

# 18 MW POWER PLANT FREEPORT - GRAND BAHAMA



BUILT IN 2005 FOR



GRAND BAHAMA POWER COMPANY  
*Keeping Grand Bahama's Future Bright.*

BY



Burmeister & Wain Scandinavian Contractor A/S

## FAST TRACK 18 MW POWER PLANT

In response to the need for additional cost effective and reliable generation capacity, Grand Bahama Power Company (GBPC) awarded a contract to BWSC in 2004 for the design, supply and installation of an 18 MW diesel power plant on a full turnkey basis.

The project is based on the latest generation of fuel-efficient, medium-speed diesel engines from MAN B&W and includes a complete diesel alternator set, power plant buildings, fuel tank farm, power transformers, fuel transfer and treatment facilities, electrical metering and system protection.

State-of-the-art technology equipment is used to achieve the highest standards of performance and compliance with all specified emission standards. Equipment and components were prefabricated into large modules wherever possible, to minimize the time and cost of works carried out on site.



Skilled and professional local contractors were selected to carry out civil work, mechanical and electrical erection, air conditioning and lighting and small power installations.

The new power plant was handed over to GBPC in ONLY 10.5 months, including 1 month full production (reliability test), thus well before the contractual completion date. This achievement was only made possible through highly-professional and competent cooperation developed with GBPC throughout all phases of the project.

### Summary

#### Contract

Type: ..... Turnkey  
Effective Contract: ..... October 22, 2004

### Technical Data

#### Diesel Engine

Make: ..... MAN B&W Diesel, Germany  
Type: ..... 1 x 18V48/60, 4 stroke  
Speed: ..... 514 rpm

#### Alternator

Make: ..... ABB, Finland  
Voltage/frequency: ..... 13.8 kV/60 Hz  
Output at 100% load: ..... 18,484 kW

#### Borehole Cooling Water Pumps

Make: ..... Iron  
Type: ..... Submerged vertical turbine pump  
Flow: ..... 400 m<sup>3</sup>/h

#### Borehole Cooling Water Heat Exchanger

Make: ..... Sondex  
Type: ..... Titanium Plate Heat Exchanger  
Cooling capacity: ..... 13,176 kW

#### Fuel Treatment

Make: ..... Alfa Laval  
Type: ..... SU 851

#### Main Auxiliary Unit

Size (WxLxH): ..... 10 x 7 x 7 m  
Weight: ..... 36 t

#### Step-up Transformer

Make: ..... ABB  
Type: ..... ONAN/ONAF  
Ratio: ..... 69 kV / 13.8 kV  
Rated power: ..... 16 / 23 MVA

#### Powerhouse Building

Size (WxLxH): ..... 17 x 32 x 16 m  
Overhead Crane: ..... 1 x 5 t

#### Stack

Height: ..... 40.0 m  
Flue gas liner diameter: ..... 1.6 m



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