

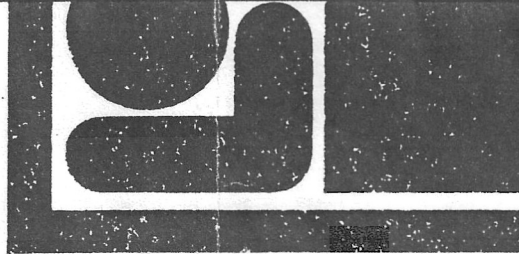
KEEPING CURRENT

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Issue 28

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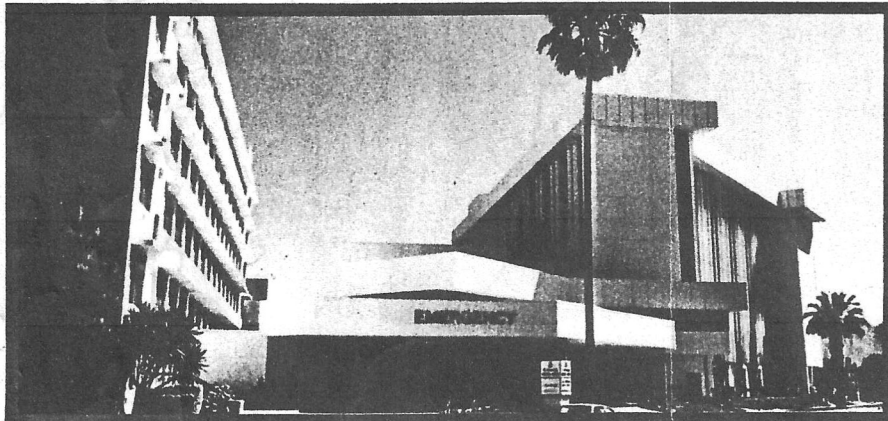


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Hospitals Find Remedy for High Operating Costs



▲ St. Bernardine Medical Center in San Bernardino is using state-of-the-art technology for its new facility's space conditioning.

► The off-peak cooling system's storage tanks at St. Mary are unobtrusively located under the parking lot at left.



St. Bernardine Prescribes Off-Peak Cooling

St. Bernardine Medical Center in San Bernardino is using a decades old treatment to improve its economic health.

Administrators of the 311-bed hospital are nearing the completion of an expansion program that will enable them to better meet the needs of the rapidly growing area. A check of the medical center's vital signs, however, revealed increased operating costs. Part of the cure for this sometimes fatal ailment was the installation of an off-peak cooling system.

Working in conjunction with Southern California Edison Thermal Storage Representatives Don Rawlinson and Bill Powers, the hospital's Director

of Engineering, Michael Rousseau, studied the situation. After completing a feasibility study, it was determined that an off-peak cooling system was a viable alternative to purchasing an additional 400-ton chiller.

To encourage commercial and industrial customers to use this time-tested technology, Edison offers financial incentives of \$200 per kilowatt (kW) shifted from the utility's on-peak period, up to a maximum of \$300,000 per system. These incentives are intended to help defray the cost of installing off-peak cooling systems in new or existing structures.

"We installed a system that defers 436 kilowatts from Edison's on-peak demand load, earning the medical center a rebate of \$87,200 through the Off-Peak Cooling Program," said Rousseau. Helping to further remedy the situation will be estimated annual savings of more than \$41,000 in operating costs.

"The combination of rebate incentive and reduced operating costs will enable the system to pay for itself in under two years," explained Rousseau.

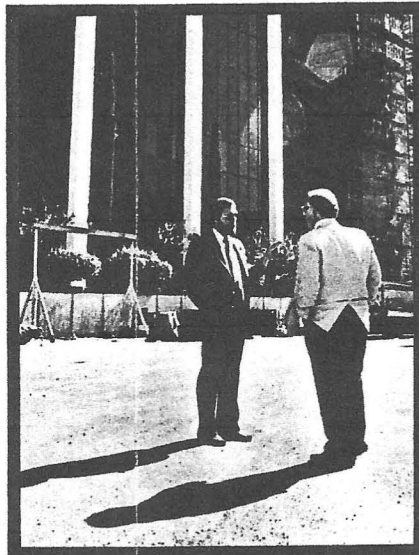
Large and small business firms and organizations are profiting from the use of off-peak cooling systems that save energy for use when it's needed most.

Off-peak cooling systems work by making either chilled water or ice at night, when commercial and industrial electric rates are lower. This chilled water or ice is stored overnight in special tanks, and used the next day when air conditioning is

needed. The chilled medium is used as a source for cooling and only a small amount of electricity is needed.

Basically there are three types of "thermal" storage systems for off-peak cooling.

- One chills water using refrigeration, and stores the water in a tank.



▲ Director of Engineering Michael Rousseau discusses St. Bernardine's expansion program with Edison's Bill Powers while, directly below their feet, an off-peak cooling storage system provides air conditioning for the hospital.

- Another uses a conventional chilled-water cooling system, but instead of chilled water, a quick-freezing solution of eutectic salts is used. (These eutectic salts freeze at about 47°F)
- The third method uses an ice storage system which produces ice with a refrigeration unit and stores it until chilled water is needed for cooling.

All three methods accomplish the same goal, however, of minimizing energy costs by shifting electrical demand for cooling to off-peak, night hours.

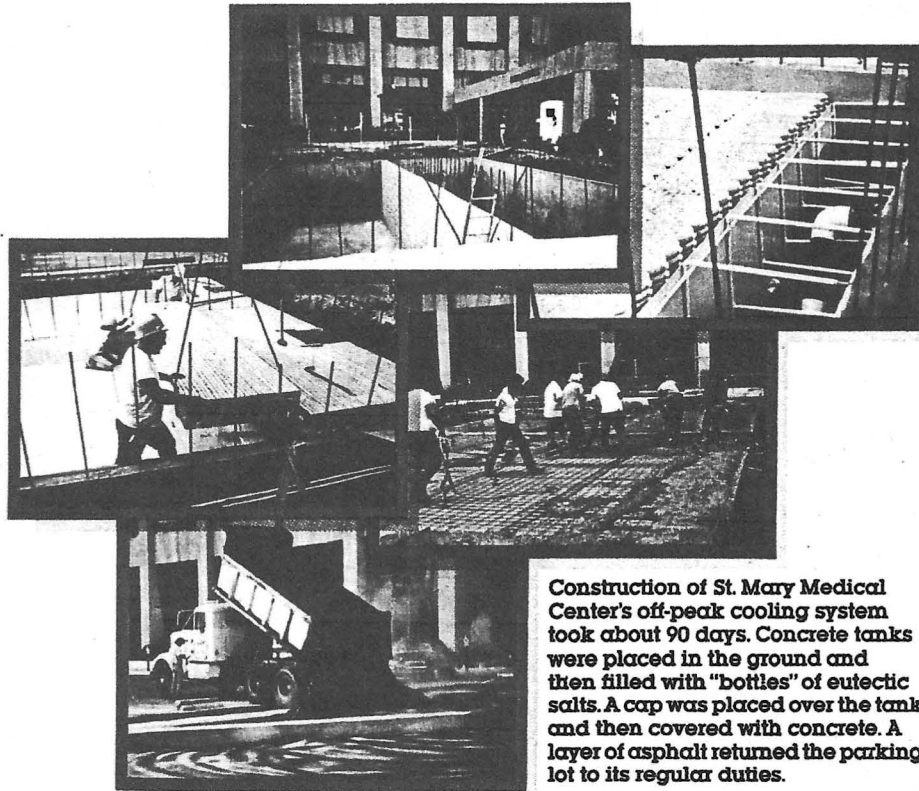
Edison provides free technical assistance to commercial and industrial customers to help them make the best use of the electricity they need. For more information about the Off-Peak Cooling Program, or any of Edison's programs designed to help you lower your operating costs and improve your efficiency, call your local Edison office or the toll-free Action Line at 1-800-952-5062.

Energy Use Improvements Give St. Mary a Clean Bill of Health

For St. Mary Medical Center, one of the 25 largest medical centers in Southern California, the era of hospital cost containment has meant a continuing search for innovative ways to reduce operating costs without affecting the quality of its patient care.

Last year, with assistance from Southern California Edison, administrators at the 540-bed medical complex developed an energy management program that has already trimmed St. Mary operating costs by nearly \$90,000. And, by shifting a substantial portion of its energy consumption to off-peak hours, the not-for-profit facility received a \$100,000 rebate from Edison.

Central to the hospital's energy management program is the off-peak cooling system planned and implemented by



Construction of St. Mary Medical Center's off-peak cooling system took about 90 days. Concrete tanks were placed in the ground and then filled with "bottles" of eutectic salts. A cap was placed over the tank and then covered with concrete. A layer of asphalt returned the parking lot to its regular duties.

St. Mary Director of Facilities Management Bob Day and Edison energy services representative Sandy Freytag. The system enables St. Mary to cool its patient care and administrative areas while shifting 500 kilowatts (kW) from Edison's on-peak periods.

"The shift was accomplished by putting our chillers to work making cold water at night, during Edison's off-peak hours," explained Day. "The cold water is then pumped into two eutectic salt storage tanks, located below ground in our Bauer

wing parking lot." The following day, when cooling is needed, the system provides 2400 ton hours of air conditioning.

Another helpful feature of the hospital's system is computer control used to monitor and maintain load, operate variable speed pumps, and automatically regulate the system between winter and summer peaks. (Edison's summer peak is generally between noon and 6 p.m., while the winter peak occurs between 5 p.m. and 10 p.m.)

Through its Off-Peak Cooling Program, Edison now offers commercial and industrial customers financial incentives of up to \$300,000 to defray the cost of installing the storage tank and associated piping. As an added incentive, Edison will pay part of the cost for a feasibility study to determine if off-peak cooling is a cost-effective option for your business.

Edison has made a long-term commitment to managing load growth while helping customers identify ways to lower their energy costs. By assisting customers in reducing on-peak demand and kilowatt-hour consumption, Edison not only helps them operate more efficiently, we are able to make the best use of our existing generating facilities. This helps keep future energy costs low.



▲ Edison's Sandy Freytag (left) reviews system construction with St. Mary Director of Facilities Bob Day.

As part of our commitment to energy management, Edison offers free energy consultation to any customers wishing to find ways to save energy and reduce the impact of energy costs on their business.

The successful energy management program implemented by St. Mary Medical Center not only saves the hospital energy and money, it benefits all Edison customers, as well. Controlling the growth of peak periods, when the demand for electricity is greatest, reduces the cost of providing service to all customers.

If you'd like to find out more about how we can help you to manage your energy costs, call us toll free at our Action Line: **1-800-952-5062**. Or, you can contact your local Edison office and ask for the Energy Services Department. We're listed in the white pages under the company's name: Southern California Edison.

Get With the Program

In addition to the hospitals mentioned in this issue, companies throughout Edison's service territory have discovered that investing in off-peak cooling is like putting energy costs in cold storage.

Allergan Pharmaceuticals Corporation

In Irvine, Allergan installed an advanced eutectic salts off-peak cooling system in its new eight-story building. The company estimates savings of at least \$40,000 a year. With a combination of reduced energy costs, Edison rebates, and anticipated state and federal tax credits, the storage system will have paid for itself in less than three years.

Prudential Insurance Company of America

Edison's Energy Services Department also worked with Prudential to develop energy-efficient systems for its new 1.6 million square foot high-rise complex near Los Angeles International Airport. Prudential installed a chilled water storage system to provide air conditioning for its three-tower complex. The water storage tanks are also used as a source of water for the buildings' fire sprinkler system. Combined with other energy-saving measures, the system is expected to save Prudential an estimated \$60,000 annually.

Leisure World's Rossmoor Towers

This twin 14-story condominium development in Laguna Hills, installed a eutectic salts off-peak cooling system and reduced its annual energy charges by an estimated \$45,000.

You can get with Edison's Off-Peak Cooling Program, too. Just call the Action Line at **1-800-952-5062**.

For more information, contact your local Edison office or call the Action Line toll free at 1-800-952-5062.

