



SOUTHEAST
CHP
APPLICATION
CENTER

CLEAN HEAT & POWER

SP NEWSPRINT

45 MW STEAM TURBINE

CHP FACTS

Location:

Dublin, GA

Generation Equipment:

45 MW Steam Turbine
450,000 lb/hr Circulated Fluidized
Bed Boiler

Output:

45 MW

Installation Date:

1989

Fuel:

- Sludge from recycled newspaper
- Tire derived fuel
- Bituminous Coal



PROJECT OVERVIEW

SP Newsprint opened in 1979 as the first 100 percent recycled fiber newsprint facility in the southeast United States.

The facility uses electricity and processes steam to recycle the newspaper and a CHP system was an ideal application. SP Newsprint runs a boiler/steam turbine and uses all of the electricity and steam produced in house to run the plant.

The 45 MW boiler/steam turbine was installed in 1989 and is still in service today. It is online 24/7 and goes down for maintenance only 4 to 5 days each year. The facility uses a second boiler for supplemental steam and also houses a natural gas turbine to provide steam and electricity when the steam turbine goes down for maintenance. The main boiler is a circulating fluidized bed boiler, and is fueled by three sources: recycled newspaper, tire derived fuel, and bituminous coal. The boiler can create steam at 450,000 lb/hr at 1275 psi. The SP Newsprint facility is permitted to burn tire derived fuel, and it is cost effective for the facility to burn as much as possible. The facility burns 650 dry tons of sludge each day and the remainder of fuel is made up with coal.



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CHP OPERATION

The 45 MW steam turbine has steam exits at 350, 175, and 80 psi. The uncontrolled steam exit at 350 psi is used for feedwater heating and for turbine seals. The steam at 175 psi is used for the paper drying machines. The steam at 80 psi is used in the plant for process heating. A steam condensing unit exists for the remaining steam and is capable of condensing 180,000 lb/hr.

POWER REQUIREMENTS

The facility uses all 45 MW and purchases the remainder from Georgia Power. Since Georgia Power uses real time pricing, SP Newsprint can use the natural gas turbine for the peak pricing conditions when power is more expensive for them to purchase from Georgia Power.

SOURCE

http://www.metso.com/corporation/about_eng.nsf/WebWID/WTB-060330-2256F-C52EF

<http://www.epa.gov/waste/nonhaz/pdfs/tires.pdf>