

ABOUT BALLAST WATER TREATMENT **SYSTEMS**

Invasive Aquatic Species in ship's ballast water is one of the biggest problems faced by the shipping industry, posing a great threat to the marine ecosystem. As per IMO implementation of ballast water management plan and ballast water treatment system on board ships has thus become vital. Buoyancy Consultants focus on standardisation is one of its core capabilities when it comes to delivering ballast water compliance with rules and regulations set by IMO regarding Ballast Water Management.

Two simple steps to ship owner needs to take to get ready

Preliminary

Modeling / Design

Step1: All vessels must comply with Regulation D-1 Ballast Water Exchange Standard prior to 8th September 2017

Step2: After Convention enters into force and on IOPP Certificate renewal, all existing vessels must comply with Regulation D-2 Ballast Water Treatment.

In order to comply with D-2 Shipowner must:

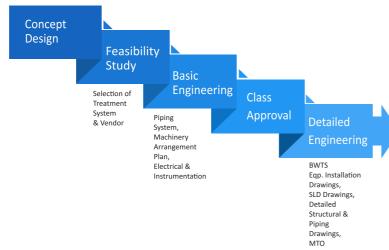
- Choose IMO Approved Ballast Water Treatment system
- Complete an engineering retrofit design
- Request Class Plan Approval
- Carry out a retrofit

3D scanning

& onboard survey

- Request a Class Acceptance Survey
- Receive an International Ballast Water Certificate (D-2)

Scope of Engineering

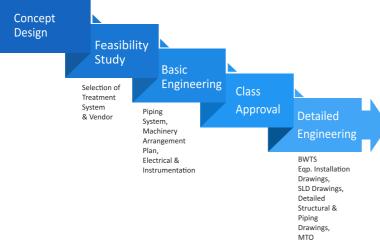


Ship documentation

update (Ballast

Management

Plan, Single line diagram, etc.)



Detailed

Purchasing & Prefabrication support

Installation planning with supplier or supervision

& Service for commissioning

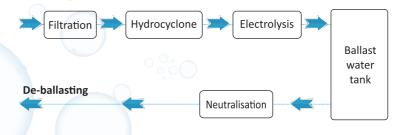
- Effectiveness on ballast water organisms
- Environment-friendliness

Installation criteria for BWTS

- Safety of the crew
- Cost effectiveness
- Ease of installation and operation
- Space availability on board

Onboard Ballast water treatment process

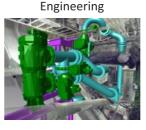
Ballasting

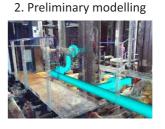


1. Laser Scanning



3. Detailed





4.Purchasing & Prefabrication support



5. Installation & commissioning



Approval Requirements

+

Chemical

Disinfection and dechlorination

Physical

Microagitation

Advanced

Disinfection

• Treatment systems are required to be approved in accordance with IMO G8 guidelines (MEPC. 174(58) or MEPC. 125(53))

APPLICATION

Hydro cyclone

Coagulation

Chlorination

Filtration (screen or disc type)

Electrochlorination/Electrolysis

Seakleen (Menadione based)

Residual chlorine neutralization

(mix of physical and chemical)

Using TiO2, OH, Fe6+ and others

Ultraviolet (UV) irradiation De-oxygenation
Heat (thermal treatment)

Magnetic treatment

Cavitation

Ultrasound

• If the system uses or produces an 'active substance' - the substance must be approved (basic and final) by the IMO in accordance with the IMO G9 Guidelines (MEPC.126(53))

6. Documentation



Engineering

Technical support

PROCESS FOR BWTS

Documentation

Approval

RETROFIT SOLUTION



PROJECTS FLOATED















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