

Rulemaking: 12-03-014

Exhibit No.: SC-X-CAISO-4

Commissioner: Michel Florio

ALJ: David Gamson

Order Instituting Rulemaking to Integrate
and Refine Procurement Policies and
Consider Long-Term Procurement Plans.

Rulemaking 12-03-014 (DMG)
(Filed March 22, 2012)

Draft SONGS Replacement Procurement Analysis

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Draft SONGS Replacement Procurement Analysis

Introduction

Given the retirement of the San Onofre Nuclear Generating Station (SONGS), California's electric utility planning agencies and investor owned utilities are beginning the process to procure new replacement resources. Understanding this, the California Public Utilities Commission (CPUC) opened a separate track of the 2012 Long Term Procurement Proceeding (LTPP, Track IV) to examine the special procurement needs to respond to the retirement of SONGS.

The CPUC will analyze the procurement needs of the State in relation to the retirement of SONGS independent from 'business as usual' procurement. That is, this process is separate and unique from the procurement the utilities will undertake in response primarily to system load growth and the Once-Through Cooling (OTC) policy already taken into account in the LTPP.

The net-short we face in light of the retirement of SONGS is an open question that will take significant stakeholder involvement to properly flesh out. Given the complex nature of the task at hand, it is reasonable to begin work with the assumption that we will replace SONGS with 2,200 MW of new generation, demand reduction, and energy storage that can serve peak load and system stability needs within the respective local capacity reliability areas. Alternatively, transmission modifications or upgrades, including synchronous condensers and shunt capacitors, could reduce the need for other new resources located within the affected local reliability areas.

A balanced portfolio approach

California has aggressive GHG reduction goals and electric system demands that make resource planning a complex analytical exercise. SONGS represented about 16,200 GWh of annual GHG neutral base load generation that delivered power to millions of Californians. In evaluating tradeoffs, we consider the economic and public security risk involved with under procuring energy generation, resulting in system outages. We must furthermore evaluate the public health and environmental costs of the resource portfolio we select.

In Track I of the 2012 LTPP, the CPUC analyzed the need for new local resources in the Los Angeles Basin local reliability area, given state policy of phasing out power plants that use Once-Through-Cooling (OTC) technology, and given that much of this capacity is located within the LA Basin. This analysis assumed that SONGS would remain online. Track I concluded with CPUC directing Southern California Edison to procure new resources as summarized in the following chart.

2012 LTPP Track I Authorization for LA Basin (SCE) – Considers SONGS online

	<u>Low</u>		<u>High</u>	
	MW	Mix	MW	Mix
Gas-fired	1,000	71%	1,000*	56%
All-Source	200	14%	200	11%
Storage	50	4%	50	3%
Preferred	150	11%	150	8%
Preferred and/or Storage	-	0%	400	22%
Total	1,400	100%	1,800	100%

*gas-fired can be increased to 1,200 MW and the all-source decreased to 0 MW

This decision is an example meeting LCR needs by clearly establishing procurement ranges for preferred resources, energy storage, and conventional generation.

As Southern California Edison works with the CPUC through this Track I all-source RFO, it is important that we document the process well to build upon lessons learned. Certainly San Diego Gas & Electric and Southern California Edison, and the broader State resource planning agencies, can benefit through developing lessons learned from this first attempt to have truly all-source procurement.

Demand side management – modified cost-effectiveness

The CPUC is statutorily obligated to direct the investor-owned utilities in California to procure all cost-effective demand reduction and energy efficiency. Loosely defined, the current cost-effectiveness protocol established that the CPUC considers avoided cost on a system-wide basis.

Due to environmental and other factors, procurement costs in the local capacity areas may have higher prices for gas-fired generation. To the extent that these factors are not currently considered for preferred resource procurement there could be opportunities for the State to expand preferred resource procurement, but only if these programs can be targeted to the affected local reliability areas.

Demand side management – targeting reliability

If the State wishes to meet local reliability needs with energy efficiency and demand response, it may need to consider changes in these programs to build in attributes that more directly address local reliability needs.

For energy efficiency, this could include deep market transformation in fewer markets to ensure the products we need will be available in 2020 to achieve focused energy savings in locationally-targeted areas. For demand response, this could include transforming products and programs to respond more

PRELIMINARY DRAFT – Disclaimer: this document is a thought piece and does not set policy for the California Public Utilities Commission or the State of California.

quickly to resource outages or to participate in CAISO energy markets. To the extent that demand response programs can be overridden, for example, they could be paired with high penalty pricing.

Distributed generation interconnection

The CPUC has an open proceeding to remove the barriers that have limited the interconnection of new DG resources. Significant progress has been made in streamlining the process for projects in load centers, such the target areas for SONGS replacement. Additional work on smart inverters, to allow increased solar penetration on distribution circuits, is on-going, but it will require revisions to codes and standards. CPUC consultants are developing potential studies for solar and the utilities have posted on their websites information on locations where generation can be sited without the need for significant distribution upgrades. In addition, the as part of the TPP, the ISO is now producing an annual report on the delivery potential of DG resources. A stakeholder process is currently underway to identify improvements in the process.

Customer-side DG

In terms of customer-scale solar photovoltaic (PV) installations in the relevant local reliability areas, Los Angeles has 174.6 MW of installed PV capacity and San Diego has 140.1 MW. Given the intermittent nature of this generation and power quality issues, customer-scale generation is limited in ability to serve the needs brought about by the retirement of SONGS. Properly targeted customer-scale generation, perhaps coupled with storage, however can provide greater benefit to the grid.

Energy storage

The CPUC is exploring opportunities to direct the growth of energy storage in California as a clean way to improve grid reliability, and help support intermittent renewable generation. As we approach an RPS of 33% and beyond, energy storage may play an important role in grid management.

A recent Assigned Commissioner Ruling proposed directing additional energy storage procurement by as much as 745 MW by 2020 in the San Diego and SCE service territories¹. If properly directed, this energy storage could unlock the potential of many of the state's renewable resources to more effectively support replacement generation for SONGS.

¹ Released by CPUC Commissioner Peterman on June 10, 2013 in proceeding R.10-12-007

Proposed 2020 storage MW targets in the June 10th ACR

Type	SCE MW	SDG&E MW	Total MW
Transmission	310	80	390
Distribution	185	55	240
Customer	85	30	115

Wholesale Renewables

For renewables, it is important that least-cost, best-fit analysis takes local reliability needs into consideration. Given the specific needs for generation in the LA Basin and San Diego local reliability areas, all costs and benefits of competing resources need to be effectively evaluated.

Proposed Additional Resource Portfolio

	Total MW	Percentage
Storage (targeted)	200	9.09
DR	150	6.82
Preferred	500	22.73
Conventional and Transmission	1,350	61.36
Total	2,200	

PRELIMINARY DRAFT – Disclaimer: this document is a thought piece and does not set policy for the California Public Utilities Commission or the State of California.