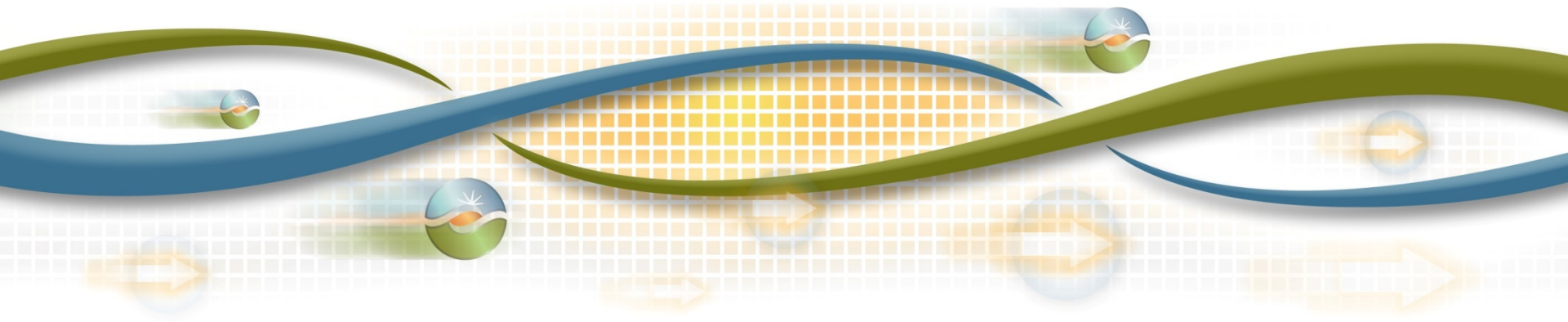


Status Report on Analyses for Assembly Bill 1318

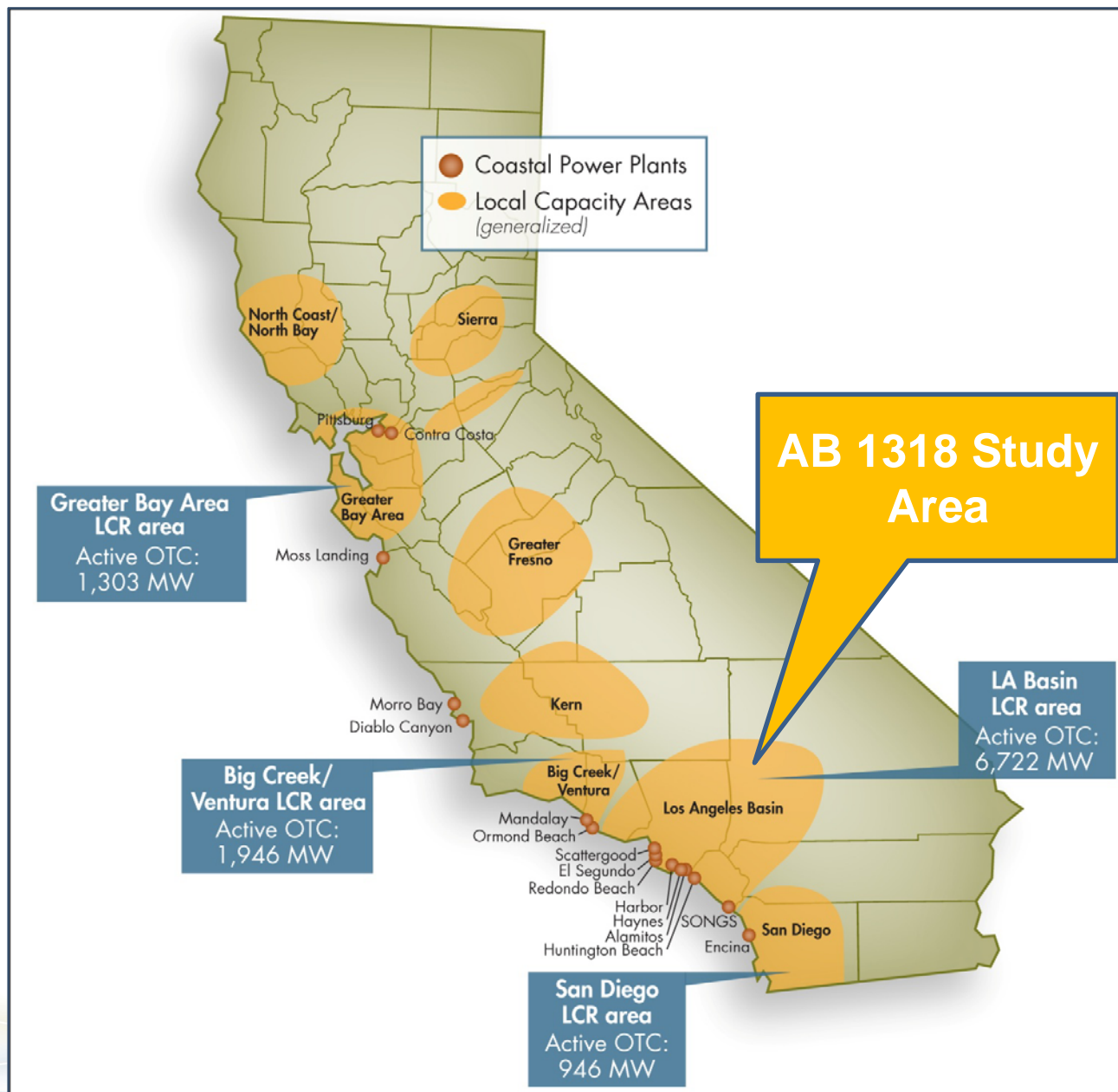
June 22, 2012



Overview

- CAISO Study Update:
 - Long-term (2021) local capacity requirements for LA Basin area
 - Sensitivity studies with incremental uncommitted energy efficiency and combined heat and power
 - Studies to estimate operating profiles of new generation requirements
 - Transient stability studies to confirm grid reliability

ISO Local Capacity Areas and Once-Through-Cooling Plants



LA Basin Local Capacity Requirements

- Extracted from Once-Through-Cooling Generation Analysis
 - New fossil generation includes repowering or replacement of the existing OTC with acceptable cooling technology
- Determines new fossil generation need in the ISO's LA Basin local capacity requirement area by evaluating the following boundary scenarios:
 - High net load scenario (CEC adopted load forecast) for the CPUC's Renewable Portfolios:
 - trajectory,
 - environmentally constrained
 - time constrained
 - base (revised cost constrained) portfolio
 - Sensitivity mid net load scenario requested by CPUC and CEC:
 - with incremental uncommitted energy efficiency (EE) and combined heat and power (CHP) for the environmentally constrained portfolio (lower bound study scenario)

Summary of Long-Term Once-Through Cooling Studies (2021 time frame) for ISO LA Basin Local Area

LCR Area	Local Capacity Requirements (MW)				New Generation Need? # If Yes, Range of New Generation Need (MW)			
	Trajectory	Environmentally Constrained	ISO Base Case	Time Constrained	Trajectory	Environmentally Constrained	ISO Base Case	Time Constrained
LA Basin (this area includes sub-area below)	13,300	12,567	12,930	13,364	2,370 – 3,741	1,870 – 2,884	2,424 – 3,834	2,460 – 3,896
Western LA Basin (sub-area of the larger LA Basin area)	7,797	7,564	7,517	7,397				

Notes:

New generation need is referred to repowering of existing Once-Through-Cooling generation

Existing Once-Through-Cooling generating plant locations in the LA Basin area: El Segundo (670MW), Redondo Beach (1,343MW), Alamitos (2,011 MW), Huntington Beach (452MW)

(Most effective Once-Through-Cooling generation: Alamitos and Huntington Beach)

Local Capacity Requirement Sensitivity assessment of mid net load case for L.A. Basin

- These studies were requested by the state energy agencies (i.e., CPUC and CEC)
- The ISO agreed to perform these studies as *sensitivities* , evaluating the impact of the state agencies' assumptions of incremental uncommitted energy efficiency (EE) and combined heat & power (CHP)
- Environmentally constrained portfolio case was used per AB 1318 study scope

Load Serving Entities	2021 Incremental Uncommitted EE (MW)	2021 Incremental Uncommitted CHP (MW)
SCE	2,461	209
SDG&E	496	14

Updates To The Sensitivity Assessment

- On June 13, the ISO posted an Addendum to Section 3.4.2.1 of the ISO 2011/2012 Transmission Plan updating the sensitivity study:
http://www.caiso.com/Documents/Addendum-Section3_4_2_1_ISO2011_2012TransmissionPlan.pdf
- The local area requirements were updated by:
 - Adding incremental uncommitted energy efficiency amounts in the Western LA Basin area and LA Basin area;
 - Correct monitoring of the constrained Serrano – Villa Park #1 230kV line (affecting Western LA Basin requirements);
 - Updating the San Diego generation need by mitigating a voltage stability concern under contingency conditions; (also affecting the LA Basin requirements)
 - Adding sensitivity studies with the addition of uncommitted Combined Heat and Power on top of the uncommitted Energy Efficiency assumptions;
 - Adding studies with the addition of uncommitted Energy Efficiency and Combined Heat and Power and the loop-in of Del Amo – Ellis 230kV line

Determination of Operating Profiles of New Generation Requirements in the LA Basin

- The ISO incorporated a total of 3,137 MW of local capacity requirements in the Renewable Integration studies to determine residual flexible and dependable capacity need
 - LA Basin (2,370 MW)
 - Big Creek/Ventura (430 MW)
 - San Diego (373 MW)
- These amounts were obtained from the ISO's Once-Through-Cooling generation studies of the trajectory RPS portfolio
 - Low end figure of the new generation need range was used assuming most effective locations were repowered
- A combination of simple cycle gas turbines and combined cycle gas turbines were modeled.

Transient Stability Studies

- Studies performed to validate that the ISO grid has adequate system inertia by performing transient stability with minimum level of OTC generation requirement
- The studies demonstrated acceptable system performance

Next Steps

- Results have been provided to state agencies for review
- Results will be fed into ARB process as set out by Mr. Tollstrup