

Dhekelia Power Plant, ICE I 50 MW, Cyprus

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Electricity
Authority
of Cyprus

BY

BWSC

Burmeister & Wain Scandinavian Contractor A/S

Electricity Authority of Cyprus

50 MW ICE I Power Plant at Dhekelia Power Station

The Electricity Authority of Cyprus (EAC) has experienced an increased demand of electricity in Cyprus. In this relation, EAC awarded BWSC a 3-phase contract consisting of one 50 MW Temporary Power Plant, one 50 MW Permanent Power Plant, and a 4-year TSA agreement at Dhekelia Power Station, Cyprus.

Phase 1: Temporary Power Plant (TPP)

The TPP was supplied, erected, and in full operation on the 1st of June, 2008 by BWSC and the Dutch subcontractor Energyst B.V. The TPP output was 50 MW generating for a period of 4 months during summer peak while construction work for the Permanent Power Plant was being undertaken. Thereafter the TPP was dismantled again.



Phase 2: Permanent Power Plant (PPP)

The PPP is based on 3 low speed diesel engines type Mitsui MAN B&W, with alternators from Meidensha Corporation with a total output of 50 MW at 132 kV. The PPP was a turnkey supply consisting of engineering, manufacturing, construction and commissioning, and was handed over to EAC on the 1st of June, 2009.



Phase 3: Technical Support Agreement (TSA)

Technical Support Agreement, covering the first 4 years of operation.



Summary

Contract

Type: Turnkey
Effective contract: November 2007
Plant net output: 50 MW

Technical Data

Diesel Engine

Make:..... Mitsui Engineering & Shipbuilding Co. Ltd., Japan
Type:..... 3 x MAN-B&W 12K50MC-S, 2 stroke
Speed: 176.5 rpm

Alternator

Make:..... Meidensha Corporation, Japan
Voltage/frequency:..... 11 kV / 50 Hz
Output at 100% load: 17,480 kW

Seawater Cooling Pumps

Make:..... Iron
Type:..... Submerged vertical pump
Flow:..... 3 x 1000 m³/h

Central Cooler

Make:..... Sondex
Type:..... Titanium plate heat exchanger
Cooling capacity: 6 x 11,600 kW

Fuel Oil Treatment

Make:..... GEA Westfalia separator
Type:..... OSD 35-0136-067

Step-up Transformer

Make:..... ABB
Type:..... 1 x ONAN / ONAF
Ratio:..... 11 kV / 132 kV
Rated Power: 65 MVA

Powerhouse Building and Stack

Powerhouse - L x W x H: 49 x 30 x 21 m
Overhead crane: 3.5 / 45 / 45 ton
Stack:..... Ø 3.5 x 60 m

Civil Work

Subcontractor: Iacovou Brothers (Constructions) Ltd, Cyprus



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