



Power plant

TRAINING COURSES



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POWER PLANT TRAINING

BWSC is pleased to present our new training course catalogue.

As EPC contractor, O&M power plant operator and service provider, BWSC offers training in all technical disciplines pertaining to power plant operation and maintenance.

The courses are composed of a number of general pre-developed course modules with fundamentals, combined with modules made specifically to the plant in question with regards to equipment brand and type. This creates coherent plant specific courses and makes them different from the standard courses widely offered in the market.

Should you have specific requirements, please contact us in order to arrange courses specifically designed for your requirements and organization.

Further, it is possible to design specific "brush-up" courses, e.g. by combining various topics from different standard courses if so wished.

The courses are usually held at the client's facility for easy access to the plant for demonstrations. However, some of the more theoretically based courses can be held at BWSC headquarters in Denmark. Further, "Hands-on" and "On-the-Job" training courses **can be held** at a power plant operated by BWSC.

Please contact us if you have any special requests:

Burmeister & Wain Scandinavian Contractor A/S
Gydevang 35
DK-3450 Allerød
Denmark

Phone: +45 4814 0022

Fax: +45 4814 0150

bwsc@bwsc.dk

bwsc.com



Classroom training

1. PLANT INTRODUCTION COURSE

1.1 INTRODUCTION TO THE DIESEL POWER PLANT

▶ General

A general introduction to the design and basic operational principles of the diesel power plant.

▶ Course objectives

The participants will be able to understand and explain the:

- Working principle of the diesel engine and its components
- Design and function of the auxiliary systems
- Design and function of the main alternator and the electrical systems
- Function of the control system

▶ Syllabus

The Diesel Engine:

- Energy conversion, efficiencies and diesel engine types and features.
- Design and function of the major engine components.

The Auxiliary Systems:

- Review of the systems by means of the P&I diagrams with lists plus interpretation of the symbols and TAG numbers used.
- Identification of components and instruments in the systems.

The Electrical Systems:

- Function of the generator and transformers.
- Review of the electrical systems by means of the overall single-line diagrams and identification of components.

The Control System:

- Introduction to operator work stations and interaction with the process.

DETAILS

Target group

All staff working with the plant in question.

Tuition methods

Lectures and demonstrations at the plant.

Course duration

5 days.



*Paramaribo power station, Suriname
BWSC achieved TOC on the latest Paramaribo project in March 2016*

2. OPERATION COURSES

2.1 OPERATION PROCEDURES

▶ General

Familiarization with operational procedures and routines at the diesel power plant.

▶ Course objectives

Enable the participants to understand the requirement for operation of a diesel power plant in a safe and reliable way by making them confident with the control concepts, monitoring, start-up and stopping of the equipment, carry out the necessary routine tasks as well as reaction on alarms and adverse situations.

▶ Syllabus

- Review of the control concepts and descriptions for the engines and auxiliary systems.
- Start sequence of the auxiliary equipment, start-up and synchronization of the diesel generator unit under normal conditions and from black out.
- Normal stop of the diesel generator unit.
- Start, operation and stop of auxiliary equipment.
- Identification of causes and reaction on alarms and adverse operation situations.
- Handling and treatment of fuel oils and lubricants.
- Water sampling, analyses and treatment.
- Recognition and counteracting health, safety, and environmental hazards.
- Monitoring of the plant on location.

DETAILS

Target group

All operations staff.

Tuition methods

Lectures and demonstrations at the plant.

Course duration

5 days.

2.2 DIESEL ENGINE PERFORMANCE EVALUATION

► General

A study in the factors that affect the engine efficiency and reliability. How to take performance readings, evaluate these, make diagnoses and optimize the plant performance.

► Course objectives

Enable the participants to evaluate the performance of a diesel generator unit and to take the necessary action in order to keep the heat rate and reliability at an optimum level.

► Syllabus

- Fundamental energy conversion, combustion theory, diesel engine and alternator efficiency.
- Purpose and procedures for performance readings and evaluation.
- Measuring instruments in general and electronic combustion analyzers in particular.
- The influence from variations in ambient conditions and fuel properties and how to make corrections of the figures to standard conditions (ISO) for comparison and trending.
- Key Performance Indicators.
- Make diagnosis at malfunction of the engine and infer the need for corrective action based on the measurements and observations which among other things includes:
 - Consequences of defective fuel injection equipment.
 - Consequences of defective or incorrect timed intake/exhaust valves and fuel pumps.
 - Consequences of fouled or defective turbocharger and air/gas passages.
 - Explain and perform evaluation of the turbocharger.
- Measurements and calculations for determination of specific fuel oil, and lube oil consumption.
- Performance of the WHRS and auxiliary systems.

DETAILS

Target group

Operators and senior maintenance staff.

Tuition methods

Lectures, exercises and demonstrations at the plant.

Course duration

3 days.

3. MECHANICAL COURSES

3.1 MAINTENANCE OF THE TWO-STROKE DIESEL ENGINE

▶ General

A detailed review of the maintenance of two-stroke diesel engines.

▶ Course objectives

Enable the participants to understand and explain the philosophy, planning, and procedures for maintenance of a large two-stroke diesel engine.

▶ Syllabus

- Maintenance philosophies.
 - Running hour based
 - Condition based
 - Corrective maintenance
- Review of the maintenance tasks and intervals recommended by the engine manufacturer.
- Assessment of engine condition.
- Maintenance planning.
- Safety hazards and precautions.
- Special tools.
- Measuring tools.
- Review of dismantling, inspection, measurements, evaluation assembling, and adjustment of the engine components i.a.:
 - Cylinder cover with valves
 - Piston complete
 - Cylinder liner
 - Fuel injection equipment
 - Bearings
 - Mechanical control gear
 - Turbocharger and air cooler
 - Instrumentation
 - Safety systems
- Running-in procedures.
- Reconditioning of parts.

DETAILS

Target group

All mechanical maintenance staff.

Tuition methods

Lectures.

Course duration

5 days.

3.2 MAINTENANCE OF THE FOUR-STROKE DIESEL ENGINE

► General

A detailed review of the maintenance of four-stroke diesel engines.

► Course objectives

Enable the participants to understand and explain the philosophy, planning, and procedures for maintenance of a large four-stroke diesel engine.

► Syllabus

- Maintenance philosophies.
 - Running hour based
 - Condition based
 - Corrective maintenance
- Review of the maintenance tasks and intervals recommended by the engine manufacturer.
- Assessment of engine condition.
- Maintenance planning.
- Safety hazards and precautions.
- Special tools.
- Measuring tools.
- Review of dismantling, inspection, measurements, evaluation, assembling, and adjustment of the engine components i.a.:
 - Cylinder head with valves
 - Piston complete
 - Cylinder liner
 - Fuel injection equipment
 - Bearings
 - Mechanical control gear
 - Turbocharger and air cooler
 - Instrumentation
 - Safety systems
- Running-in procedures.
- Reconditioning of parts.

DETAILS

Target group

All mechanical maintenance staff.

Tuition methods

Lectures.

Course duration

5 days.

3.3 MAINTENANCE OF THE MECHANICAL AUX. EQUIPMENT

▶ General

A review of the function and maintenance of mechanical auxiliary equipment at the diesel power plant.

▶ Course objectives

Enable the participants to understand and explain the philosophies, planning, and procedures for maintenance of the mechanical auxiliary equipment at the plant in question.

▶ Syllabus

- Maintenance philosophies i.e.
 - Running hour based
 - Condition based
 - Corrective maintenance
- Review of the auxiliary systems.
- Maintenance tasks and intervals recommended by the manufacturers.
- Assessment of conditions.
- Maintenance planning.
- Special tools.
- Measuring tools.
- Spare parts and consumables.
- Review of dismantling, inspection, measurements, evaluation, assembling, and adjustment of the components i.a.:
 - Oil separators
 - Centrifugal and positive displacement pumps
 - Air compressors
 - Filters
 - Heat exchangers
 - Steam systems incl. WHRS and turbines
 - Water treatment plants
- Safety hazards and precautions.

DETAILS

Target group

All mechanical maintenance staff.

Tuition methods

Lectures.

Course duration

5 days.



On-site power plant training

4. ELECTRICAL COURSES

4.1 MAINTENANCE OF ELECTRICAL EQUIPMENT

▶ General

A review of the function and maintenance of the electrical equipment at power plants.

▶ Course objectives

Enable the participants to understand and explain the safety aspects regarding work on electrical systems and the maintenance procedures of the electrical equipment at the plant.

▶ Syllabus

- Maintenance philosophies i.e.
 - Running hour based
 - Condition based
 - Corrective maintenance
- Fundamental electricity and magnetism.
- Review of the electrical systems by diagrams and the symbols and TAG numbers used.
- Maintenance planning.
- Tools, measuring and calibration devices for maintenance.
- Troubleshooting.
- Safety hazards and precautions.
- Function, identification and maintenance procedures of:
 - Generator and
 - Transformers
 - High voltage systems with emphasis on breakers and relays
 - Low voltage systems with emphasis on breakers protective relays and motors
 - The DC system with emphasis on rectifiers, batteries and the UPS

DETAILS

Target group

All electrical maintenance staff.

Tuition methods

Lectures, exercises and demonstrations.

Course duration

5 days.

4.2 GENERATOR MAINTENANCE

▶ General

A detailed review of the maintenance of four-stroke diesel engines.

▶ Course objectives

Enable the participants to understand and explain the philosophy, planning, and procedures for maintenance of a large four-stroke diesel engine.

▶ Syllabus

- Maintenance philosophies i.e.
 - Running hour based
 - Condition based
 - Corrective maintenance
- The generator construction, components and their function.
- Maintenance tasks and intervals recommended by the manufacturer.
- Planning of inspection and maintenance of the generator.
- Safety hazards and precautions.
- Review of inspection, tests and interpretation of the results of i.e.:
 - Visual inspection
 - Partial discharge
 - Insulation resistance test
 - Polarization index
 - Stator resistance
 - Dielectric absorption test
 - Dielectric discharge test
 - Voltage drop test
 - Air gap
 - PD measurements
 - Excitation gear
 - Coolers
 - Bearings

DETAILS

Target group

All electrical maintenance staff.

Tuition methods

Lectures and practical exercises at the plant.

Course duration

5 days.

The course is assumed implemented in connection with a generator inspection.

4.3 GENERATOR EXCITATION SYSTEM

▶ General

The course is developed to increase the knowledge of personnel operating and maintaining power generation units.

▶ Course objectives

Enable the participants to understand and explain the theory and functionality of the generator excitation system with synchronization, voltage and load control. In addition, the safety aspects of working with electrical systems will be explained.

▶ Syllabus

- Generator construction and functionality.
Stator, rotor, governor and exciter.
- Review of fundamental electricity and magnetism.
- Control fundamentals:
 - P, PI, & PID controllers.
- Generator excitation system:
 - Construction and functionality
 - Main components
 - Schematic
 - Automatic voltage regulation
 - Interfaces
 - Functions and control modes
 - Rotating rectifier
 - Fault finding
- Power generation and voltage control:
 - Control of active and reactive power (MW, MVAR)
 - Generator capability diagram
 - Synchronization equipment
 - Manual and auto synchronization
 - Unit load sharing
- Safety hazards and precautions related to work on electrical systems:
 - Electrical shock and arc flash
 - Personal Protective Equipment (PPE)
 - Equipment safety barriers
 - Planning of work
 - Hazard identification and mitigation
 - Risk assessments
 - Tools and safety equipment

DETAILS

Target group

Electrical maintenance staff and operators.

Tuition methods

The course consists of lectures, exercises and site visits.

Course duration

3 days.

4.4 PROTECTION AND RELAY COURSE

▶ General

A study in electrical protection and the relays and systems used at power plants. Generator and transformer relays are also part of the course.

▶ Course objectives

Enable the participants to understand and explain the advantages and disadvantages of protection and relaying philosophies, to use the available relays and systems correctly and reduce the outage times of the power plant.

▶ Syllabus

- Operational methods and types of protection relays and system i.a:
 - Over current relays
 - Time-over current relays
 - Define-time over current relays
 - Overload relays
 - Differential relays
- Protection zones.
- Faults/trouble shooting:
 - Auto-reclose relays
 - Bus bar protection
 - Frequency relays
 - Other protective devices
- The new generation of management relays:
 - Generator management relay
 - Transformer management relay
- Read-out programming of the relays.
- Safety hazards and precautions.

DETAILS

Target group

All electrical maintenance staff.

Tuition methods

Lectures and exercises.

Course duration

2 days.

4.5 MEASURING TECHNIQUES AND INSTRUMENTS

▶ General

A study in the general principles of measuring techniques and measuring instruments.

▶ Course objectives

Enable the participants to understand and explain different measuring techniques and instruments as well as to use these techniques and instruments correctly during normal work.

▶ Syllabus

- Advantages and disadvantages of different measuring techniques relating to different expected values i.e.:
 - Pressure measurement
 - Level measurement
 - Flow measurement
 - Temperature measurement
 - Voltage measurement
 - Current measurement
- Different measuring instrument such as:
 - Moving coil instrument
 - Moving iron instrument
 - Digital multimeters
 - Megger
- Measuring systems.
- Maintenance of instruments and systems.
- Calibration of instruments.
- Safety hazards and precautions.

DETAILS

Target group

All electrical maintenance staff.

Tuition methods

Lectures and exercises.

Course duration

2 days.

4.6 ELECTRICAL SAFETY

▶ General

A study in electrical hazards, safety barriers and safety procedures in electrical power generation and auxiliary systems.

▶ Course objectives

Enable the participants to understand and identify electrical hazards in order to plan and conduct work on electrical installations in a safe manner to prevent injuries to personnel and damage to equipment.

▶ Syllabus

- Electrical hazards
 - Electrical shock
 - Arc flash
- Injuries and safety barriers
 - Personal protective equipment (PPE)
 - Safety barriers in general
 - Relays and breakers
 - Safety signs
 - Tools
- Equipment related safety
 - HV, MV, LV installations
 - Switchboards
- Planning of work
 - Working methods
 - Hazard identification
 - Risk assessments
 - Risk mitigation
- International standards related to safety
 - Operation
 - Switchboards
- Safety organisation
 - Responsibility

DETAILS

Target group

Electrical maintenance staff and operators.

Tuition methods

Lectures and exercises.

Course duration

1 days.

5. INSTRUMENTATION & CONTROL COURSES

5.1 INSTRUMENTATION & CONTROL SYSTEMS

▶ General

A study in control fundamentals, sensors, transmitters and control systems.

▶ Course objectives

Enable the participants to understand and explain the safety aspects at work at electrical systems and maintenance, as well as troubleshooting procedures of the control systems at the plant.

▶ Syllabus

- Control fundamentals.
- Transducers.
- Transmitters.
- The control system:
 - General application structure
 - Substations
 - I/O modules
 - Operator stations
 - Software
 - Control descriptions
 - Control concepts
- Review of the Alarm & Control lists.
- Local and remote instruments.
- Measuring techniques.
- Calibration.
- Troubleshooting.
- Safety hazards and precautions related to work on electrical systems.

DETAILS

Target group

All electrical and instrument maintenance staff.

Tuition methods

Lecture and exercises.

Course duration

5 days.

5.2 THE DISTRIBUTED CONTROL SYSTEM

▶ General

Maintenance of the Distributed Control System (DCS).

▶ Course objectives

Enable the participants to perform basic scheduled maintenance and trouble-shooting of the Distributed Control System.

▶ Syllabus

- Presentation of the hardware and software platform with reference to the specific diesel power station.
- Backing-up and downloading system files.
- Backing-up and restoring data.
- Restore operating system from start.
- Troubleshooting on hardware.
- Replacement of workstations and components.
- Cleaning of equipment e.g. fans in workstations, UPS etc.
- Replacement of internal back-up batteries in controllers, workstations etc.
- Visual inspection of DCS hardware.
- Replacement of controllers, I/O modules etc.
- Adding/changing, operator & passwords.

DETAILS

Target group

Operation Managers, Maintenance Managers, Engineers & Operations staff.

Tuition methods

Lectures and hands-on-training.

Course duration

5 days.

5.3 THE DISTRIBUTED CONTROL SYSTEM - ADVANCED

▶ General

Advanced training in the Distributed Control System (DCS).

▶ Course objectives

Enable the participants to understand the basic software structure and to enable them to go through troubleshooting procedures and make minor changes in the programming.

▶ Syllabus

- Detailed presentation of the hardware and software platform with reference to the specific plant.
- VDU description and icons.
- Programs, libraries and configuration.
- Objects and modules.
- BWSC standard modules.
- Understanding and using system error codes.
- Adding or changing graphics to match new plant upgrades.
- Configure new I/O's and controllers.
- Scan time adjustment for trend data.
- Minor program changes.
- Troubleshooting on software code.

DETAILS

Target group

Operation Managers, Maintenance Managers, Engineers & Operations staff.

Tuition methods

Lecture and exercises.

Course duration

5 days.

5.4 SIGNAL PROCESSING COURSE

▶ General

A study in control fundamentals, sensors, transmitters and signal processing.

▶ Course objectives

Enable the participants to understand and explain the various types of measuring sensors and signal activators used in the control system.

▶ Syllabus

- Control fundamentals.
- Measuring principle for:
 - Temperature
 - Active or passive sensors
 - Switches
 - Pressure.
 - Transmitter
 - Switches
 - Interactive
- Optical sensors.
- Mechanical and electronic sensors.
 - Frequency
 - Level
 - Flow
 - Distance
- Function principle for positioner and activators.
- Signal converters.
- Signal processing and communication as analog or digital and various types of network.
- Alarm and control topology.

DETAILS

Target group

All electrical and instrument maintenance staff.

Tuition methods

Lectures, exercises and discussions.

Course duration

2 days.



Rabai power station, Mauritius



6. HANDS-ON & ON-THE-JOB TRAINING

6.1 HANDS-ON MAINTENANCE TRAINING

▶ **General**

Syllabus and duration to be elaborated on request and in cooperation with the customer.

6.2 ON-THE-JOB TRAINING FOR OPERATORS

▶ General

Training visit to a power plant operated by BWSC.

▶ Course objectives

A presentation of how an efficient power plant organization works – based on BWSC's experience as a power plant operator.

▶ Syllabus

- Presentation of BWSC and the actual power plant.
- The power plant organization.
- Review of operating and safety procedures
 - Plant rounding
 - Control room routines
 - Dispatch procedures
 - Start-up, shut-down, cold/warm standby
 - WHR boiler operation
 - Sampling and analysis of FO,LO and water
 - Bunker procedures
 - General safety measures
 - Fire drill
 - Handling of sludge, solid waste, boiler effluent etc.
 - Shift rooster and, handing over of a shift
- Technical review of the power plant:
 - Interface between the maintenance and operation sections
 - Operation, work orders etc.
 - Log and reporting systems
 - Plant performance Management
 - Computerized Maintenance Management System (CMMS)
 - Participation in operation shift and maintenance tasks respectively (optional)
- Plant tours
- General exchange of experience.

DETAILS

Target group

Plant management and senior operations staff.

Tuition methods

The course consists of presentations, plant tour and discussions

Course duration

To be agreed upon.

7. GENERAL COURSES

7.1 WASTE HEAT RECOVERY SYSTEMS

▶ General

A study in operation and maintenance of waste heat recovery system (WHRS).

▶ Course objectives

Enable the participants to understand the design, the components and their function, basic theory of heat transfer, steam fundamentals, water treatment, operation procedures, maintenance procedures and safety.

▶ Syllabus

- Review of the WHRS with associated auxiliary equipment.
- Steam fundamentals.
- Heat transfer.
- Identification of boiler components and the auxiliary equipment.
- Review of the steam consumers.
- Control, alarm and trip functions.
- Safety hazards and precautions.
- Deposits on water and gas side.
- Corrosion.
- Standard Operating Procedures:
 - Start-up procedures
 - Monitoring
 - Shut-down procedures
 - Soot blowing
 - Blow-down
 - Water analysis & chemical dosing
- Maintenance, and inspection procedures:
 - Drums
 - Dampers
 - Soot blowers
 - Test of safety equipment
 - Cleaning of the water side
 - Cleaning of the gas side
 - Auxiliary equipment
- Water wash and treatment of boiler wash effluent water.

DETAILS

Target group

Operations staff and mechanical maintenance staff.

Tuition methods

Lectures, exercises and demonstrations at the plant.

Course duration

2 days.

7.2 DIESEL ENGINE FUELS

▶ General

Review of the different diesel engine fuels, their classification, properties and influence on the engine performance.

▶ Course objectives

Enable the participants to specify fuel, interpret fuel oil laboratory analyses and handle the fuel treatment equipment and the engine accordingly.

▶ Syllabus

- Crude oil compositions.
- The refinery process.
- Fuel oil standards; BS, ISO, CIMAC.
- Fuel oil types for diesel engines; GO, MDO, HFO.
- Fuel oil characteristics i.e.:
 - Viscosity
 - Density
 - Calorific value
 - Sulphur
 - Ignition properties
 - Stability and compatibility
 - Impurities / contamination
- The influence of different fuel oil properties and impurities on the diesel engine and the auxiliary equipment.
- Fuel oil sampling.
- Interpretation of laboratory analysis.
- Fuel oil handling; heating, pumping, purification, mixing, etc.
- Requirements to the fuel oil supplier and to the testing laboratory.
- Fuel oil quality trends.

DETAILS

Target group

Plant Management and Engineers.

Tuition methods

Lectures.

Course duration

1 days.

7.3 ENGINE LUBRICANTS

▶ General

Review of lubricants, their function, properties and classification.

▶ Course objectives

Enable the participants to explain how to specify and handle lubricants and interpret lube oil laboratory analyses.

▶ Syllabus

- Lubricating fundamentals.
 - Friction
 - Hydrodynamic lubrication
 - Cooling
 - Neutralization
 - Dirt-carrier
 - Oil additives
- Classification of lube oils.
 - Viscosity classification SAE
 - Quality classification API
- System oil for diesel engines.
 - Oxidation stability
 - Corrosion prevention
 - Alkalinity (BN)
 - Cleaning ability
 - Bacterial infection
- Cylinder lubricating oil.
- Contaminants of main system oil.
 - Water
 - Carbonaceous matter
 - Abrasive matters
 - Oxidation products
 - Cylinder lubricants
 - Fuel
- Cleaning of circulating oils.
- Lube oil sampling.
- Lubrication oil analyses.
 - Water content
 - Flash point
 - Viscosity
 - Strong Acid Number (SAN)
 - Total Acid Number (TAN)
 - Total Base Number (TBN)
 - Insolubles
 - Pentane and Toluene
 - Ash content
 - Biological infection
- Handling of lubricants.
- Other lubricants, i.a.:
 - Gear oil
 - Compressor oil
 - Transformer oil
 - Grease
- Operation troubles associated with lubrication.
- Disposal of used lubricants.

DETAILS

Target group

Plant Management and Engineers.

Tuition methods

Lectures.

Course duration

1 days.

7.4 THE METRIC SYSTEM

▶ **General**

Designed for people using the Imperial / US measuring units and the metric system.

▶ **Course objectives**

Enable the participants to convert measuring units from Imperial/US measuring units into metric units and vice versa.

▶ **Syllabus**

- Introduction to the metric measuring units.
- Review of measuring units and their related physics.
- Conversion of units for length, mass, volume, pressure, temperature, energy and derived units such as specific gravity, speed, flow etc. from US/Imperial units into metric units and vice versa.

DETAILS

Target group

All staff.

Tuition methods

Lectures and exercises.

Course duration

1 days.

7.5 ENVIRONMENTAL MANAGEMENT

► General

An introduction to generating electricity in an environmentally friendly way.

The main sources of environmental impact are reviewed and the abatement methods available are introduced.

Relevant legislative and regulatory standards are introduced.

Guidelines on how to establish an environmental management system are provided.

► Course objectives

Provide the participants with a general overview of the subject of environmental management of a diesel power plant.

The participants will be introduced to the most important sources of environmental impact and to the implementation of environmental initiatives.

► Syllabus

- Environmental legislation.
- Environmental impact from a diesel power plant.
- Emissions.
- Oil and sludge.
- Liquid effluent.
- Solid waste.
- Hazardous materials.
- Noise.
- Environmental management.
- ISO 14000.

DETAILS

Target group

Plant Management and Engineers.

Tuition methods

Lectures, exercises and if possible (depending on the location) visit to a relevant plant.

Course duration

1 days.



Rodrigues power station, Mauritius
On-site power plant training

Burmeister & Wain Scandinavian Contractor A/S

Gydevang 35
DK-3450 Allerød
Denmark

Phone: +45 4814 0022
Fax: +45 4814 0150

bwsc@bwsc.dk
bwsc.com

International sales offices

BWSC Panama
Panama City, Panama
Phone: +507 264 2886

BWSC United States
Houston, Texas, United States
Phone: +1 713 467 5277

FACTS ABOUT BWSC

- World-leading turnkey EPC contractor and service provider for diesel, natural gas and renewable baseload power plants for electricity generation and thermal energy production
- More than 180 power plants designed and supplied in 54 countries
- Two decades of experience in operation and maintenance of power plants
- A comprehensive range of power plant support services, from spare parts to complete rehabilitation
- Training programmes for all aspects of power plant operation and maintenance
- Extensive experience in financing and development of power plant projects
- Headquartered in Denmark and supplemented by an international sales and support network
- 700 employees based at our main office and power plants around the world
- 100% subsidiary of Mitsui E&S Holdings Co. Ltd., Japan
- Certified according to ISO 9001, ISO 14001 and OHSAS 18001
- Long-standing AAA rating, 2017 revenues: EURm 387



Burmeister & Wain Scandinavian Contractor A/S