

Higher Education Energy Efficiency Partnership Program

BEST PRACTICES AWARDS



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*A program created by the
UC/CSU/IOU Partnership
under the auspices of the
California Public Utilities Commission*

California Polytechnic State University San Luis Obispo

Chiller Relocation

Mark Hunter, Director Facilities Services

CAL POLY



- Project: Chiller Relocation
 - \$559,000 total project cost
 - Campus managed
 - Consultant designed

- Category: Load Management

- Stakeholders:
 - Facilities Services
 - Performing Arts Center Operations
 - Campus Community



Project Description / Background

- Incorporation of two existing stand alone 300 ton chillers into campus distribution loop. Chillers were in Performing Arts Center, and were often idle.
- Project provided additional cooling capacity for campus, minimized equipment investment, made for more efficient use of chillers, centralized equipment to plant, in spirit of Executive Order 917
- Project was 13 months, completed in April 2004

Chillers and Cooling Towers



Project Process

- Develop a Master Plan for delivery of utilities
- Cal Poly stresses Central Plant supply wherever possible
- Capital Projects often cannot afford the Central Plant up-front costs
- Audit opportunities for increasing Central Plant use
- Internal energy funding eases approval process
- Job Order Contracting offers flexibility in bidding
- Trade Shop review builds ownership

Technical Overview / Benefits Summary

- 600 tons of additional chilling capacity for the cost of a relocation
- 151,122 kWh avoided
- Improved energy efficiency, saves \$15,122 annually
- Met our Master Plan goal of developing central plant vs. package units
- Centralized our equipment for easier maintenance
- Chillers run more efficiently for better performance at Performing Arts Center as well supporting campus

Summary of Lessons Learned

- Avoid distributed package units wherever possible
- Focus on flexible, efficient use of equipment and ease of maintenance
- Understand the most efficient operational range for equipment
- Audit your opportunities, prioritize, and search for all

Acknowledgements of Team

- Project Manager:
Assistant Director Robert Pahlow
- Campus Engineer:
Dennis Elliot
- Director of Performing Arts Center:
Ron Regier
- Vice President, Administration & Finance:
Larry Kelley
- Supervising Building Service Engineer:
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