

## BWC Compliance – Optimum approach for retrofits



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**Abstract:**

**Objective:** Scope of the paper is to make shipowners aware of the requirements of newly ratified BW Convention by IMO and illustrate various strategies that can be adopted to ensure compliance. The paper will showcase the correct methodology for Ballast water treatment equipment retrofits, identify the pitfalls in way of the retrofit process from equipment selection till commissioning, identify the prominent technologies in the market and discuss their suitability for various kind of vessels.

**Methods/Procedures/Process:** This paper has been prepared based on an exhaustive study of BW convention and rules and regulations put in various flag states and regulatory bodies. Based on the comparative study, a detailed set of rules and regulations have been prepared and compliance strategies have been outlined. Also, the paper critics the existing technologies in the market and looks at their respective advantages and disadvantages in terms of technological feasibility and capital and operational costs.

**Results/Observation/Conclusions:** The paper will demonstrate that compliance with BW convention can be achieved by various methodologies which may or may not involve installation of a ballast water treatment equipment. The paper shows that vessel owners have to take into account the universal guidelines put by IMO as well the local guidelines put by flag stage for ballast water treatment and exchange and devise a strategy such that both compliances are achieved with minimum operational and structural changes. At the same time, the paper will also provide a framework for equipment selection taking various factors into account. The paper observes that there are various unique equipment available in the market and asset owners should take multiple factors into account for their decision making.

**Novel Information:** Newly approved BW convention has rattle the maritime community. The guidelines of BW convention are very clear for ocean going vessel such as bulk carrier, tankers, container ships etc. However, various coastal guidelines put by flag states complicate the matter further. This paper provides a comparative study of such guidelines and educates the asset owners on various requirement. Such kind of comparative study has not been done on such a scale and the paper will provide unique insights regarding this. Also, the paper provides a very good study of more than 50 types of equipment available in the market and provides a very useful and practical tool for selection of ballast water treatment equipment.