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(54) Title: AN APPARATUS AND METHOD OF MEASURING, MONITORING, RECORDING AND VERIFYING THE UPTAKE AND DISCHARGE OF BALLAST WATER ON MARINE VESSELS TO ENSURE THAT THE BALLAST WATER TO BE DISCHARGED COMPLIES WITH THE BALLAST WATER DISCHARGE STANDARDS.

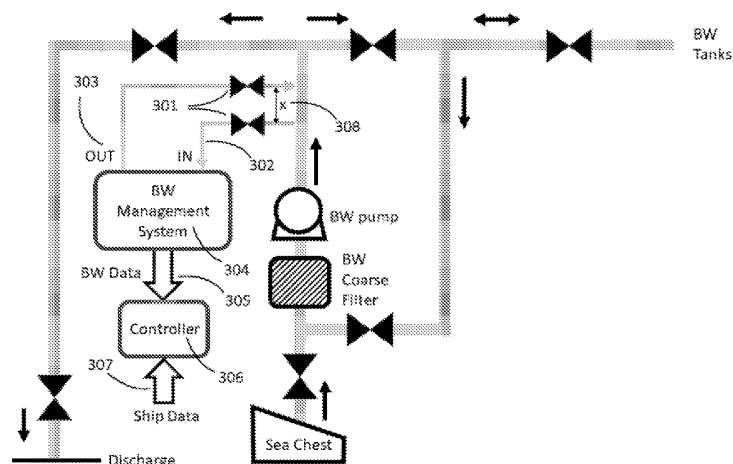


FIGURE 3

(57) Abstract: An apparatus and method of measuring, monitoring, recording and verifying the uptake and discharge of ballast water on marine vessels to ensure that they comply with the ballast water discharge standards set by international bodies, the apparatus includes an arrangement of small sampling pipes, valves, sampling pump, flow meter, Ballast Water Monitor, Ballast Water Sensors Module and Controller. The method comprises measuring the concentration of the bacteria and pathogens in the sampled ballast water during ballasting and de-ballasting by the Ballast Water Monitor and compared against the regulatory standards and historical data of similar ship data and ballast water data. The method also identifies and isolates specific ballast water tank that holds non-compliant ballast water so that when compliant water is available, the non-complaint ballast water shall be flushed out from the identified specific ballast water tank with the compliant water. All information are saved in a secure, tamper-proof and encrypted format so that they are verifiable

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WO 2020/076237 A1

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