

**Alegent Health
Immanuel Medical Center Campus Energy Plant
Omaha, Nebraska**



Farris Engineering provided mechanical, electrical, and plumbing engineering services for upgrades to the Central Energy Plant at Immanuel Hospital. Professional services include equipment pre-purchase packages for two (2) 1,000 ton 4160 V centrifugal chillers, chilled and condenser water circulating pumps, new cooling tower system, 13.8 kV utility service, 4160 V switchgear, 480 V and 4160 V transformers as required to support the mechanical equipment to maintain cooling and steam production for the complex. The Central Energy Plant houses steam, chilled water production, 480 V and 4160 V electrical generation equipment, and ancillary equipment in support of the primary energy systems to the healthcare campus.

Significant characteristics of the project included:

- Maintaining all plant operations throughout the mechanical equipment change out and installation of the new electrical service.
- Plant upgrades to support energy management as well as blending of the facility modifications with the surrounding campus buildings due to its proximity to the hospital. The design is required to be sensitive to aesthetic, sound and emissions issues associated with the Central Energy Plant.
- Auxiliary equipment, including variable primary flow for chiller operation, pumping systems, chemical feed systems, controls, and supporting electrical power supply systems.
- Replacement of 480 V Motor Control Center.
- Provisions for future connection of existing 4160 V generation equipment to serve new 4160 V chillers.
- Instrumentation and controls necessary for operation and monitoring of the plant, including the ability of the control systems to communicate with the main campus and plant energy management systems.

Project Cost
\$2,439,000

Completion Date
2007

Client Reference
Alegent Health Immanuel Medical
Center