



## 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.