

SPRING GARDEN POWER STATION

4 x 12.5 MWe 2-Stroke Diesel

THE BARBADOOS
LIGHT & POWER
COMPANY LIMITED



SPRING GARDEN 2-STROKE POWER PLANT



The Barbados Light & Power Company Limited (BL&P)

was founded in 1911 for the purpose of establishing and maintaining a reliable electricity supply, at lowest possible cost, for the citizens of Barbados.



Burmeister & Wain Scandinavian Contractor A/S (BWSC)

was founded in 1980 with the aim of designing and constructing reliable electricity generation at the lowest feasible expense in terms of capital outlay and running costs.

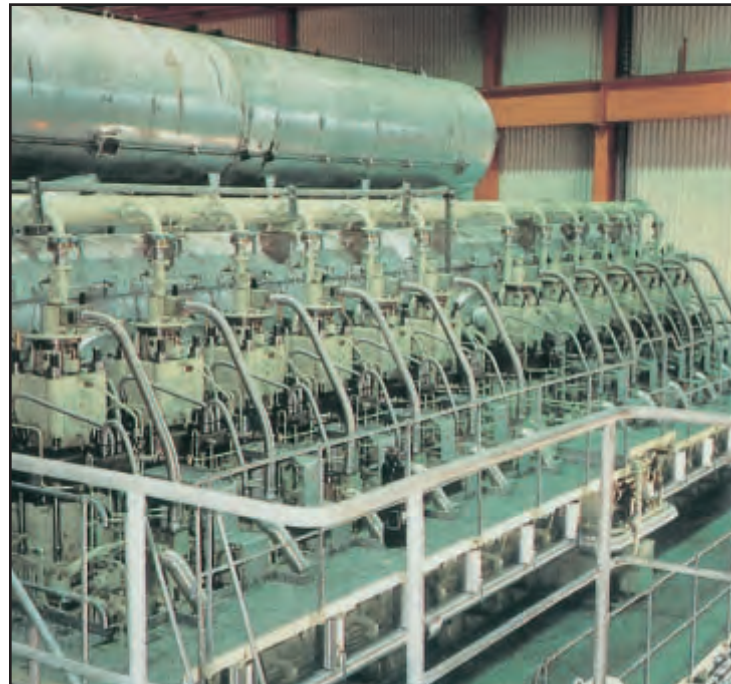
THE HISTORY

The co-operation between BL&P and BWSC goes back to 1980. In that year the first turnkey contract was signed with a former shareholder of BWSC, Göta-verken Motor AB, for the first 2-stroke diesel generator plant to be built in Barbados at The Spring Garden Power Station.

The 2 units contracted, named "D10" & "D11", were put into operation in 1982. By 1985 once again the power demand on the island required another unit to be contracted, subsequently named "D12", designed and constructed by BWSC.

THE "D13" EXTENSION

The turnkey contract for the latest plant extension "D13", made between BL&P and BWSC, was signed 11th July 1989, and this plant was taken over by BL&P in December 1990, seventeen months after contract signing. The unit is identical to unit "D12" and will serve as base load unit along with the other three 2-stroke units.





THE SPRING GARDEN POWER PLANT

The low speed diesel section of The Spring Garden Power Plant has now reached its full planned capacity of 4x12.5 MWe. The latest unit, "D13", completes the phase initiated back in the early eighties. The four units serve as base load units to secure the foundation of BL&P as "reliable electricity suppliers" for many years to come.

In addition to the turnkey contracts between BL&P and BWSC for the Spring Garden project, a 5-year Service & Maintenance Contract has been agreed. The agreement covering the complete low speed diesel section commenced at the take-over of unit "D13" as an extension to an already existing agreement and will secure BL&P a future fixed low maintenance cost.

The Diesel Engine

Designed by MAN B&W Diesel A/S and manufactured by Mitsui Engineering & Ship-building Co. Ltd. with the following main data:

Mitsui/MAN B&W	12L55GSCA
No. of cylinders	12
Bore/stroke	550/1380 mm
MCR rating/speed	13,440kW/157.9 rpm

The Generator

Designed and manufactured by GEC ALSTHOM with the following main data:

GEC ALSTHOM	Frame size GL
Rated power	15,385 kVA
Power factor	0.85
Rated voltage	11,000 V
No. of poles	38

The Building

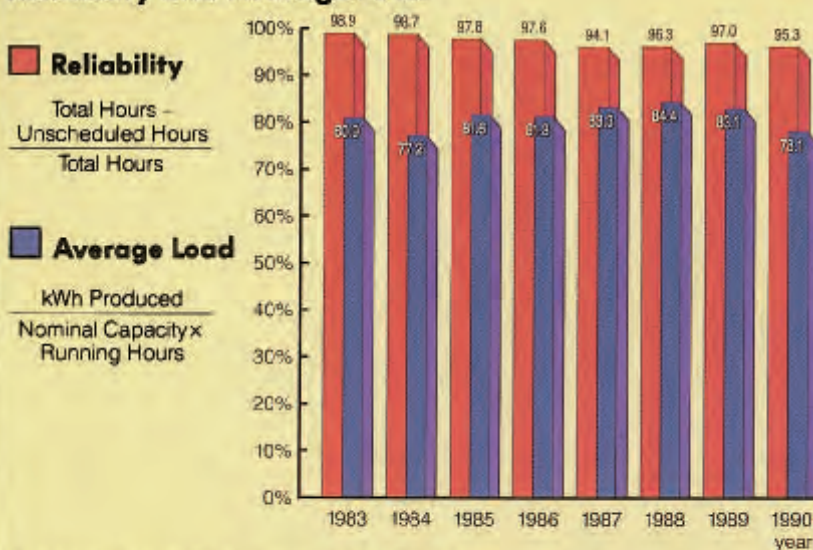
The power house building, designed, supplied, and erected by "Götaverken Energy AB", is built to meet the local weather conditions with severe thunderstorms and hurricanes having wind speeds up to 260 km/h.

The building works consist of engine hall, mechanical annex and a smoke stack with a height of 30 m.

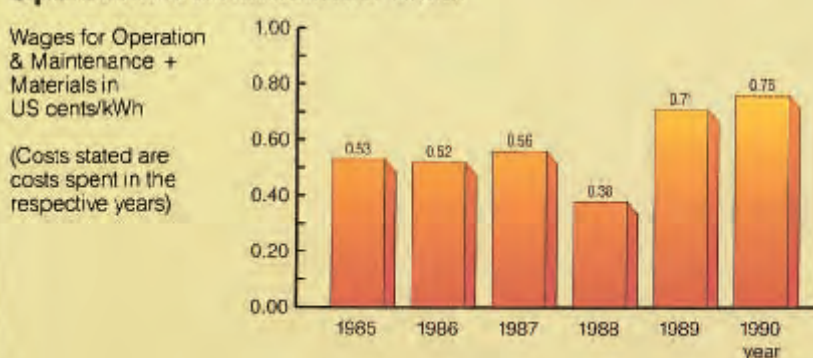
Reliability and Operation & Maintenance Costs

These key factors are important to all electricity companies, also to BL&P. The graphs below show the total performance of the low speed diesel units up to 1990.

Reliability and Average Load



Operation & Maintenance Costs



2L55GSCA
12
550/1380 mm
13,440kW/157.9 rpm



Burmeister & Wain Scandinavian Contractor A/S (BWSC)

a fully owned subsidiary of MES, is among the world's leading turnkey contractors of medium and large scale diesel engine based power plants and has, over the last two decades, supplied 143 diesel power plants to 46 countries with a total generating capacity in excess of 1,950 MW.

In addition to turnkey diesel power plants, BWSC's product range includes transmission lines, distribution systems, power plant rehabilitation, and generation services such as spare parts and extensive training programs. BWSC has entered into long-term technical support agreements (TSA) and O&M agreements covering a total plant capacity in excess of 920 MW.

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Mitsui Engineering & Shipbuilding Co. Ltd. (MES)

is an overall engineering and construction company, designing and building diesel engines, ships, large steel structures, bridges, oil production platforms, process plants, pollution control plants, desalination plants, power plants, etc. MES has an annual turnover of approx. USD 2.5 billion and employs approx. 3,700 employees.

MES entered into a license agreement with the Danish Burmeister & Wain Group (today MAN B&W Diesel A/S) in 1926. As senior licensee, MES has today the largest aggregate production of MAN B&W 2-stroke diesel engines.

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