



PLTD Tarakan

Conversion of Engines to Dual Fuel Operation



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▲ Cable tray

▼ MaK diesel engine



▲ Gas distribution pipe

▼ Generating set





▲ Engine control box

▼ Engine gas train



▲ Original switch board

▼ Flexible hoses





■ Original engine governor



■ Actuator



■ Pick up



■ GEV



■ Control panel



■ Main gas train

TECHNICAL DATA

Engine: MaK 8M453
Serial Number: 26828, 26827
Output to DIN 6271: 2650 kW
Speed: 600 r.p.m.

Manufacturer: Krupp MaK Maschinenbau GmbH
Year of Manufacture: 1985
Output at site: 2105 kW

Engine Output

Output	Before Conversion	After Conversion Dual Fuel Operation
Nominal Output (kW)	2650 kW	2650 kW
Reduced Output at site (kW)	2105 kW	2105 kW

Ratio of Diesel / Gas Consumption at Full Load:

Consumption – Optimized Injection Nozzles	Before Conversion Diesel Operation	After Conversion Dual Fuel Operation
Diesel Consumption (%)	100 %	10 % ± 5%
Gas Consumption (%)	–	90 % ± 5%
Consumption – Original Injection Nozzles	Before Conversion Diesel Operation	After Conversion Dual Fuel Operation
Diesel Consumption (%)	100 %	15 ÷ 18 % ± 5%
Gas Consumption (%)	–	85 ÷ 82 % ± 5%

Fuel and Gas Consumption at engine output 2105 kW:

Diesel Consumption: constant 10% = 46 kg / h at 41.5 MJ/kg
 Gas Consumption: 480 Nm³/h at net calorific value 36.8 MJ/Nm³