



Los Angeles
Department of
Water & Power



The Statewide Once-Through-Cooling (OTC) Policy

Statewide Advisory Committee on Cooling
Water Intake Structures (SACCWIS)

Annual Meeting
April 18, 2016

**LADWP Update
Grid Reliability Study 2015**

- Los Angeles Basin Generation
 - *Every* in-basin unit is needed to meet the minimum Reliability Must-Run requirement.
 - Basin generation is critical in order to meet customer demand particularly in the summer.
 - Scattergood Units 1&2 are next units in our repowering schedule.

- Transmission Reinforcements
 - Install 230kV Scattergood-Olympic Cable A.
 - Add reactive support in-basin and external to basin.
 - Upgrade equipment: wires, transformers, circuit breakers, etc.

- Resources
 - Reserve margin requirement is increasing due to more Variable Energy Resources (VERs)
 - RPS targets of 33% by 2020 and 50% by 2030.

- Every WECC audit since 2008 has determined that the LADWP Power System is reliable.

➤ 2015 Transmission Assessment

- conforms to new TPL-001-4 by adding near-term short circuit analysis to the near and long term steady state flow studies in addition to the transient and post-transient voltage stability required in previous studies. Findings show LADWP's Power System will perform reliably over the next ten years.

➤ 2015 Transmission Assessment

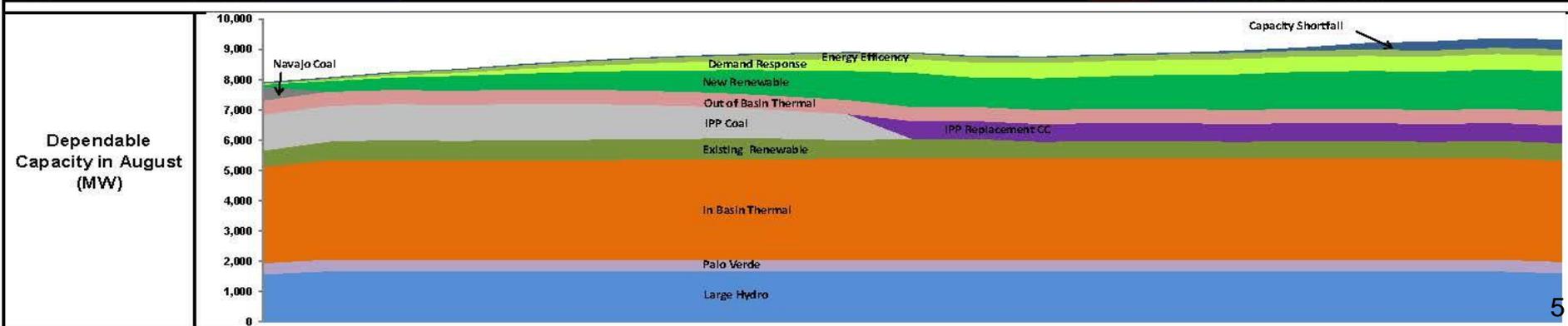
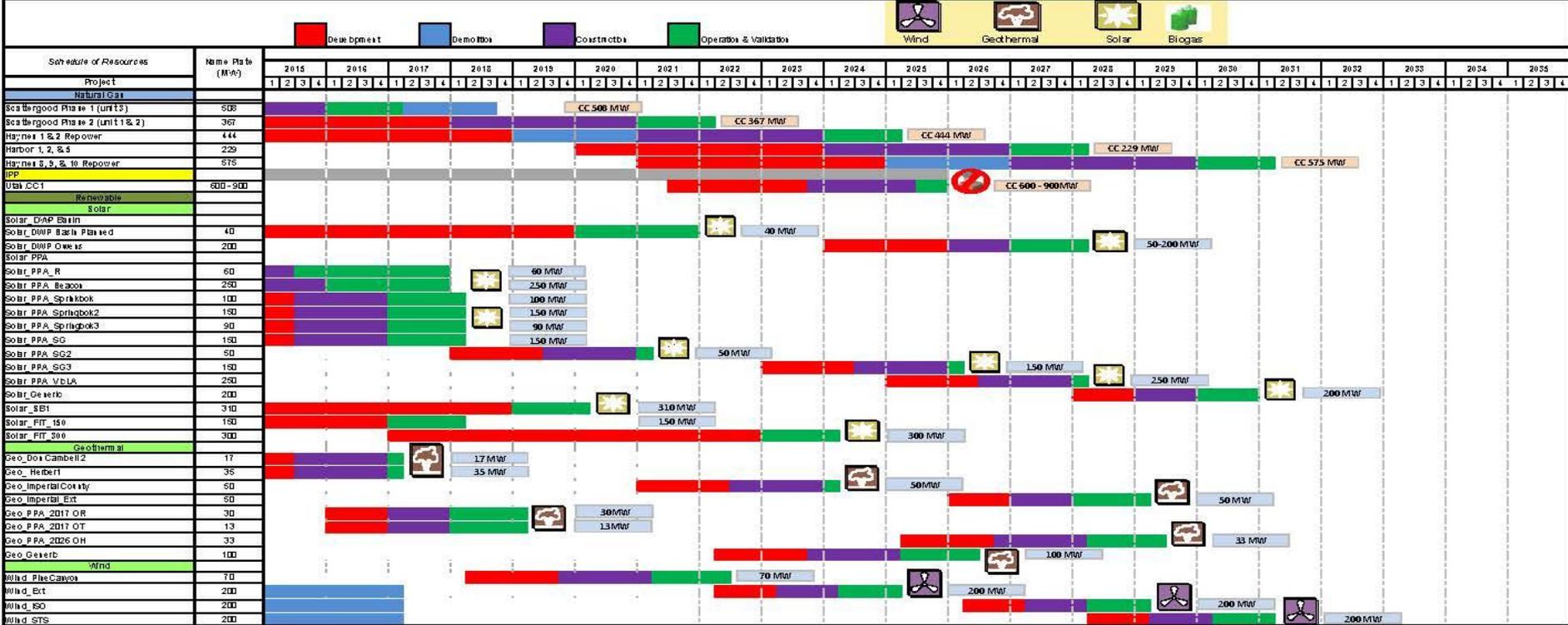
- Identified minimum Reliability Must Run (RMR) generators is unchanged,
 - New Units 11-16 are RMR with Retirement of Haynes Units 5 and 6

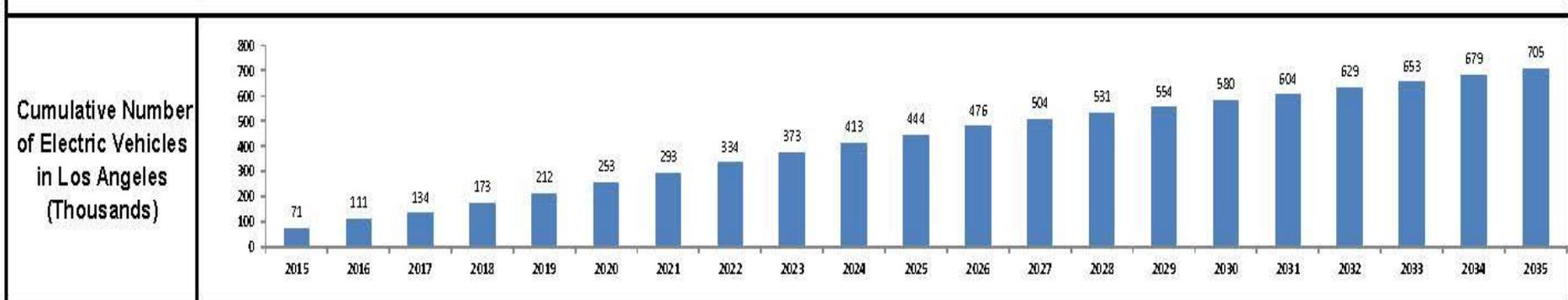
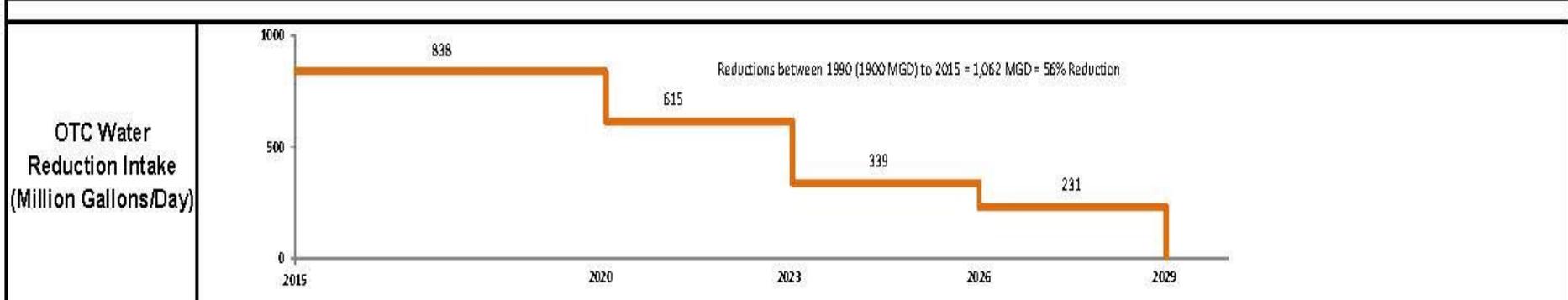
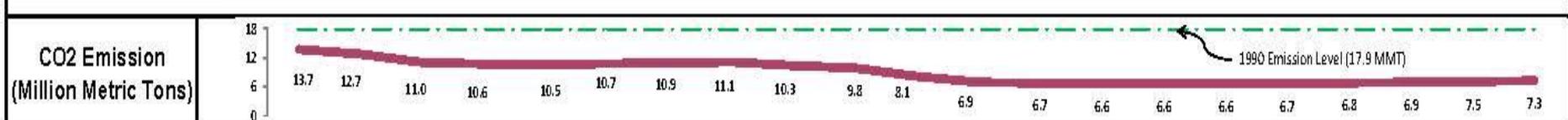
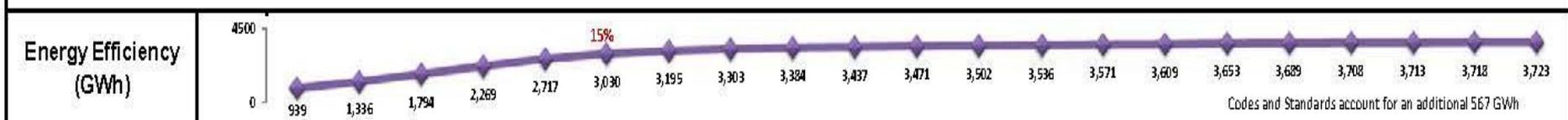
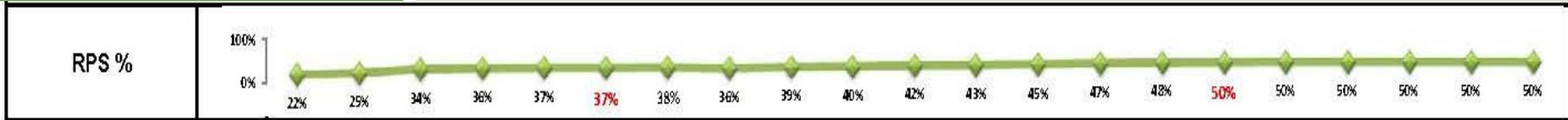
➤ 2015 Long-Term Transmission Assessment

- Key segments of LADWP’s transmission system must be reinforced, to the extent possible, in order to ensure continued reliable operations.
 - Transmission upgrades are in addition to maintaining current RMR generation requirements.
- Findings in 2015 Grid Reliability Report mirror those reported in previous reports and continue to underscore that LADWP’s OTC compliance schedule, shown on next slide, is the most aggressive that is also feasible.

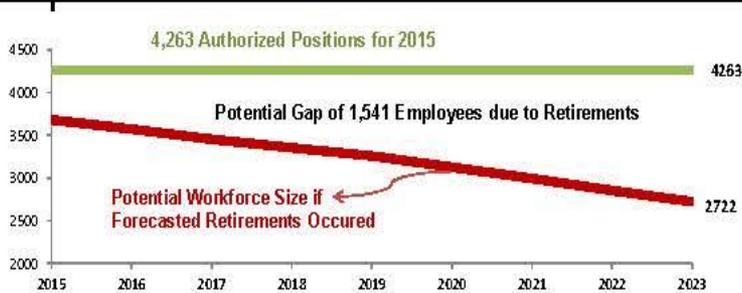
LADWP 2015 IRP

Recommended Case: Navajo 2016, IPP 2025, 50% RPS by 2030, 15% EE by 2020, 800MW Local Solar, High Electrification

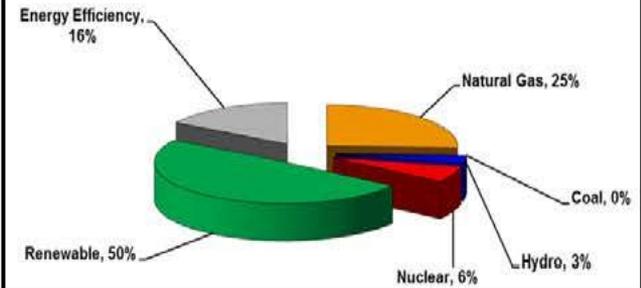




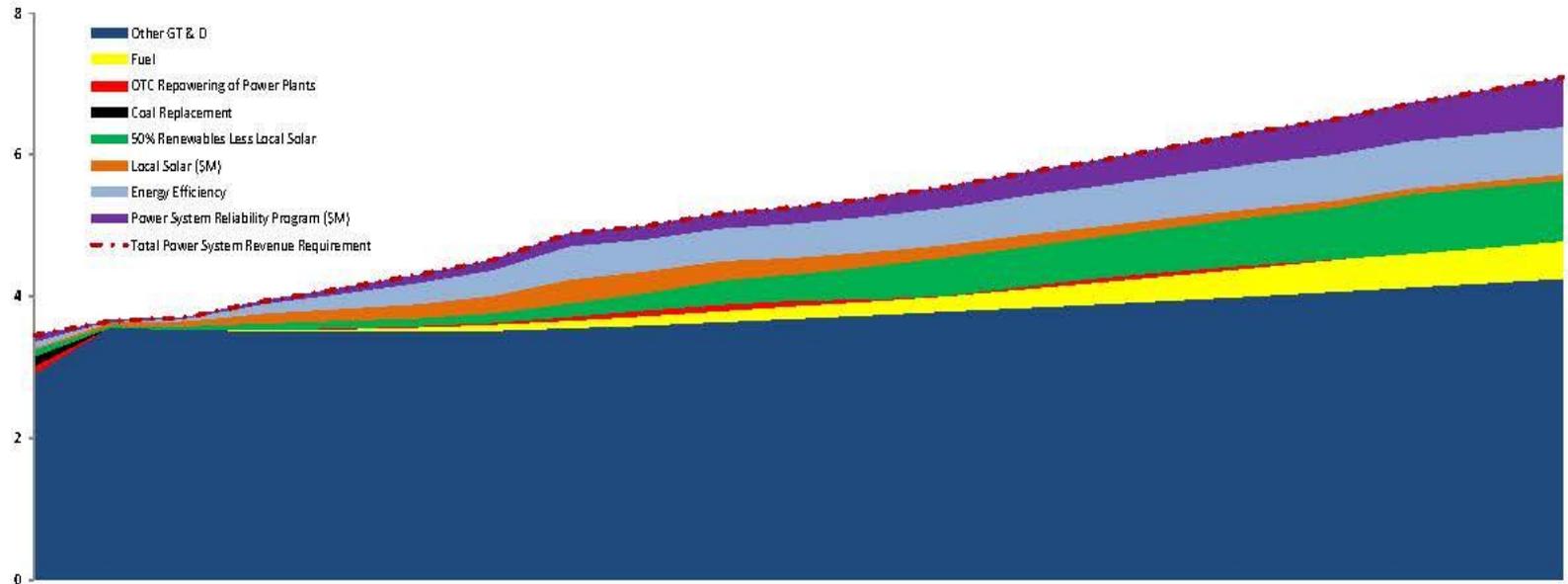
**Power System
Workforce
Integrated Human
Resource Plan
(IHRP)**



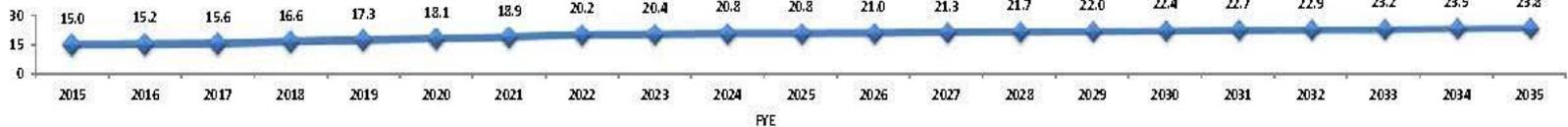
**Generation
Resource
Percentages for
2030**



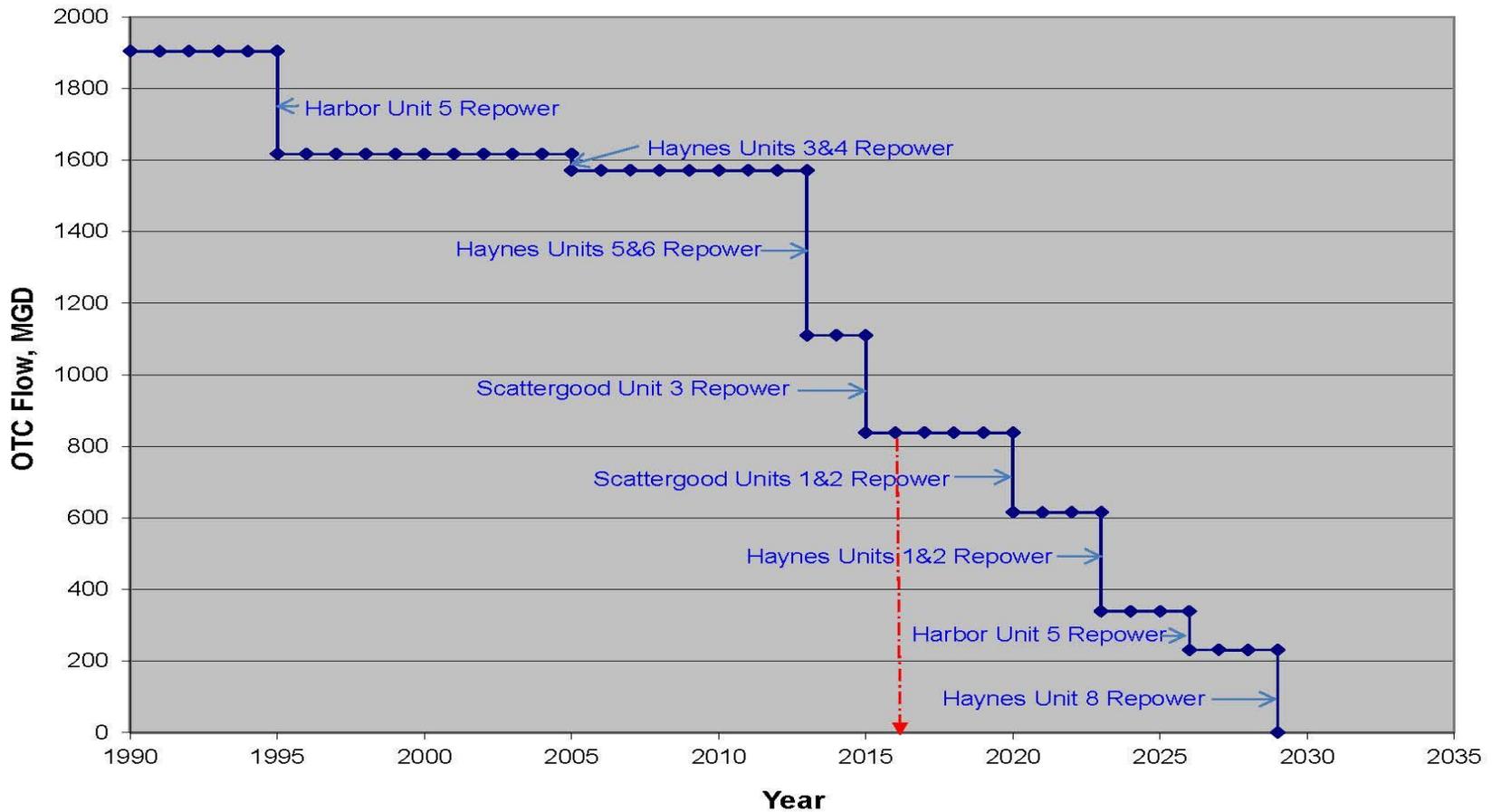
**Power System
Revenue
(\$ Billion)**



**Total Rate Payer
Costs (Cents/kWh)**



OTC Reduction 1990 - 2029



LADWP Update

LADWP Coastal Power Plants Compliance Schedule Status

Station	Unit/ (Vintage)	Max. Flow (MGD)	Compliance Date (Complete conversion to Closed-Cycle Cooling)	Status	Cumulative % Flow Reduction
Haynes	5 (1966)	230.4	2013	Complete	42
	6 (1967)	230.4			
Scattergood	3 (1974)	270.7	2015	Complete	56
Scattergood	1 (1958)	112.3	2024	In Progress	68
	2 (1959)	112.3			
Haynes	1 (1962)	138.2	2029	Pending completion SGS 1&2	82
	2 (1963)	138.2			
Harbor	5 (1995)	108	2029	Pending Completion HnGS 1&2	87
Haynes	8 (2005)	230	2029	Pending completion HGS 5	100

HARBOR GS



HAYNES GS



SCATTERGOOD GS



Unit 3 Repower Project Status:

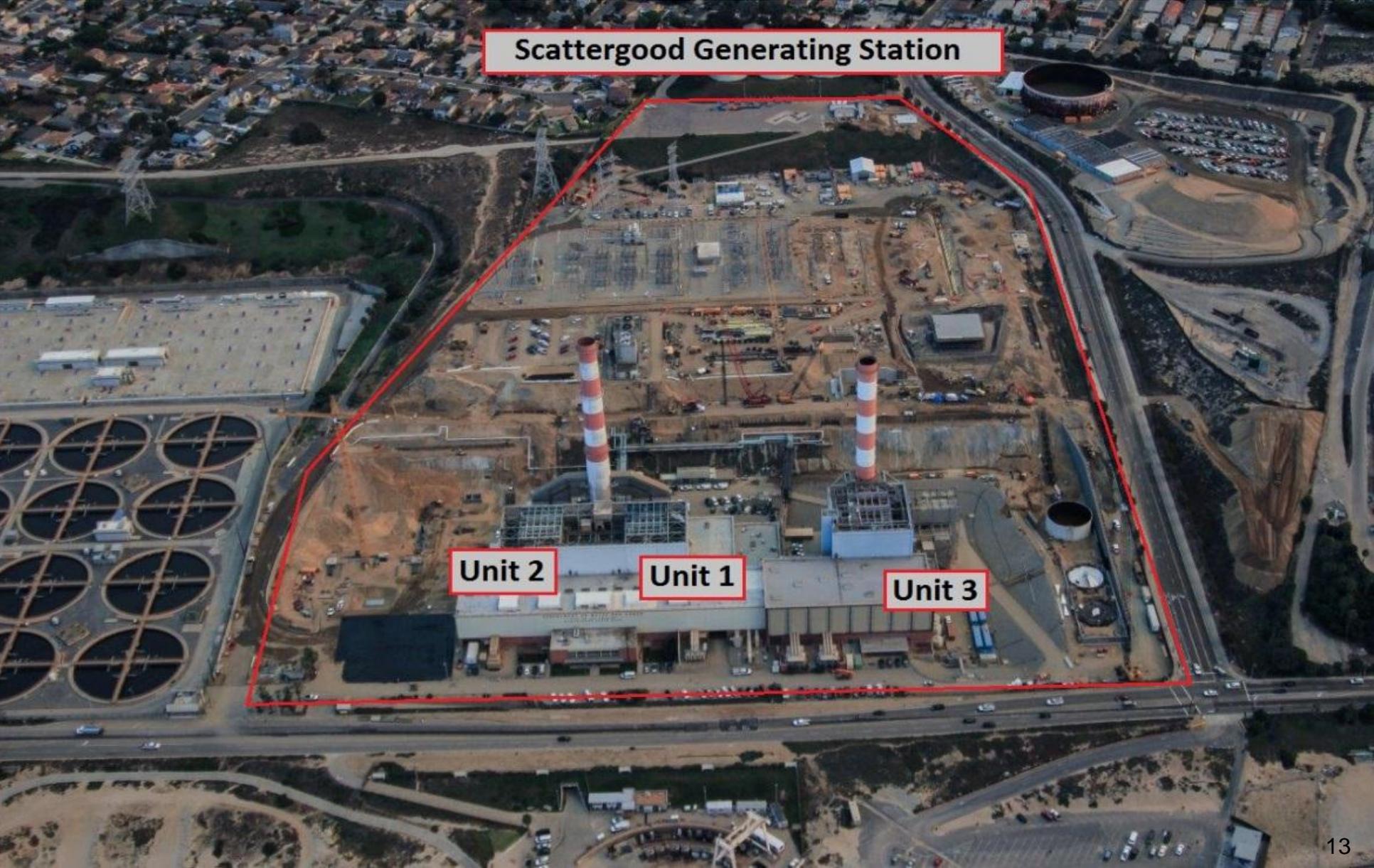
- **Decommissioned Unit 3 Supercritical Steam Boiler (460 MW) on December 18, 2015.**
- **Installed new power blocks:**
 - one 1x1 combined cycle power block (321.6 MW) consisting of a combustion turbine, heat recovery steam generator and air cooled condenser.
 - two 100 MW simple cycle combustion turbines with synchronous condensing capabilities.
- **Project substantial completion and trial operation occurred December 30, 2015.**

Units 1&2 Repower Project Status:

- **Environmental impact analysis is currently underway.**
- Developing technical specifications for contracts.
- Performing air modeling for prospective equipment manufacturers.
- Decoupling decommissioned equipment for demolition is in progress and scheduled for completion in June 2016.

Units 1&2 Repowering Project Status:

- **Demolition of existing Unit 3 equipment is currently scheduled to begin July 2016.**
- Construction of new replacement units is currently scheduled to begin January 2018.
- Units 1 & 2 scheduled for decommissioning and shutdown of Once-Through Cooling system by December 31, 2024.



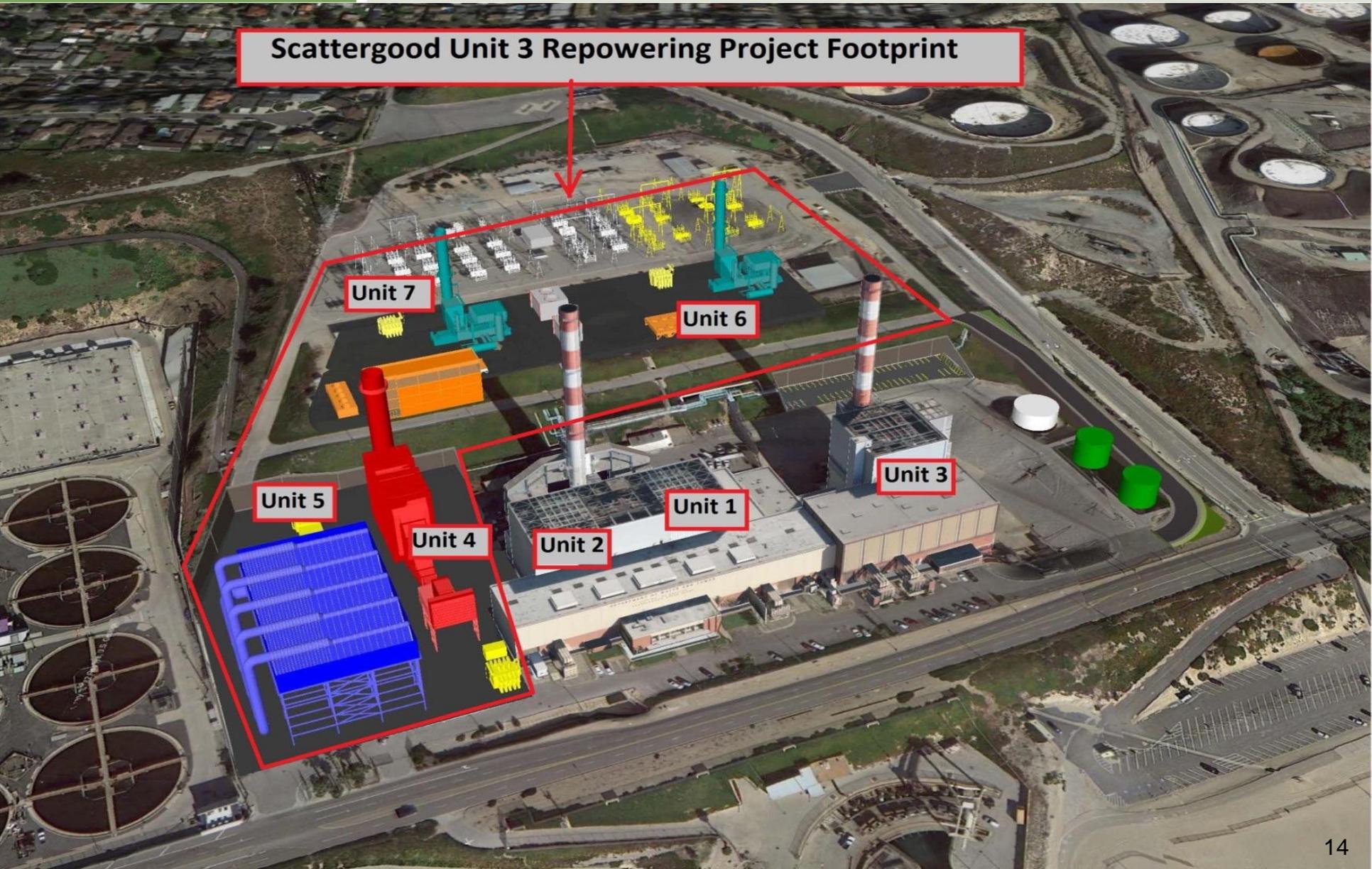
Scattergood Generating Station

Unit 2

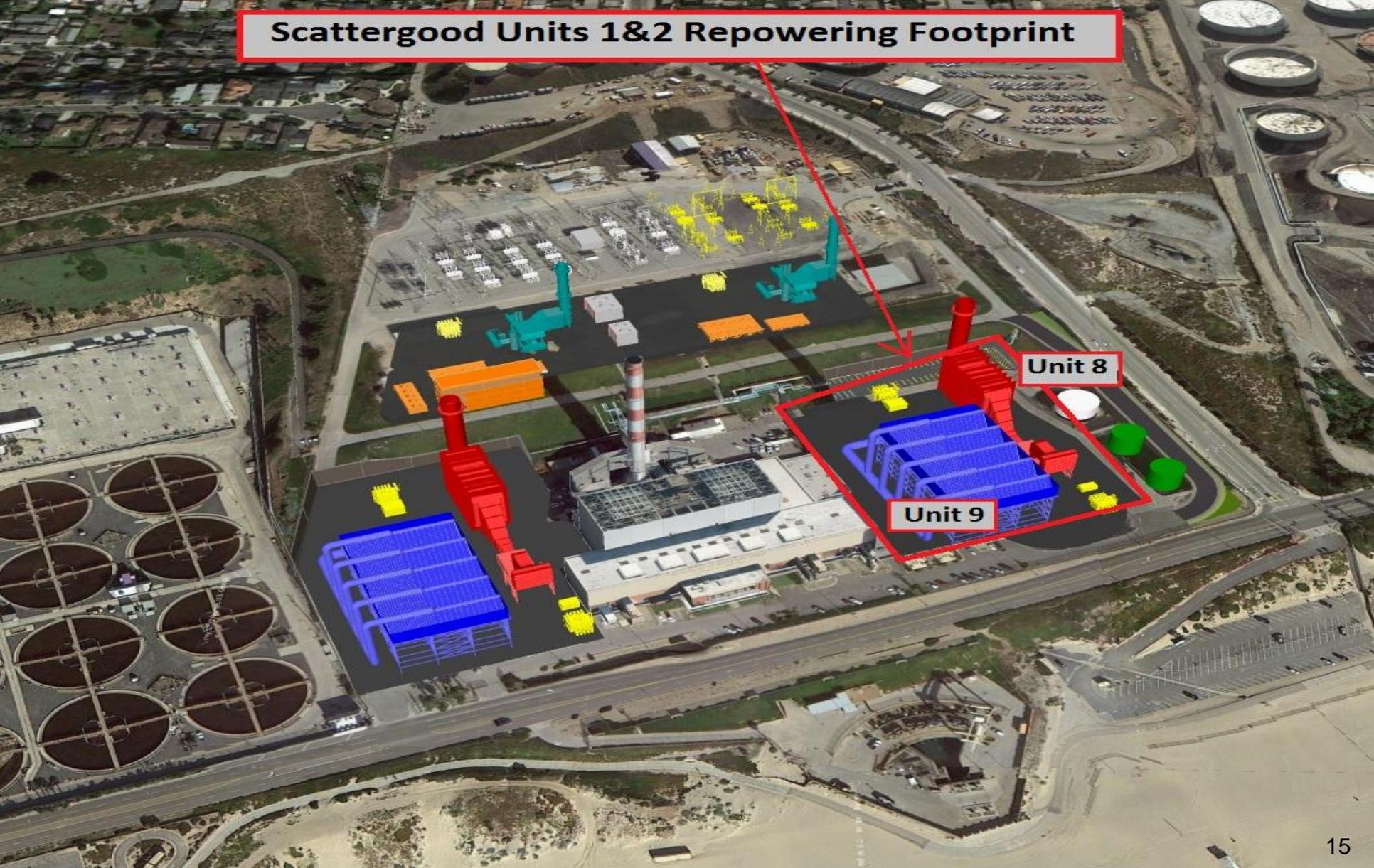
Unit 1

Unit 3

Scattergood Unit 3 Repowering Project Footprint



Scattergood Units 1&2 Repowering Footprint





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LADWP Update 2015 Grid Reliability Report Summary Scattergood Repower Project





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LADWP Update 2015 Grid Reliability Report Summary



Thank you!