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Southern Wood Chips

Jasper (Walker County)

Southern Wood Chips installed two steam turbines in 1994 to drive two generators that could run off of the wood waste they were producing.

Southern Wood Chips manufactures wood chips for sale to the paper mills to use in the manufacture of paper. They produce 5,000 tons per month of wood waste (green bark) which was becoming extremely difficult to find markets for and/or disposal means. As a result, the company installed two 600 hp single-stage steam turbines, driving two 575 kW induction generators. The boilers contain an extended water wall radiant section to efficiently produce 37,000 pounds per hour of 270 psig steam with an input of seven tons per hour of waste wood. The generated electric power is used to reduce the plant energy requirements during normal operating hours and supply power for sale to the utility when the plant has low energy requirements. The single-stage turbine exhausts at 0 psig into an air-cooled condenser and requires 32 pounds of steam per kW at 4200 rpm.

Fuel storage consists of one 40' x 80' x 25' storage building with a walking floor recovery system. Conveyors collect and transport fuel to the boilers' metering bin. A conveying system was installed to receive fuel from the existing hog and deliver the material to a scalping screen. Oversized material is returned to the fuel hog, and sized fuel is discharged into the storage.

The energy savings of this project are 265,133 MMBtus/yr at a value of \$1,520,738.