



**California Energy
Commission**

Panel on Preparations for Los Angeles Basin Gas-Electric Reliability and Market Impacts California Energy Commission (AD16-21-000)

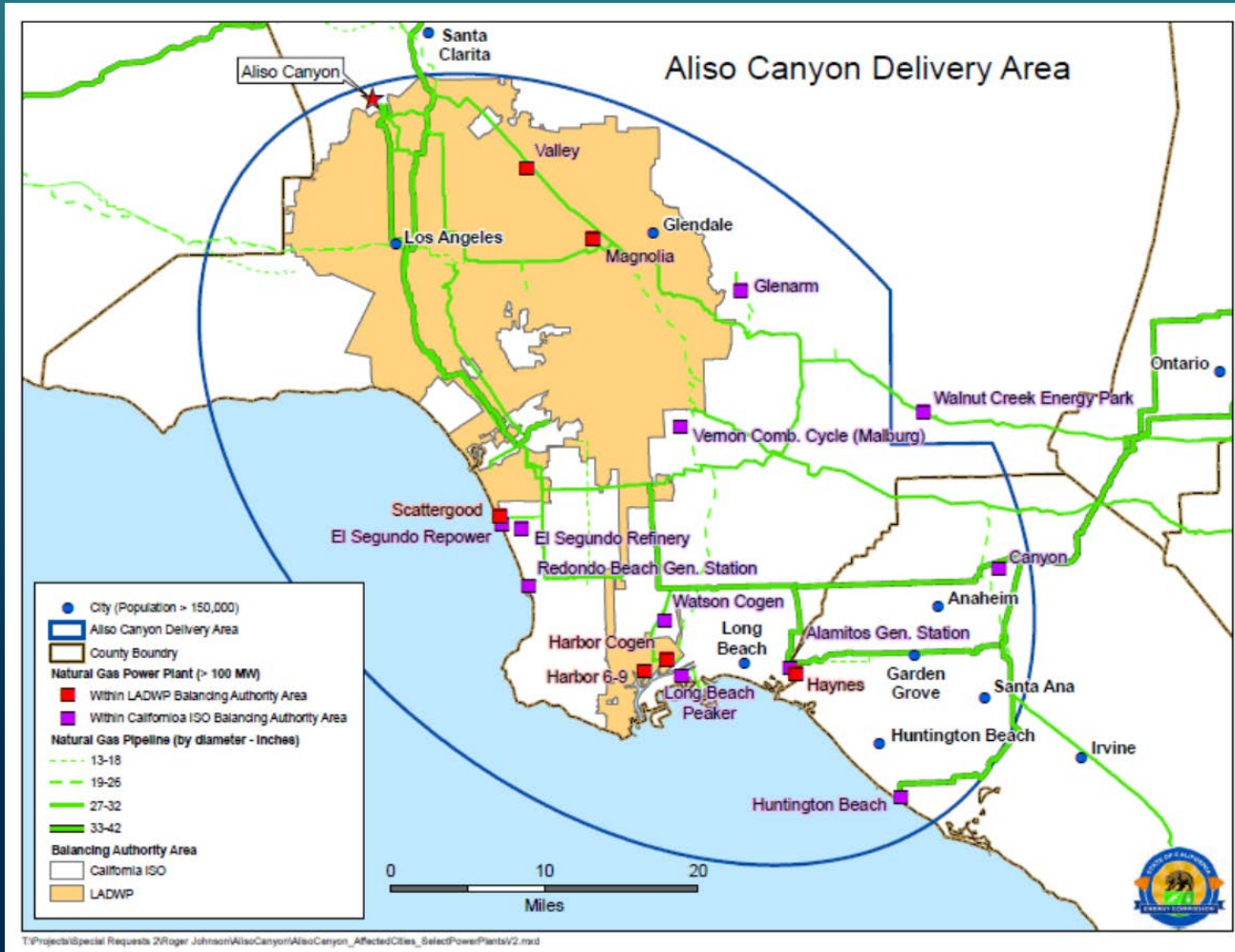
Chair Robert B. Weisenmiller

May 19, 2016

Working since December to understand reliability impacts and to develop action plan

- In compliance with Governor's Proclamation, reliability studies performed by CPUC, CEC, CAISO and LADWP
- Relied on support from SoCalGas to analyze operations impacts and curtailment scenarios
- Technical Assessment Report and Draft Mitigation Action Plan Released on April 5th and workshop on April 8
- DOGGR's Test Results: 1 well passed all tests, 7 wells are taken out of operation, 106 wells are pending test results
- Analysis focused on summer 2016
 - Separate issues for next winter, yet to be fully assessed
 - Winter workshop planned for July or August
- Report assessing long-term viability of natural gas storage; due in 2017

Aliso supports ~9,800 MW: 40% LADWP/ 60% in CAISO; Critical for Peak Day and Contingency Reserve situations



Mitigation Measures Help, but do not eliminate risks

CATEGORY	MITIGATION MEASURE	STATUS UPDATE
Prudent Aliso Canyon Use	1. Make available 15 bcf stored at Aliso canyon to prevent summer electricity interruptions	Discussions underway to develop protocol. Draft plan and order expected by mid-May. CPUC disposition by end of May.
	2. Efficiently complete the required safety review at Aliso Canyon to allow safe use of the field	DOGGR website shows underway with 1 well having passed all tests
Tariff Changes	3. Implement tighter gas balancing rules	Incorporated into proposed settlement submitted 4/29/16. CPUC disposition expected in June.
	4. Modify operational flow order rule	OFO rule changes incorporated into proposed settlement submitted 4/29/16. CPUC disposition expected in June.
	5. Call operational flow orders sooner in gas day	SoCalGas considering
	6. Provide market information to generators before cycle 1 gas scheduling	Changes approved by ISO BOG 5/4/16. Incorporated into ISO FERC Tariff filing submitted 5/5/16.
	7. Consider ISO market changes that increase gas-electric coordination	Incentives approved by ISO BOG 5/4/16 and incorporated into ISO FERC Tariff filing submitted 5/5/16.
Operational Coordination	8. Increase electric and gas operational coordination	Training scheduled for 5/26/16 and additional table top exercises scheduled for 5/16/16 & 5/31/16. Coordinating w/Peak RC and WECC to maximize transfer capability
	9. Establish more specific gas allocation among electric generators in advance of curtailment	Discussions underway to develop protocol
	10. Determine if any gas maintenance tasks can be safely deferred	Working on list of potential projects

Mitigation Measures Help, but do not Eliminate Risks

CATEGORY	MITIGATION MEASURE	STATUS UPDATE
LADWP Operational Flexibility	11. Curtail physical gas hedging	Completed & continuing
	12. Stop economic dispatch	Completed & continuing
	13. Curtail block energy and capacity sales	Completed & continuing
Reduce Natural Gas and Electricity Use	14. Ask customers to reduce natural gas and electricity energy consumption	Advice letter for Flex Alert and gas messaging funding completed 4/28/16. Task force for gas messaging created and ISO will be ready for flex alert triggers by mid-May.
	15. Expand gas and electric efficiency programs targeted at low income customers	CPUC Approved on 4/21/16 with monthly impact reporting to begin 5/23/16.
	16. Expand demand response programs that target air conditioning and large commercial use	Proposed Decision Issued 5/4/16 with CPUC disposition expected early June.
	17. Reprioritize existing energy efficiency towards projects with potential to impact usage	List of custom projects identified. Next, SCE and SCG to finalize agreements to accelerate projects. LADWP kicked-off LAUSD implementation on 4/6/16. LADWP will launch adding components to existing programs by 7/1/16.
	18. Reprioritize solar thermal program spending to fund projects for summer and by end of 2017	Approved funding transfer from general market program to low-income program. Advice letter filed 4/15/16 for incentive design modifications to SCG CSI Thermal Program.
	19. Accelerate Storage(added in response to workshop comments)	Identified energy storage projects in SoCalGas territory which could help alleviate needs caused by Aliso Canyon. Working on multiple approaches to accelerate online dates.

A Situation Requiring Unprecedented Coordination

- Based on the current design, Aliso is critical for integrated gas and electric service this summer
- A distinct risk to reliability exists when mismatch of scheduled flow gas and actual gas demand exist while other planned outages to gas infrastructure occur
- Mitigation measures will help, but do not eliminate risk
- Next up: Analyze next winter
- Consumer support is critical
 - Need all consumers to help when called upon during Flex Alerts by conserving
 - Rest of state can also help by conserving energy

How Can FERC Help?

- Expedite tariff changes
- Closely monitor markets for any signs of manipulation
- Prompt corrective actions if there is market manipulation
- Air permit exemptions for alternative fuels to be used at existing power plants
- Other ways?

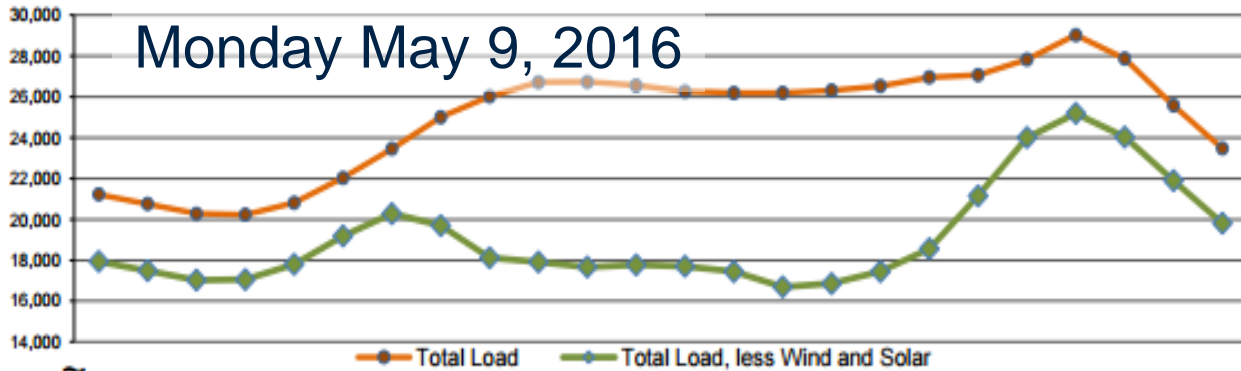
Senate Bill 380

- Signed into Law May 10, 2016
- Prohibition against reinjection until a comprehensive safety review of all wells has been completed
- CPUC to determine range of working gas necessary to ensure safety, regional energy reliability, and reasonable rates
- CPUC/CEC to determine feasibility of minimizing or eliminating Aliso Canyon

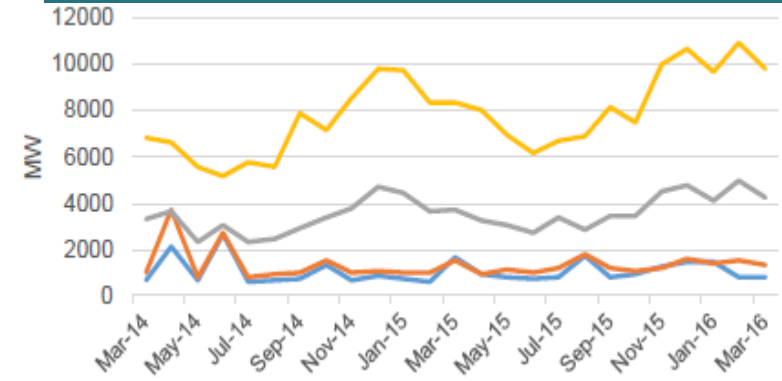
The Duck Has Landed

Monday May 9, 2016

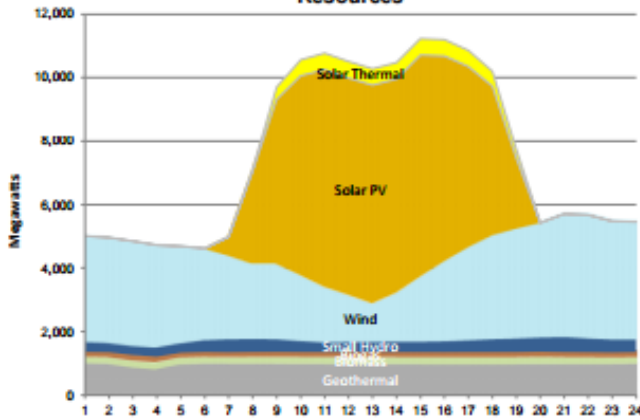
Hourly Average Net Load



Monthly Maximum Ramping Needs

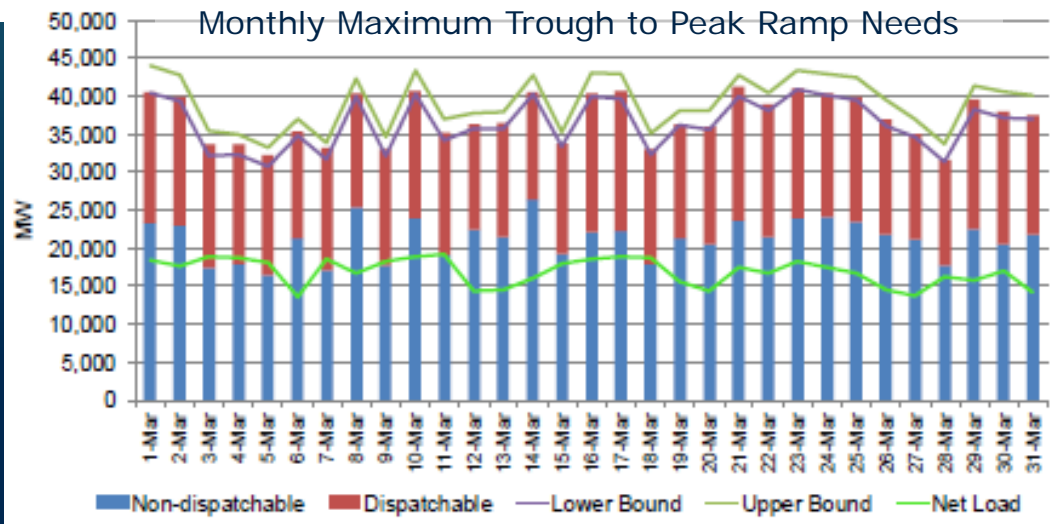


Hourly Average Breakdown of Renewable Resources

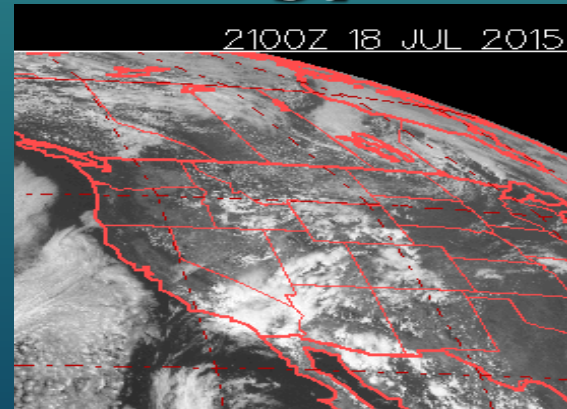


This graph shows the production of various types of renewable generation across the day.

Monthly Maximum Trough to Peak Ramp Needs



Increased Demands on System from Intermittent Energy Sources



CAISO - Solar Forecast and Actual (July 18, 2015)

