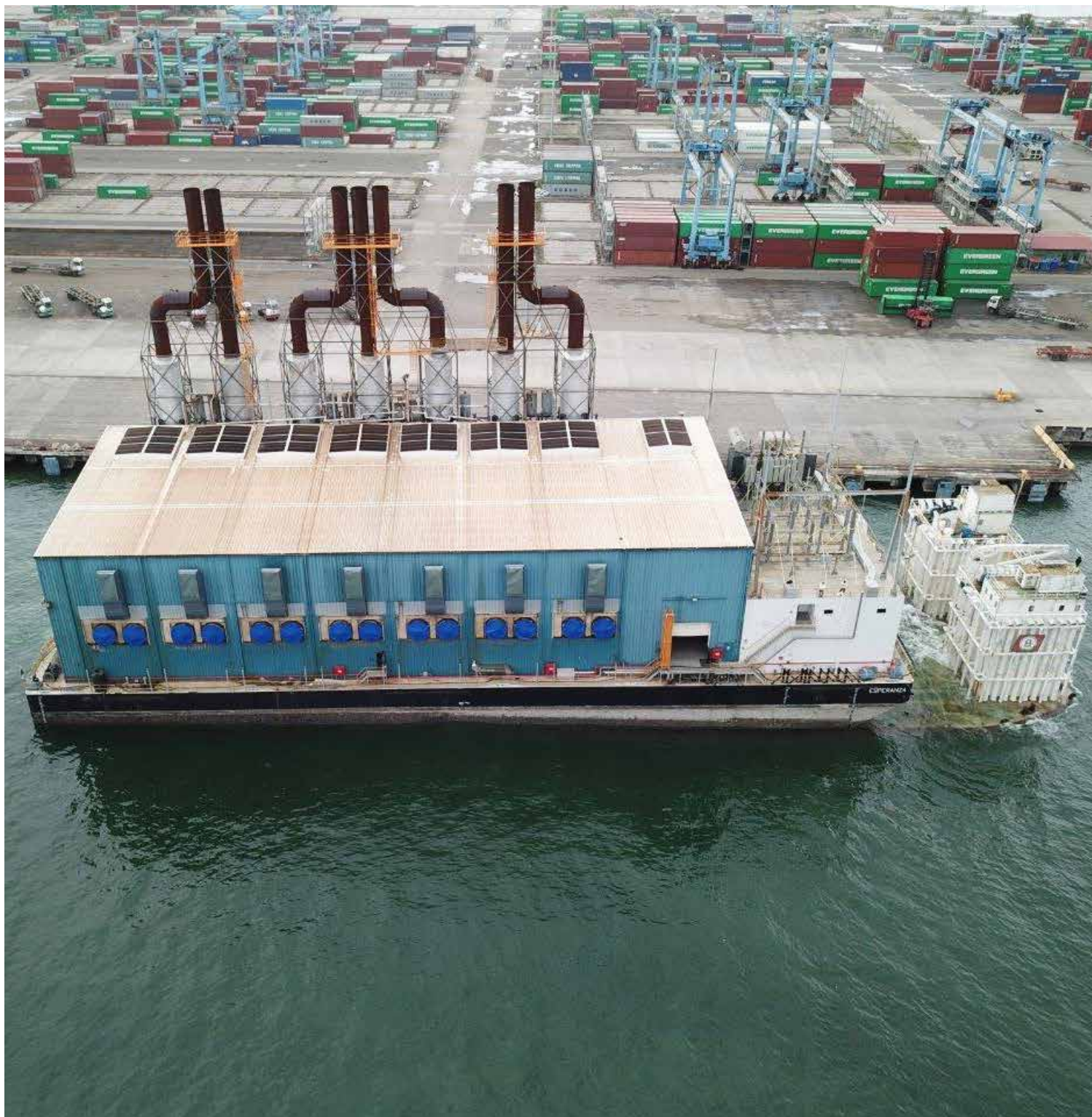


Project stories

# REHABILITATION OF LA ESPERANZA





# REHABILITATION OF LA ESPERANZA

**After participating in the design of La Esperanza power barge in the late 1990s, BWSC was invited back to implement a complete refurbishment in 2017.**

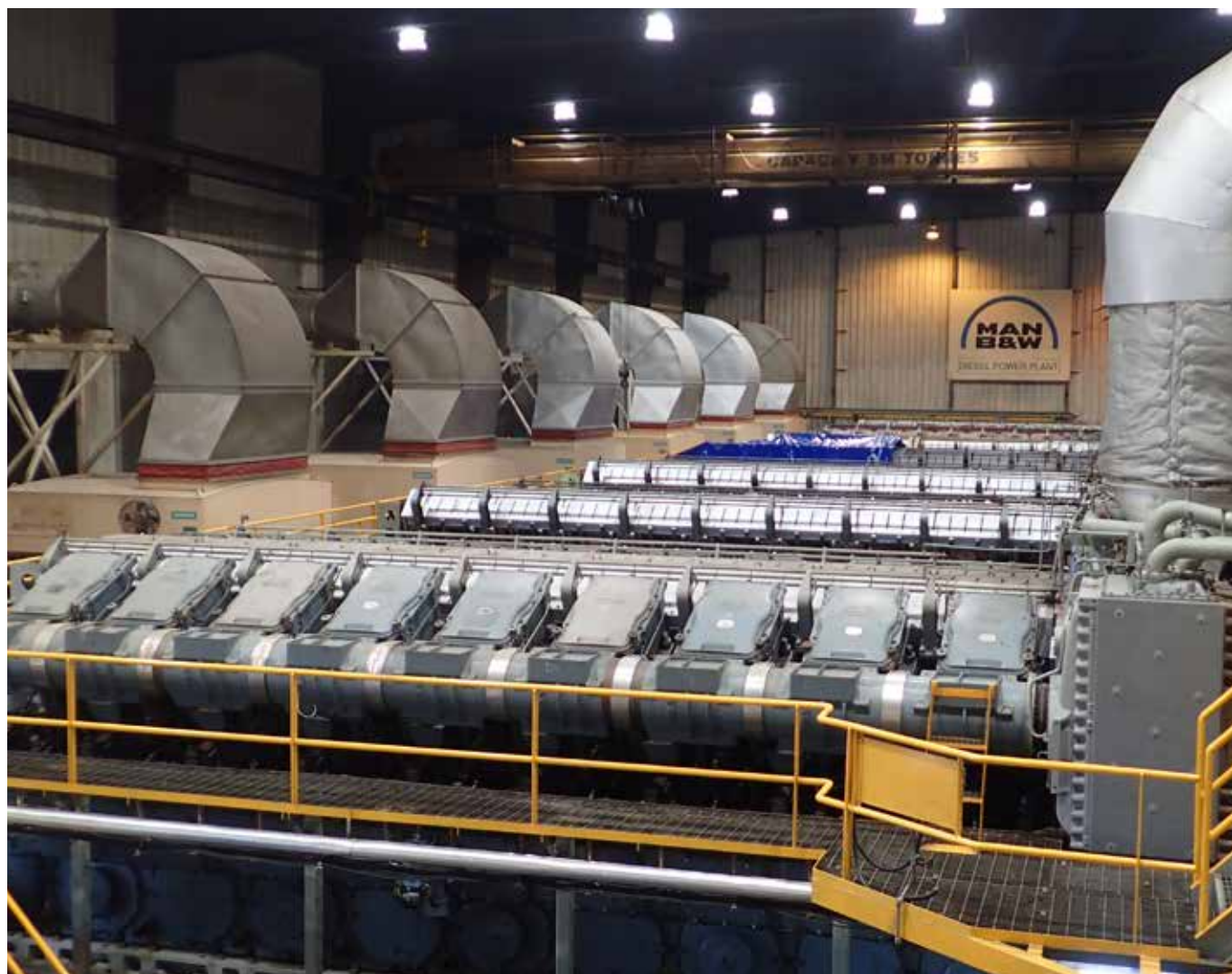
The project was designed to extend the aging power barge's service life in connection with a change of ownership and the subsequent change of operating conditions. The power barge was expected to go from a peak load operational pattern to baseload dispatch, so the client wanted to ensure that equipment reliability matched the power purchase agreement governing the La Esperanza's operating conditions in the coming years.

After completion of a comprehensive site survey and several months of subsequent negotiations, a contract was signed, based upon a framework of documented cost with a pre-agreed contractor contribution margin. This agreement enabled the client to impose a rigorous system of checks and balances, as all contractor recommended rehabilitation investments had to be approved by the client prior to commitment.

With the contract effective as of 11 August 2017, a site start-up meeting was completed on the 14 August 2017, followed immediately by a rolling mobilization regime.

At peak periods, BWSC engaged six superintendents on-site who were responsible for a contingency of staff from BWSC Panama S.A. and multiple local contractors, including several overseas OEM mobilised specialists, while supported by a dedicated team of in-house engineers.

The project quickly began yielding results and after nine months of direct engagement and client support, the works on La Esperanza came to a successful conclusion for BWSC, with no delays resulting from BWSC's works.



During the project, the following works were completed during the contract period, allowing the client to meet stakeholders' expectations for La Esperanza to dispatch timely and deliver reliable power as per the utility's request:

- six out of seven MAN 48-60A engines were rehabilitated in accordance with the client's specifications
- six LO cooler plate-stack replacements, seven LT and HT Cooler banks completed, including replacement of obsolete piping installation and foundations
- one complete dump condenser unit (pre-fabricated in Denmark, plug n' play replacement), including 2 x heat exchangers and associated complete piping and structures
- eight SW intake lines completely rehabilitated with supplied piping, valves and manufactured pump foundations
- boiler services and equipment replacement works
- insulation and cladding upgrades to engine exhaust manifolds, turbocharger outlets, exhaust ducting throughout the power barge, fuel supply lines and condensing steam line
- servicing, cleaning and testing of engine auxiliary panels, common distribution panels, LV bus-bars and breakers
- installation of three upgraded UPS and associated battery bank
- checking and testing of fire detection systems
- complete upgrading of indoor and outdoor illumination
- replacement of black start generator unit, including cable rerouting, generator rewinding works and testing
- installation of plant shut-down system, governor control panels and cabling for boiler sensors
- servicing and testing MV breaker panels and bus-bars
- installation and testing of one BWSC supplied station auxiliary transformer (SAT) unit
- complete training regime including all aspects of operation and maintenance.





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## 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
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## ACCREDITATIONS

- Mitsui E&S Holdings Co. Ltd., Cooperative Repair Shop
- NIIGATA Technical Service Agent for maintenance of Engine, Z-Peller and equipment supplied by Niigata Power Systems Co., Ltd. Central Americas region
- Long term spare parts partner with MAN ENERGY SOLUTIONS
- Qualified and certified technicians for servicing MAN middle and low speed engines
- Qualified and certified technicians for servicing MET, MAN, ABB and Mitsubishi turbochargers
- Member of the Panamanian Maritime Chamber.
- Member of the American chamber of commerce.
- Member of the International Ship Engineering Service Association (ISES)



Burmeister & Wain Scandinavian Contractor A/S