



Southern California Edison Backgrounder

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San Onofre's Future

Southern California Edison (SCE), California's largest electric utility, is working to ensure that the southern part of the state receives full value from its largest, cleanest power source – the San Onofre Nuclear Generating Station. For example, SCE is preparing to replace one of the plant's largest components, its steam generators, and is requesting state regulatory authorization to apply to the Nuclear Regulatory Commission to extend the plant's license.

New Steam Generators

For more than 25 years, San Onofre's four steam generators have turned heat from the plant's reactor core into steam to drive turbines and generators and produce vast amounts of electricity. During 2009 and 2010, these major components will be replaced as they reach the end of their life expectancy. The new San Onofre steam generators will be the 50th and 53rd replacements of 58 U.S. nuclear units with similar systems. The California Public Utilities Commission reviewed and approved the replacement project in 2004 as beneficial to SCE customers.

New Steam Generator Facts

- 640 tons
- 65 feet tall
- 22 feet in diameter
- 9,700 water tubes
- \$168 million per unit (2004 dollars)
- More than five years to manufacture, deliver and install.



Benefits Expected

Careful analysis of available power options revealed that replacing the steam generators could save SCE customers as much as \$1 billion during the next two decades. Additionally, in the period since the original San Onofre steam generators were manufactured, the industry has developed materials and designs that are more resistant to the wear. In addition, new, improved design features minimize deterioration.

License Renewal

The Nuclear Regulatory Commission (NRC) issues licenses for commercial power reactors to operate for up to 40 years, allowing these licenses to be renewed for an additional 20 years. To date, the NRC has approved license renewals for 48 of the 104 operating reactors in the U.S. The San Onofre licenses will expire in 2022. SCE is seeking authorization from state regulators to begin the license renewal process, hoping to finalize the process by 2015.

The Case for Continuing San Onofre's Contribution to Southern California

Reliable Generation – Between refuelings, San Onofre has been available 96.5 percent of the time to meet power needs.

Essential Baseload Generation – Nuclear generation is the only major, proven source of "baseload" generation with negligible greenhouse gas emissions. Baseload power can be available 24/7 regardless of variables such as weather conditions.

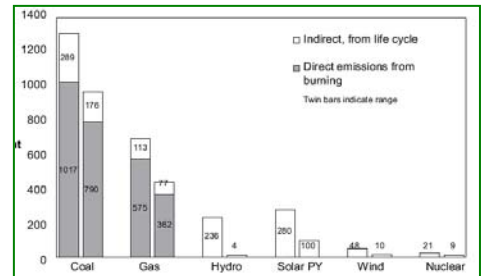
Lower-Cost Generation – Existing nuclear plants produce electricity less expensively than alternative options.

U.S. Electricity Production* Costs				
Year	Petroleum	Gas	Coal	Nuclear
1995	5.64	3.60	2.48	2.60
1996	5.73	4.40	2.33	2.44
1997	5.15	4.46	2.25	2.54
1998	3.62	3.93	2.21	2.37
1999	4.35	4.23	2.12	2.13
2000	6.28	7.00	2.07	2.09
2001	5.78	7.08	2.13	1.98
2002	5.54	4.52	2.10	1.95
2003	6.61	6.16	2.08	1.92
2004	6.35	6.42	2.16	1.89
2005	8.71	8.04	2.34	1.81
2006	10.07	6.98	2.44	1.79
2007	10.26	6.78	2.47	1.76
Average	6.47	5.66	2.25	2.10

*Production Costs = Operations and Maintenance Costs + Fuel Costs
Source: Global Energy Decisions, Updated May 2008

Fuel Diversity – At a time of high natural gas and oil prices, extending San Onofre's operation strengthens the region's fuel diversity, helping to protect consumers and businesses from price volatility and shortages in other fuel sources.

Low-Carbon Generation – As California officials confront the twin challenges of meeting the state's growing need for energy while achieving California's historic reductions in greenhouse gas emissions, San Onofre provides a critical resource for addressing both goals.



Life-Cycle CO2 Emissions by Energy Source: Grams of carbon dioxide equivalent produced per kilowatt-hour generated. "Life cycle" means emissions from obtaining, preparing and using an energy source. Source: IAEA data

Orange & San Diego County Grid Reliability – The plant provides essential support to regional voltage levels without which large new power plants or transmission systems would be needed.



Unique Contribution to the Region's Coastal Environment – San Onofre is the sponsor of two of the largest, most advanced environmental restoration projects in the nation, the Wheeler North Kelp Reef off San Clemente and the San Dieguito Wetlands Restoration Project in Del Mar.