

OILY WATER EFFLUENT SYSTEM UPGRADE

Coloane Power Plant
Macau, SAR (China)

BWSC

- YOUR BEST PARTNER FOR GROWTH



Executed in 2008

FOR



BY



Burmeister & Wain Scandinavian Contractor A/S

The power production on Coloane Power Station "A" is based on six 2-stroke diesel engines installed by BWSC in the period 1986 - 1996 totaling a generating capacity of 232 MW.

In order to solve operational problems related to an aging oily water effluent treatment system and at the same time minimize environmental impact from the plant, CEM launched a tender for upgrading and optimization of part of an existing oily water effluent system.

The requirement was to implement a turnkey project of a semi-automatic oily water effluent system into a power plant in operation while not causing any operational disturbances or risk of oil spill during the construction phase.

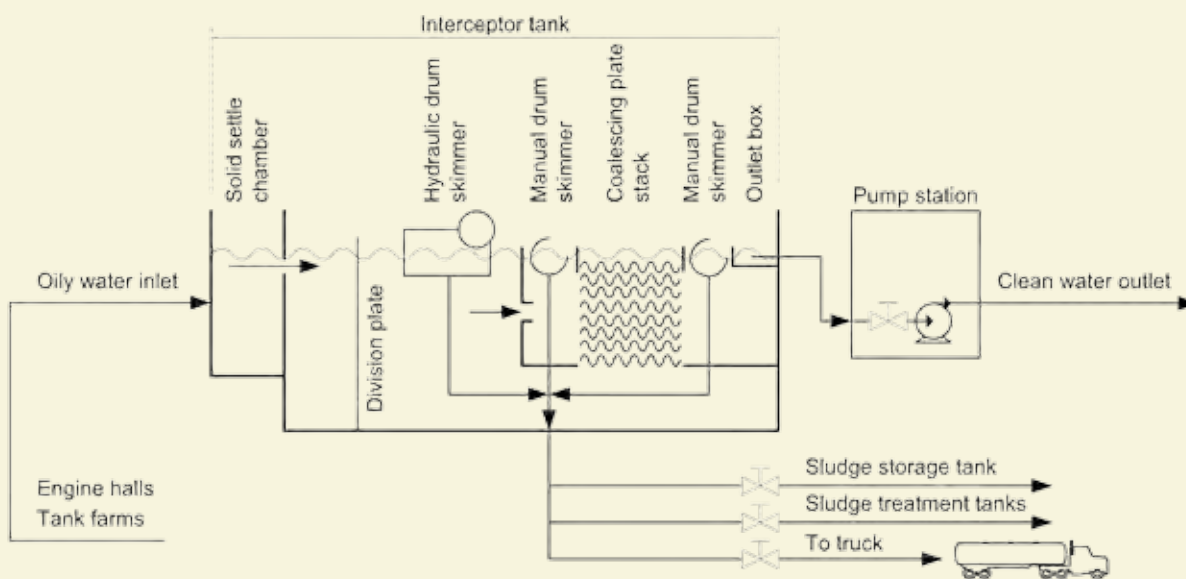
A solution was tailored by BWSC through detailed study of the effluent sources and existing system configuration while taking into account the operational and maintenance requirements of the client.

The project was completed and met a tight deadline without causing any operational disturbances during the construction phase.

The tailored solution included:

- Facilitating high oil- and grease separation capacity by innovative use of a high capacity drum oil skimmer.
- Automatic monitoring- and control of oily water concentration in the clean water outlet by installation of a oily water monitor and recycling line.
- Easy monitoring- control- and alarm functions by incorporation all new controls and monitoring devices in the existing distributed control system.
- Limiting the peak flow during heavy rain by establishment of buffer capability for areas open to rain fall.
- Improvement of solids separation by addition of a solid settle chamber.

PRINCIPLE DIAGRAM FOR THE OILY WATER EFFLUENT TREATMENT SYSTEM



Technical Data

Peak effluent flow during heavy rainfall.....	90 m ³ /h
Effluent flow design capacity	20 m ³ /h
Oil and grease separation capacity	4.5 m ³ /h
Clean water oil and grease effluent limit.....	200 mg/l
Make of sludge pumps	SEEPEX
Make of drum oil skimmer	ELASTEC
Make of interceptor tank equipment.....	HYDRO-CARBON
System Design & Execution.....	BWSC A/S

Benefits from the system upgrade

- Improved safety margin for oil spill.
- High oil and grease separation capacity.
- Limitation of the oil and grease contents in the clean water outlet.
- Easy operation & maintenance of the system.
- Control of excess effluent flow during heavy rain.
- Improvement of solids separation capacity.



Burmeister & Wain Scandinavian Contractor A/S
 Gydevang 35, P.O. Box 235, DK-3450 Allerød, Denmark
 Phone: +45 48 14 00 22, Fax: +45 48 14 01 50
 bwsc@bwsc.dk, www.bwsc.dk