



LAX IS HAPPENING™

FACTS ABOUT MODERNIZING LAX



CENTRAL UTILITY PLANT REPLACEMENT

■ PROJECT DESCRIPTION

This project will replace the 50-year-old, existing Central Utility Plant (CUP) with a more modern and more efficient facility to be located west of the LAX Theme Building, in the middle of the Central Terminal Area.

Project elements include:

- New facility and plant equipment, combustion gas turbines, heat recovery steam generators, cooling towers, water refrigeration/heating equipment, and ancillary pumps
- New maintenance shops and offices for plant personnel
- Replacement cooling/heating equipment in passenger terminals, Theme Building, and airport administration building, including a new facility controls system and centralized cooling/heating controls
- New 1.6 million gallon thermal energy storage tank



Preliminary architectural rendering of the new Central Utility Plant, with the FAA air traffic control tower and Theme Building in the background.

- New underground hot/cold water piping network to serve passenger terminals and other buildings
- Installation of a state-of-the-art computerized building information and management system for the entire Central Terminal Area. After the new CUP goes into service, the current facility will be demolished

■ TRAVELER BENEFITS

The new facility and systems will provide additional capacity for air conditioning, heating and lighting of the airline terminals and other airport buildings, which will enhance passenger comfort, and reliability of utility service and safety.

■ TRAVELER IMPACTS

All terminals, the Theme Building and the airport administration building will remain open to the public during construction. Traffic lane restrictions/closures will occasionally be required to redirect vehicular flow on the Lower/Arrivals Level. This complex construction project will occur without impacting day-to-day operations at LAX.

■ ENVIRONMENTAL ELEMENTS

In accordance with LAWA's Sustainable Design and Construction Guidelines, systems and their components for the new CUP are designed to achieve LEED® Silver certification from the U.S. Green Building Council. The new design will be approximately 25 percent more energy efficient than the current facility and will meet all current air quality regulations. The new CUP project will minimize adverse environmental impacts on surrounding areas, including, but not limited to:

- Recycling construction materials
- Placing concrete mixer and other equipment on site to reduce the number of trips construction vehicles must make to and from the site

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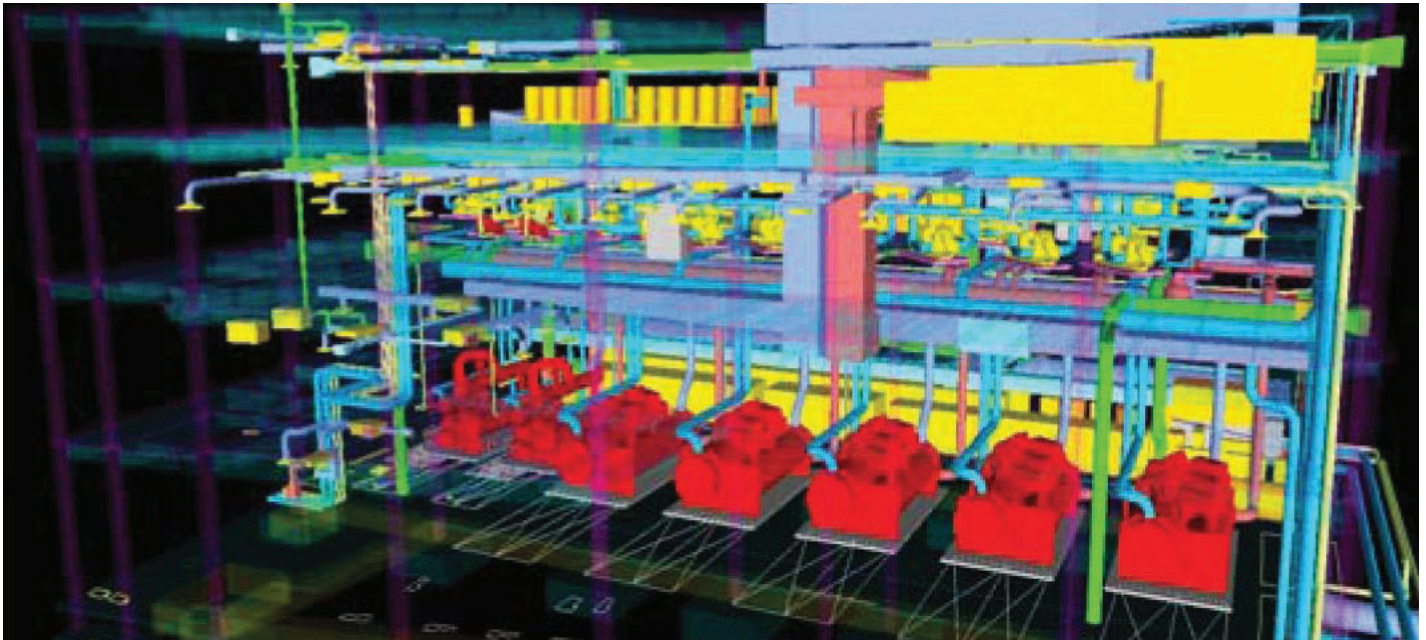


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Three-dimensional rendering of the future Central Utility Plant with new turbines, steam generators and other energy-efficient refrigeration/heating equipment.

- Designating specific routes that construction vehicles must use when traveling to and from the site
- Retrofitting construction equipment with emission-and noise-reduction devices
- Controlling dust

■ CONSTRUCTION DATES

February 11, 2011 – August 2013

Phase 1: CUP Facility and its major systems, as well as all piping and electricity distribution.

September 2013 – March 2015

Phase 2: Demolition of old CUP facility, construction of Thermal Energy storage tank, and new maintenance facilities.

■ COST AND FUNDING

Project costs are \$438 million with funding from the LAX Airport Revenue Fund and proceeds from revenue bonds

■ CONTRACTORS

Design Builder: Clark-McCarthy Joint Venture

Engineering: Arup



LAX CENTRAL UTILITY PLANT ENVIROFACTS

The new, state-of-the-art Central Utility Plant (CUP) at LAX is more environmentally friendly than the 50-year-old facility it replaced. The new CUP was designed to attain Gold certification in LEED (Leadership in Energy and Environmental Design) by the U.S. Green Building Council. Here are some interesting facts about the new CUP:

- Savings in electrical and natural-gas costs for operating the new CUP compared to the old CUP are estimated at \$7 million for a typical year.
- The chilled-water system running at peak capacity of 42 million gallons/day could cool 6,500 homes.
- The heating/hot-water system running at peak capacity circulates more than 4.1 million gallons/day, equivalent to providing hot water for 1,500 homes.
- Electricity created by the combustion turbine generators at peak capacity could power 9,100 homes.
- The new electric chillers are 20 percent more efficient than the old ones, saving \$740,000 in electrical costs and an estimated five million kilowatt hours a year – enough to power 685 homes.
- Nearly nine miles of distribution piping were installed underground throughout the Central Terminal Area.
- The thermal-energy storage tank holds 1.6 million gallons of chilled water that is produced at night when electrical costs are lowest and then stored until the hottest hours of the next day to cool passenger terminals and other buildings in the Central Terminal Area. Shifting 2.4 megawatts of electric-driven cooling equipment to off-peak hours will save over \$150,000 annually, resulting

in a \$2-million rebate annually from the L.A. Department of Water and Power.

- Changing from constant-flow pumping to variable-flow pumping in the chilled-water system saves nearly 1.6 million kilowatt hours and \$240,000 annually in electricity.

■ ENVIRONMENTALLY FRIENDLY DESIGN

- The roof of the new CUP is heat reflective to decrease the air-conditioning load and electricity use of the facility itself.
- The CUP's landscaping design is drought tolerant.
- The CUP's use of high-efficiency motors and variable-frequency drives reduces electricity use by half – saving \$240,000 and 1.6 million kilowatt hours annually – enough to power 200 typical homes for a year.
- The lighting and air-conditioning equipment are all automatically controlled to minimize energy use.
- The CUP's turbines and boilers use natural gas and state-of-the-art pollution-control equipment, reducing carbon dioxide emissions by 4,890 tons – equivalent to removing 1,000 cars from roads.
- Heat-recovery steam generators recover exhaust heat from the natural-gas turbines to heat water for domestic hot water and use for space heating in the passenger terminals.

■ GREEN CONSTRUCTION PRACTICES

The Central Utility Plant was built in accordance with Los Angeles World Airports' Sustainable Design and Construction Guidelines, which were adopted by the

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Los Angeles Board of Airport Commissioners in 2007.

- Nearly 75 percent of all construction and demolition waste materials were recycled during construction.
- Up to 20 percent of project materials were made from recycled items.
- Up to 50 percent of all wood used during construction is from certified sustainable forests.
- All of the nearly 3,000 tons of concrete from the demolished CUP will be crushed and made into road base for use across California.
- All metals, approximately 1,000 tons, are being recycled for reuse as raw materials for new products worldwide.
- Selected interior components of the old CUP will be reused on other projects in the U.S.
- All of the major equipment used to build the new CUP is being reused or recycled.
- Concrete mixers and other equipment were placed on site to reduce the number of trips made by construction vehicles to and from the site.
- Construction vehicles used designated routes to and from the site.
- Construction equipment was retrofitted with emission- and noise-reduction devices.
- Dust was controlled at all times during construction.