Higher Education Energy Efficiency Partnership Program

BEST PRACTICES AWARDS

UC / CSU Sustainability Conference, June 2005

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
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: Joe Bischel
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