

U.K. Power Company Chooses Alternative Energy

Slough Heat and Power (SHP) operates a combined heat and power scheme, utilizing two circulating fluidized bed boilers. They supply electricity, hot water and steam to local businesses, and electricity to local residents. Stock Fairfield installed the fuel system, which was originally designed to burn coal, in the early 1990's.

More recently, SHP has demonstrated the ability to burn a range of renewable fuels, including palletized waste derived fuel and wood chips. However, because the existing solid fuel handling system was designed for coal, capacity limitation has become an issue. A new fuel management system needed to be designed to overcome this problem.

The project required Stock Fairfield to fabricate, install, and commission a wood handling system as a turnkey solution. The system conveys wood chips on a continuous basis from the existing solid fuel store to the two fluidized boilers in an existing boiler house. It is capable of handling a wide range of wood chip grades, as well as a variety of biomass derived fuels.

Installation of the system required a number of construction materials and the appropriate equipment. The structural steel design needed support related to the material handling equipment. An intake stoke push floor was installed for truck unloading. Additional equipment included a vibratory conveyor, Starscreen for screening fuel, eight belt conveyors (two of which were reversible), and a bucket elevator. Magnetic removal of ferrous materials, dust extraction, and total electrical wiring of the site was completed by Stock Fairfield. Steel walls were built to separate equipment from the fuel hall. The existing four coal bunkers were modified to accept hydraulic rotors for reliable unloading of the biomass fuel from the bunkers. The existing chain conveyors feeding the fluidized bed boilers were also modified.

SHP now supplies competitively priced and highly secure energy to all its customers. Stock Fairfield has given the energy center the capability to use advanced technologies to generate energy from renewable resources. SHP currently avoids emissions of gases causing climate change, while providing markets for local wood-based enterprises and other businesses with non-recyclable materials.

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Company

Slough Heat and Power
(www.sloughheatandpower.co.uk)

Industry

Renewable Energy Power Generation

Location

Slough, United Kingdom

Scope

Replacement of coal power system with a renewable energy system to prevent gas emissions. Capabilities allow for burning of wood chips and biomass fuels.