

GWF Fluidized Bed Petroleum Coke Plant.

GWF Power Systems LP has five (5) facilities in Contra Costa County, California. These facilities each consist of a single fluidized bed boiler providing steam to a single steam turbine generator. Facility names and location

Site 5 – 2.63 acre facility located at 555 Nichols Rd. Bay Point, CA

The facilities include:

- 245 mmBTU/hr Fines circulating fluidized bed boiler, manufactured by Combustion Power Company
 - Distributed Control System
 - HMI - Conductor NT 5.0.9
 - Bailey infi90
 - NOx abatement via a SNCR system using ammonia injection
 - 11,000 gallon tank
 - SO2 abatement via limestone injection
 - 300 ton silo
 - Particulate abatement via a four module Cantech pulse jet baghouse
 - Forced circulation Steam Drum circulation loop
 - 3 Boiler Circulating water pumps
 - Union Pump, model 6x8x15 HTS
 - 125 hp
 - 2200 gpm @ 62 psid
 - Fuel feed system
 - 900 ton Fuel silo
 - Single fuel train consisting of 1 metering screw, 1 bucket elevator, 1 scalper/splitter
 - 125 ton fuel silo
 - Dual fuel trains each train consists of 1 metering screw, and 2 drag conveyors.
 - One Forced Draft Fan, Howden Fans
 - 1500 HP
 - 53000 acfm
 - One Induced Draft fan, Chicago Blower
 - 500 hp (site 1 400 hp)
 - 82846 acfm
 - One 70 mmBTU/Hr Air preheat burner used for start-up
 - No.2 Diesel
 - Natural Gas
 - One diesel storage tank – 40,000 gallons

- One ABB VAX steam turbine with steam bypass
 - Steam turbine operates at a nominal 1494 psia, 996°F, 180 klb/hr
- Steam Turbine Auxiliaries
 - Lube oil system
 - Hydraulic Oil system
 - Controls
 - Extraction Steam
- One ABB 24.1MVA generator w/ PMG
- One GSU transformer
 - Site 5 – ABB 24.6 MVA, 63/13.6kv
- 4.16kv Station transformer
 - RTE
- 480 v station transformer
 - RTE
- One Holtec condenser – titanium tubes
- One wet 3 cell cooling tower, Marley
 - 1 two speed fan per cell
 - 40 hp / 10 hp
 - 3 circulating water pumps, Goulds
 - Two in operation, one in standby
 - 100 Hp
 - 5993 gpm @ 38.1 ft
 - Water
 - Supply – Golden State Water Company
 - Supply – Contra Costa Water District
 - Discharge – San Joaquin River
 - Each site contains a Reverse Osmosis Unit and a 16,000 gallon de-mineralized water tank.
- 2 Boiler feed water pumps (one operational / one stand-by)
 - Sulzer Bingham, 3x6x9 MSD, 14 stage
 - 600 hp
 - 363 gpm / 4495 TDH
- One 750 hp Emergency Diesel Generator
- Additional Storage
 - Silo -1280 cubic feet capacity
 - Silo - 1600 cubic feet capacity
 - Silo – 9700 cubic feet capacity
 - Warehouse/Maintenance building