



2013-2014 Local Capacity Requirement (LCR) Solicitation

Muir Davis - SCE
IDSM OIR Learning Session 1
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Overview of SCE's LCR RFO* Selection Results

❑ Selected offers for the LCR RFO

- Total of **1883 LCR MW** of new resources in LA Basin
 - ~ 401 MW of customer-side resources (EE, DR, behind-the-meter solar, and behind-the-meter energy storage)
- Total of **274 LCR MW** of new resources in Moorpark sub-area
 - ~ 12 MW of customer-side resources (EE and behind-the-meter solar)

❑ Procurement authorization:

- Long Term Procurement Plan (LTPP) Track 1 and Track 4 Decisions order SCE to procure new resources by 2021 to meet the identified LCR needs due to retirement of:
 - Once-through-cooling (OTC) units on the coast – Track 1
 - San Onofre Nuclear Generating Station (SONGS) – Track 4

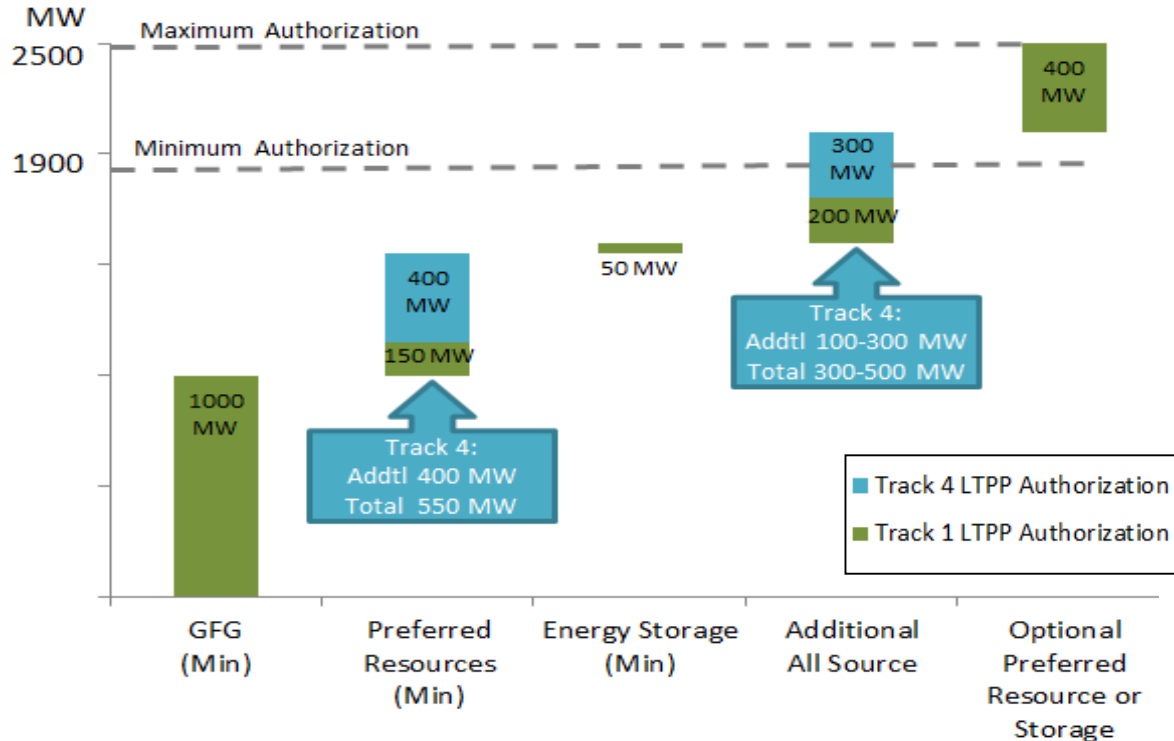
* Local Capacity Requirement (LCR) Request for Offers (RFO)

LCR Objectives & Procurement Authorization

Primary Objective of LCR RFO:

- Seek new resources in both West LA Basin and Moorpark
- A technology-neutral competitive solicitation
- Delivery during peak hours to meet the identified LCR need

Western LA Basin:



Moorpark Sub-Area:

- SCE shall procure between 215 and 290 MW in Big Creek/Ventura
- No minimum requirement for a specific technology

* All-source means all technologies compete against each other with selection awarded consistent with the Loading Order and need assessments

Quantitative Valuation – Components

Costs

Contract Payments

- Based on the contract heat rates, variable charge, and capacity prices, expected generation and contract term

Transmission Cost

- Cost adders for required network upgrades based on the best information provided by the counterparty (e.g., completed Facilities Study, Phase 1 Interconnection Study (or equivalent), or better etc.)

Debt Equivalence Cost

- Cost of contract commitments on SCE's balance sheet*

GHG Cost

- Dependent on technology and Seller's allocation of GHG compliance costs

Credit/Collateral

- Dependent on Seller's selection of various levels of performance assurance

Put Option Value

- Expected value of the Put option minus the strike price

Benefits

Energy Value

- Captures market value of the energy including a forecast for GHG while taking into account dispatchability or load reduction of resource

Capacity Value

- The value of the countable Resource Adequacy capacity. Adjustments made to energy storage value based on locational effectiveness factor of the interconnecting LA Basin substation.

Ancillary Services and Real Time Flexibility Value

- Attributed to dispatchable, supply-side projects offering AS capability

**All costs and benefits are valued using SCE's latest forecasts; the result is a NPV for each offer:
 {\$PV Benefits} – {\$PV Costs} = \$ NPV per Offer**

* Risk factor is set at 20% per D.04-12-048.

LA Basin Recommended Selection

- About 100 MW short in meeting the minimum procurement authorization for the preferred resources “bucket”

RESOURCE BUCKET	COUNTERPARTY	LCR MW	DETAILS	TOTAL LCR MW
Gas-fired Generation (GFG)	AES	640	Combined Cycle, GE 7FA 2X1, ~ 6.8 HR @ Alamitos	640
	AES	644	Combined Cycle, GE 7FA 2X1, ~ 6.8 HR @ Huntington Beach	644
	Wellhead (DBE)	98	2LM 6000 Peakers @ Barre (RA-only Contract)	98
TOTAL GFG				1,382
Renewables (RPS)	Sun Power	10.32	Behind the Meter (BTM) Solar in J/S*	38
	Sun Power	27.6	BTM Solar in LA Basin	
Energy Storage (ES)	Ice Bear	28.64	ES BTM Permanent Load Shift Thermal ES in J/S	264
	AES	100	Front of Meter (IFOM) 4hr @ Alamitos	
	Stem	85	BTM 4 hour like DR	
	Hybrid Electric	50	BTM 4 hour like DR	
Energy Efficiency (EE)	Onsite Energy, Sterling Analytics, & NRG	23.36	EE offers in J/S	124
		100.68	EE offers in LA Basin	
Demand Response (DR)	NRG	10	DR offers in J/S, at least 4 hour dispatch	75
		65	DR offers in LA Basin, at least 4 hour dispatch	
TOTAL PREFERRED RESOURCES & ENERGY STORAGE				501
TOTAL				1,883

* Johanna and Santiago (J/S) Substations (PRP sub-area). Procured a total of 89.32 MW in J/S



Moorpark Recommended Selection

- Contract with the GFG resources will be in the form of a fixed price RA-only contract to avoid capital lease treatment

RESOURCE BUCKET	COUNTERPARTY	LCR MW	DETAILS	TOTAL LCR MW
Gas-fired Generation (GFG)	NRG	262	GE 7HA Peaker, 9.6 HR, RA-only contract	262
TOTAL GFG				262
Renewables (RPS)	Sun Power	0.89	Behind the Meter (BTM) Solar in Goleta	5.66
	Sun Power	4.77	BTM Solar, Moorpark	
Energy Storage (ES)	NRG*	0.5	In Front of Meter (IFOM) 4 hour ES in Goleta. This offer includes 54 MW of Ellwood GFG enhancement.*	0.5
Energy Efficiency (EE)	Onsite Energy	1	EE offers in Goleta	6
		5	EE offers in Moorpark	
TOTAL PREFERRED RESOURCES & ENERGY STORAGE				12
TOTAL				274

* The 54 MW does not count towards the LCR MW target.

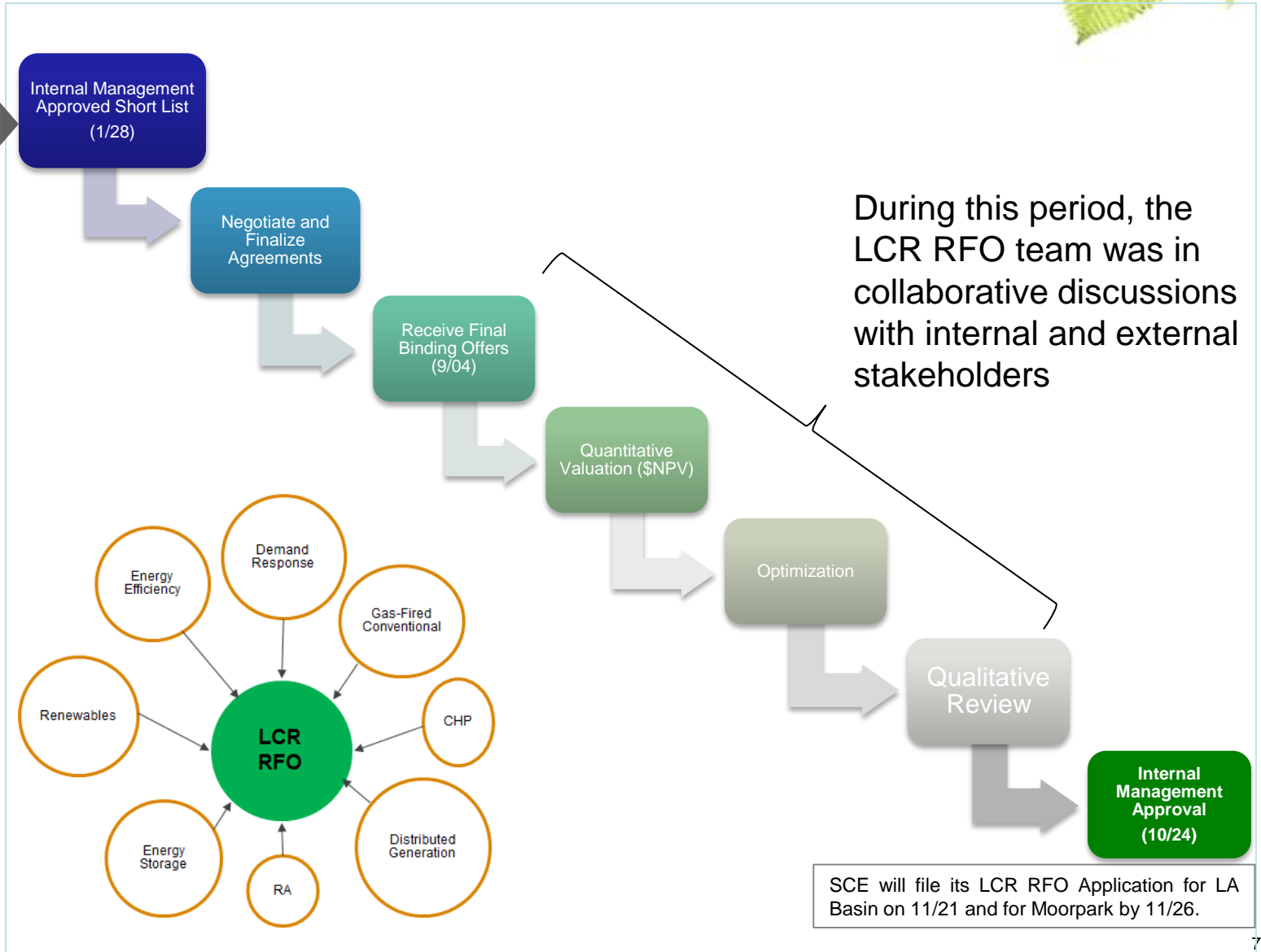


Appendix

LCR RFO Selection Process

LCR RFO Launched (9/12/2013)

- Track 1 Decision: 2/13/2013
- SCE's LCR Procurement Plan approved by the Energy Division: 9/4/2013
- Track 4 Decision: 3/13/2014



SCE will file its LCR RFO Application for LA Basin on 11/21 and for Moorpark by 11/26.



Selection – Optimization Process

The optimization process allows SCE to consider different portfolios of projects that provide the best NPV while controlling for specific MW targets, selected procurement constraints, and consistency with the loading order.

- ❑ Input each project’s NPV, LCR MW, technology type, location, and inclusive and exclusive designations into the optimization model
- ❑ Create portfolios that provide the best NPV while controlling for quantity of MW
- ❑ Review results and create additional runs for areas of interest with tighter constraint increments or different volume targets for technology types and locations
- ❑ Repeat above step as necessary

Constraints

- Total MW minimums and maximums
- Technology minimums and maximums (LA Basin only)
- Counterparty offer inclusivity & exclusivity
- Attribute maximums (2 hr. ES and DR)
- Cross-counterparty offer exclusivity (multiple CPs offering the same end-user EE installation)
- Maximum MW of DR at Johanna/Santiago and Goleta