

BioMass Boiler and Turbine Co-Generation System State Correctional Institution – Cresson Cresson, PA



The Project:

CJL Engineering is designing a new BioMass Boiler and Turbine Co-Generation System for the State Correctional Institution - Cresson, in Cresson, PA. The Co-Generation Plant provides electricity by generating electric power utilizing a steam turbine from high-pressure steam produced by a BioMass Boiler. The high-pressure steam enters the turbine at 315 psig and exits at 50 psig.

The 50 psig steam is piped into the campus-wide Steam Distribution System and is utilized for space heating, domestic water heating, and laundry operations. The 300 kw of electric power generated from the turbine is directly connected into the campus Electric Distribution System.

CJL Engineering Design Solutions:

- BioMass Boiler is wood chip fueled; 600HP capacity, 350 psi Design Pressure, and provides 20,700 lbs per hour of steam
- 315 kw Back pressure steam turbine generating up to 300 kw of electricity
- Fuel Handling System includes a Walking Floor Pit for wood truck unloading
- Fuel storage silo @ 18,000 cubic feet with bucket elevator and various conveyors
- New building to house all BioMass and fuel handling equipment

