

Electrode Boiler Installation – 12,000 KW

Greenville Hospital System – Patewood Campus., Greenville, SC

Client Objective

Greenville Hospital System (“GHS”) was facing volatile steam costs at their Patewood Campus. Energy costs had risen significantly with the recent increase in natural gas pricing and the hospital wanted the option to switch to another type of fuel during such times in order to better manage their steam costs.

The Opportunity

GHS was searching for ways to reduce and manage their energy costs and they started by focusing on reducing their consumption of high cost natural gas by installing an electric boiler.

The Solution

Peregrine performed an analysis of GHS’s seasonal steam usage by comparing the cost of making steam with natural gas to that of making steam with electricity. The existing gas boilers were only operating at a fraction of their designed output. During the summer months, the boilers were operating at only 10% of their designed output. This resulted in a very inefficient operation. To achieve lower energy cost through improved efficiency, Peregrine proposed an electric boiler. This 12 MW electrode boiler has a 99% efficiency throughout its entire operating range. It is capable of supplying GHS’s entire 85 psi steam load. The electrode boiler will significantly reduce steam costs and pay for itself in less than 18 months.

The following is an overview of the Peregrine scope of work:

- Evaluation, engineering, procurement, and installation services.
- Square D 15 KV High Voltage disconnect power switch.
- Precision Model HVJ-228 electrode boiler rated at 12,000 KW capable of producing 40,000 lb/hr of steam at 13,200 volts.
- PLC Boiler and utility interface controller.
- Start-up and operator training.

