



O&M Services

Customer: Western Michigan University

Location: Kalamazoo, MI

Scope of Work: Armstrong International designed, built, operated, and maintained a new boilerhouse providing steam and chilled water for WMU. Detailed design was assisted by Cummins & Barnard of Ann Arbor, MI.



Armstrong built a 10,000 sq/ft free-standing building, with two 400 hp water tube boilers, one 350 hp fire tube boiler, all with dual fuel capabilities. Armstrong also installed three 700 ton variable speed chillers with primary and secondary pumping systems and required distribution piping. The steam production is 40,000 lbs/hr peak and 2100 tons of chilled water.

Armstrong has operated and maintained the boilerhouse since the boilers were installed. The boilerhouse has been designed to be completely remote monitored and controlled via Armstrong's web-based energy optimization system.

Upgrade Projects: Constructed 10,000 sq/ft building

- Installed two 400 hp water tube boilers, dual fuel capable
- Installed one 350 hp fire tube boiler, dual fuel capable
- Installed three 700 ton variable speed chillers
- Designed and installed 138 kv electric sub-station
- Installed energy optimization software to allow for remote monitoring and supervisory control of boilerhouse

Contract: Total value of the project was \$8 million and financed by WMU. The project was completed on schedule.

Terms: Began September of 2001, with a multi-year term for service and support beginning July, 2003.

Benefits: Developed system to ensure that Central Power Plant personnel can monitor and control remotely boiler/chiller operations. Additionally, the system will pinpoint areas of inefficiency and notify of a change in fuel purchasing strategies.

