

CARLSBAD ENERGY CENTER

Powering California with NRG

Meeting California's Energy Needs with Environmental Responsibility



Encina Power Station – Improving Energy Delivery and Delivering on Carlsbad's Future

In 2000, the City of Carlsbad adopted the South Carlsbad Coastal Redevelopment Plan as a roadmap for the future of the 95-acre Encina Power Station site adjacent to the Agua Hedionda Lagoon. Today, NRG West's repowering project is delivering on the goals of the redevelopment plan while providing a new, environmentally superior and more efficient generating plant that will become a critical component in meeting the growing energy demands of Carlsbad and the North San Diego region.

NRG West has submitted plans to the California Energy Commission to build a lower profile, state-of-the-art, air-cooled power plant on the easternmost portion of the power plant site. The new power plant, to be known as Carlsbad Energy Center, is scheduled to be operating as soon as 2010. A unique feature of the new power

plant is its fast starting capability that allows rapid response to peak electrical demand periods while maintaining the high efficiency of modern power plants.

This unique combination of proven technology and its lower carbon footprint is expected to be the first application of its kind in the United States. ■

Fulfilling A Real Need

"Electricity demand highest of summer: Conservation urged..."

**San Diego Union-Tribune
August 29, 2007**

Everyone recalls the recent hot summer days and surge in energy demands. The California Energy Commission has estimated that the State needs to build 19 new power plants to meet California's growing energy needs.

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Environmentally Responsible

Benefits of NRG West's new power plant – generating electricity more efficiently, using less fuel and creating fewer air emissions:

- ✓ New state-of-the-art technology means a smaller carbon footprint;
- ✓ Replacing ocean water cooling systems with air cooling to protect marine life;
- ✓ Quick starting units – 10 minute start up times versus several hours – provide critical backstop for wind generation and other alternative energy sources at peak demand periods;
- ✓ Reduced use of drinking/potable water for plant operations through usage of reclaimed water;
- ✓ Highly efficient natural-gas fueled generating units produce significantly lower emissions and burn 30% less natural gas;
- ✓ Supports California's efforts to address global warming.

Community Focused

- ✔ Replacing existing units 1, 2 and 3 with the more efficient and lower profile power generators helps the City in its goal of phasing out the existing power plant so that the site can one day be redeveloped for community and commercial uses. This initial phase of the Carlsbad Energy Center is also expected to facilitate the eventual retirement and decommissioning of the remaining units from the original power plant, when the State determines power from the remaining station is no longer needed.
- ✔ NRG West will work collaboratively with the City of Carlsbad and local residents to create a shared vision for the phased redevelopment of the existing power plant site.
- ✔ The new power plant will be concealed by terrain and situated east of the railroad tracks and west of the freeway – the spot the City chose in its South Carlsbad Redevelopment Plan.
- ✔ NRG West recognizes that the Agua Hedionda Lagoon is a rich environmental resource and we continue to provide environmental maintenance, lagoon dredging and beach sand replenishment as well as offering support to the Hubbs-Sea World fish hatchery.
- ✔ The City of Carlsbad will benefit directly from the modernized power plant through collecting tax revenues estimated at \$4 to \$5 million annually. ■

Fulfilling A Real Need

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Carlsbad has an edge in local reliability with NRG West's proposed plant. The new, cutting edge technology will feature extremely fast – 10 minute startups versus the traditional 6 to 12 hour startup times – providing a reliable backup power source to California's renewable resources, like wind or solar generation, which may not be available during peak electrical demand times.

As our region and California as a whole continue to experience dramatic energy demand growth, NRG West is implementing environmentally superior energy production solutions that also meet Carlsbad's future vision. ■

Community Activism is NRG Employee's Passion

A Carlsbad's resident for over 8 years, David Lloyd, NRG's senior counsel, spends more time out in the community than he does sitting behind his desk. He has served on the Board of Directors and as Secretary of the Agua Hedionda Lagoon Foundation since 2000. The Foundation promotes the environmental stewardship of the Lagoon through specialized curriculums and tours for local 3rd through 5th grade students. David spearheaded NRG's financial support of the Foundation's Agua Hedionda Lagoon Discovery Center.

"I enjoy being out at the Lagoon's Discovery Center and seeing people

connect with this wonderful natural resource. The Center really does provide a unique educational experience for community members," said David.

David is also a representative on the Public Advisory Committee for the Southern California Wetlands Recovery Project, which provides recommendations for the use of bond funds for clean water and wetlands recovery projects from San Diego to Santa Barbara. Besides his efforts in support of environmental causes, David has also served on the Board of Directors of the Carlsbad Chamber of Commerce for the last three years. ■



Supporting Our Troops: U.S. Congressman Darrell Issa, Rebekah Dudda, Injured Marines Semper Fidelis Fund and David Lloyd, at a recent check presentation to support our wounded Marines and Sailors.



Meeting the region's need for reliable, efficient power.

"The Carlsbad Energy Center is an important step in the transition of the current generating station. The project helps meet the region's need for reliable, efficient power. We look forward to working with the California Energy Commission and community leaders in Carlsbad to implement this important energy project."

Steve Hoffmann, NRG West Regional President

Environmental Stewardship through **ecōnrg**

The Encina Power Station is a responsible corporate citizen and environmental steward, which is best encapsulated in NRG's **ecōnrg** program. NRG West is proud of its positive influence on the adjacent Agua Hedionda Lagoon, including periodic maintenance lagoon dredging and beach sand replenishment, its encouragement of marine research and repopulation of White Sea Bass at the Hubbs-Sea World fish hatchery and its support for aquaculture by Carlsbad Aquafarms. NRG's **ecōnrg** environmental efforts in Carlsbad have garnered the following recognition:

- The Environmental Responsibility Award from the San Diego Industrial Environmental Association for leadership in combating the invasive marine algae *caulerpa taxifolia* (aka "Killer Algae") found in Agua Hedionda Lagoon.
- The Environmental Responsibility Award from the San Diego Industrial Environmental Association for contributions that helped establish the Agua Hedionda Lagoon Foundation's Nature Center.
- The National Oceanic and Atmospheric Administration's

Walter B. Jones Memorial Excellence in Business Leadership award for leadership in eradicating the invasion of *caulerpa taxifolia*.

- Completing its third year in the California Climate Action Registry voluntary program, NRG is recognized as a Climate Action Leader and is supportive of California's goal to reduce the state's contribution of greenhouse gas emissions. ■



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