

Tsakos Columbia Shipmanagement (TCM) S.A. S.W. Cooling Pumps Speed Control with Variable Frequency Drives reduces overall operational costs of M/T Euro.

Tsakos Columbia Shipmanagement (TCM) S.A. company operating a fleet of more than 70 vessels implements ABB's innovative energy efficiency solutions.

Company's story begins with the ambition and personal endeavor of Captain Panagiotis Tsakos who is the founder of a company that manages ships all over the world like Tankers, Containers, Bulk Carriers, Tugs and LNGs keeping one of the biggest Greek fleets. The colossus is constantly expanding and has been evolved into a distinguished organization.

With a view to gain a competitive edge, TCM S.A company and its charterers have chosen ABB's innovative Energy Efficiency Solutions and the company can benefit now from fuel savings and low maintenance costs.

Onboard a vessel, there are a lot of different kinds of pump and fan applications which are very often oversized when compared to actual needs. This is because the design criteria are set to meet the extreme conditions the vessel may operate in. For example the assumed sea water temperature used for design sizing is generally set above normal operating conditions.

Processes that are sized for extreme conditions the vessel may be operating in, are the ones that benefit the most from installing a Variable Frequency Drive (VFD). These are sea water & fresh water cooling pumps and engine room ventilation fans, where savings between 40% - 80% are typical for our solution.

TCM S.A. has upgraded the S.W. Cooling Pumps on board M/T Euro, a Tanker of 158.000 dwt build in 2012 by Sungdong Shipbuilding & Marine Engineering Co in South Korea. The scope of the upgrade was to install two VFD's on the main sea water pumps in order to control their speed and achieve the desired fresh water temperature to cool down the machinery.



After four months of continuous system operation the Chief Engineer of the vessel Mr. Titos Koukakis said, "The installation of the system was very easy and the instructions received from ABB where straight forward targeting the uninterrupted operation of pumps. The operation principal has not changed after the upgrade and the VFD's are working constantly without any problem saving of more than 60% energy."

Mr. D. Psaradakis Technical Manager of the company mentioned, "Great importance for us was the fact that the implementation and engineering of the project was handled by the Marine Service Department of ABB Greece and this resulted to an easy and successful communication during the commissioning and the after sales support. ABB's offered a complete turnkey solution with all the components like VFD's, PLC, Touch Screen, Sensors and Cabinet manufactured by ABB, giving us one contact point for whatever we need."

Under this Energy Efficiency Upgrade, TCM S.A. has managed to make a step further to its Greener Shipping commitment for the benefit of the future generations.

TCM being convinced by the advantages and savings that ABB's Energy Efficient solutions are providing, has proceeded with the installation of VFDs at M/T Euro's engine room fans, while has placed an order to ABB to proceed with the engineering of the same plan for all the sister vessels in the fleet.

Challenge

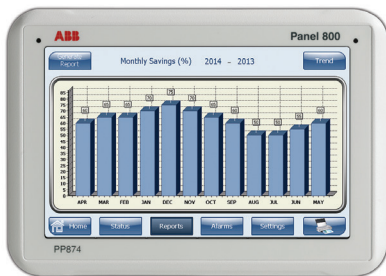
- Reduce the energy consumed by the sea water pumps
- Minimize the maintenance cost of the pumps and the electric motors

Solution

- Installation of cabinet build VFD's to control the pumps speed
- Touch Panel with advanced monitoring capabilities

Outcome

- Saves both fuel and maintenance costs
- Energy Reduction of more than 60%
- Worldwide service support from ABB's twenty dedicated Marine Service Stations



Touch panel, monthly saving analysis



ABB SA

13th km Athens - Korinth National Rd
GR - 124 62 Skaramagkas
Tel: +30 210 4212 637
Fax: +30 210 42 12 614
Mobile: + 30 693 707 5236
e-mail: services.marine@gr.abb.com
www.abb.gr/marine

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