audits to schools via Bright Schools Program (up to \$20K provided for technical assistance),
- Approved Proposition 39 K-12 program Energy Expenditure Plans,



The Energy Commission's EE Programs (con't)

- Providing Energy Conservation Assistance Act Low Interest Loans (up to \$3 million per application),
- Requested funding from the Greenhouse Gas Reduction Fund for the Drought Rebate Program (a clothes washer residential rebate program and a targeted disadvantaged community direct install program),
- Investing in the Water Energy Technology (WET) Program (contingent on legislative approval of funding),
- Created on-line Energy Consumption Database Management System (ECDMS) for informal reporting of electricity and natural gas consumptions,
- Administering Energy Standards Hotline,
- Administering Appliance Efficiency Database System, and
- Approved the Acceptance Test Technician Certification Providers Program