



Water Treatment for South Bangkok Combined Cycle Power Plant Stage II

A Case Study



Scope of Work

The scope included the complete design, engineering, manufacture, supply, inspection and testing, fabrication, installation, commissioning and performance test of the water and wastewater treatment packages which comprise the following:

- Circulating water make-up treatment system utilising four automatic cyclone separators to treat a flow of 3780 m³/h. The system clarifies water from the Chao Phraya river, where suspended solids level varies widely due to strong tidal influences
- Ion exchange demineralisation plant for cycle make-up system with a capacity of 147.6 m³/h, including activated carbon filters, primary cation exchangers, forced draft degasser, primary anion exchangers and a mixed bed polisher, all in two 50% streams
- Chemical waste collection and treatment system operating on a 600 m³ batch treatment principle
- 90 m³/day extended aeration sanitary drainage & treatment system
- Auxiliary water supply units – 150 m³/h each
- Miscellaneous mechanical and architectural services along with HVAC, lighting, fire protection and communication systems
- DCIS based complete control system for overall plant operation

Key Benefits

- A total solution for the power plant water and wastewater treatment needs
- An efficient design that takes into consideration the stringent requirements laid down by the owner and the project manager
- Client ease of mind since all packages are handled by one contractor, Metito
- A reliable plant that takes into consideration the varying quality of the feedwater
- A safe proof design that meant trouble free operation and minimum downtime
- Timely execution which was imperative for startup of the power plant
- Full local support from a well established company with “Local Presence and Global Knowhow”



Key Data

Location	South Bangkok
Plant Type	Water & Wastewater Treatment & Demineralisation
Capacity	Different capacities for various packages
Use	Power Plant
Client	EGAT
End User	EGAT
Consultant/Project Manager	Black & Veatch International & Sindhu Pulsirivong Consultants
Contract Type	Turnkey Design & Build, Including Civil Works

Introduction

To cater for the increasing demand for power and for the surge in industrial needs, the Electricity Generating Authority of Thailand (EGAT) decided to build stage II of the South Bangkok Combined Cycle Power Plant to produce an additional 744 MW of power. The multi-million dollar contract was directly awarded by EGAT to Metito against international competition. The project demanded execution to the most stringent requirements laid down by EGAT and their consultants Black and Veatch International, Kansas City and Sindhu Pulsirivong Consultants, Bangkok. The complete works including the performance guarantee tests had to be executed within the jurisdiction of ASME codes, and the project had to be completed within a critical time frame. Metito took on the challenge, and fully performed to the satisfaction of the respective authorities.

