Central Plants

Lamar University Chilled Water System Improvements
Beaumont, Texas

AHP personnel provided engineering for the chilled water system improvements at Lamar University. The project included eliminating one of the central chilling plants, replacing and upgrading the aging chillers in the two remaining plants, hydraulically connecting all three with additional underground piping, and upgrading the building mechanical systems.

The new chillers provide 3,200 tons of cooling with a standby capacity of 800 tons available to both plants. Cooling towers were replaced with masonry cooling towers with brick facade to match and blend with existing campus architecture. The chilled water distribution was upgraded from constant-volume to more efficient variable-volume flow by modifying the systems in some 40 campus buildings and installing variable frequency drive chilled water pumps in the central plants. An energy management control system was installed to monitor and control the production and distribution of chilled water and also provide a user-friendly centralized monitoring and control center for the campus. A new building addition provided facilities for central plant maintenance personnel.

By connecting the distribution systems of the plants with new chilled water piping, savings are achieved by reducing the amount of standby capacity required at each plant while still improving reliability due to the increased number of ways to supply chilled water to any given building. The overall efficiency was improved in chiller operation as well as pumping due to the flexibility of meeting chilled water demand with an optimized combination of the two plants.

Completion Date
December 2003

Construction Cost
$6,300,000

Project Delivery Method
Design-Bid-Build

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