40 MW GE Frame 6B Gas Turbine Generator

**Capacity:** 40 MW

**Year Commissioned:** 1995

**Current Status:** Still running

### Gas Turbine:
- **Manufacturer:** GE
- **Model:** Frame 6B
- **Type:** PG6541B
- **Power rating:** 38.34 / 41.4 MW
- **Fuel:** Natural gas
- **Turbine speed:** 5,100 rpm
- **Last overhaul:** 2012
- **Hours since last overhaul:** 25,108
- **Total starts:** 246
- **NOx reduction:** Steam injection
- **Star device:** Electrical motor
- **Heat rate:** 11,460 KJ/KWh

### Gear Box:
- **Manufacturer:** Voight
- **Speed ratio:** 5,100 / 3,000 rpm

### Generator:
- **Manufacturer:** GEC Alsthom
- **Voltage:** 11 KV
- **Frequency:** 50 Hz
- **Cooling:** Air cooled
- **Rate output:** 52.975 MVA
- **Power factor:** 0.8
- **Speed:** 3,000 rpm
- **Excitation:** Rotating diode exciter
- **Protection:** IP55

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**BRIEF PLANT DESCRIPTION**

GE Frame 6B is a heavy duty gas turbine. It offers high availability of 93.4% and high reliability of 98.2%. There are more than 1,200 units installed all over the world. Besides the gas turbine, gear box and generator, this complete power plant also includes critical spare parts, special tooling, and other equipment such as air intake / filtration system, inlet ducting, lateral exhaust ducting, stack, outdoor enclosures, natural gas skid, fire protection container (CO2), and electrical / electronic control cabinet with speedtronic turbine control system (Mark V), motor control center, generator breaker and protection and control System, operator control module. The plant uses steam injection for emissions control / NOx reduction. The plant is currently operating and will be shut down in 2015. All maintenance work is performed routinely.

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