

No. 121 Uniform Application of MARPOL Annex I, Revised Regulation 12

(Dec 2011)

1. History of Revised Regulation 12 of MARPOL Annex

- Following an increase in the number of prosecutions due to MARPOL Annex I sludge tank related issues, at MEPC 55 in October 2006 commenced a review of MARPOL Annex I Regulation 12.
- A correspondence group looked into all sludge tank issues including Oil Record Books, IBTS and plan approval, reporting to DE 51 through paper DE 51/18/1.
- DE 51 reviewed the CG report and a new Regulation 12.1bis was introduced to further define sludge tanks.
- This was discussed at MEPC 58 where Regulation 12 was again reviewed and amended, Regulation 12.1bis becoming Regulation 12.2. MEPC.1/Circs 641 and 642 were also issued.
- MEPC 59 further developed the text, issuing MEPC 187(59) and MEPC.1/Circ 676 (IBTS).
- Korean paper MEPC 61/7/7 introduced a new Unified Interpretation concerning oil residue (sludge) service tanks. This text still included original UI 17.1.3 which stated that, “.3. *there should be no interconnections between the sludge tank discharge piping and bilge-water piping other than possible common piping leading to the standard discharge connection referred to in regulation 13.*” During discussions at MEPC 61, new MARPOL Unified Interpretations were approved and the old UI 17.1.3 was deleted.
- MEPC.187(59) entered into force on 1 January 2011.
- In July 2011 at MEPC 62 a new Unified Interpretation was agreed, published as MEPC.1/Circ 753 confirming that that Regulation 12.2.2 should not be retroactively applied to ships delivered before 1 January 2014, and reinstating the text from old UI 17.1.3 stating that, “*There should be no interconnections between the sludge tank discharge piping and bilge-water piping other than possible common piping leading to the standard discharge connection referred to in regulation 13.*”

2. Implications for ships:

- This applies to new and existing vessels.
- In effect, the change moved IMO Unified Interpretation 17.1.3 for vessels with keel laying after 31 December 1990; to a Regulation to vessels delivered after 1 January 2014.
- Incinerator oil mixing tanks are now regarded as Oil Residue (sludge) service tanks.
- In July 2011, at MEPC 62 a new Unified Interpretation was approved stating that Regulation 12.2.2 should not be retroactively applied to ships delivered before 1 January 2014 (contract before 1 January 2011; or in absence of contract keel laying before 1 January 2012; or delivered before 1 January 2014).

3. Documents referenced:

- MARPOL consolidated edition 2006.
- MEPC.187(59).
- MEPC 61 Meeting report Annex 14, modified by IMO MEPC.1/Circular 753
- MEPC.1/Circular 641.
- MEPC.1/Circular 642, modified by MEPC.1/Circular 676.

4. Revised Regulation 12.2.1 - Designated Pump

- Regulation 12.2.1 states that, *“The oil residue (sludge) tank(s) shall be provided **with a designated pump** for disposal that is capable of taking suction from the oil residue (sludge) tank(s).”*
- The Unified Interpretation to Regulation 12.2 states that, *“A designated pump should be interpreted as any pump used for the disposal of oil residue (sludge) through the standard discharge connection referred to in regulation 13, or any pump used to transfer oil residue (sludge) to any other approved means of disposal such as an incinerator, auxiliary boiler suitable for burning oil residues (sludge) or other acceptable means which are prescribed in paragraph 3.2 of the Supplement to IOPP Certificate Form A or B.”*
- A *“Dedicated”* pump is not necessary.
- The Unified Interpretation requires that the pump is used as the means for the disposal of sludge.
- It also implies that it may also pump oily bilge water to the standard discharge connection for disposal ashore.

5. Revised Regulation 12.2.2 - Sludge discharge piping

- Regulation 12.2.2 states that *“The oil residue (sludge) tank(s) shall have no discharge connections to the bilge system, oily bilge water holding tank(s), tank top or oily water separators except that the tank(s) may be fitted with drains, with manually operated self-closing valves and arrangements for subsequent visual monitoring of the settled water, that lead to an oily bilge water holding tank or bilge well, or an alternative arrangement, provided such arrangement does not connect directly to the bilge piping system.”*
- The Unified Interpretation published under MEPC.1/Circular 753 states that, *“There should be no interconnections between the sludge tank discharge piping and bilge-water piping other than possible common piping leading to the standard discharge connection referred to in regulation 13.”*
- For ships delivered before 1 January 2014*, existing arrangements where the oil residue (sludge) tank(s) have discharge connections to oily bilge water holding tank(s), tank top or oily water separator may be accepted.

**No.
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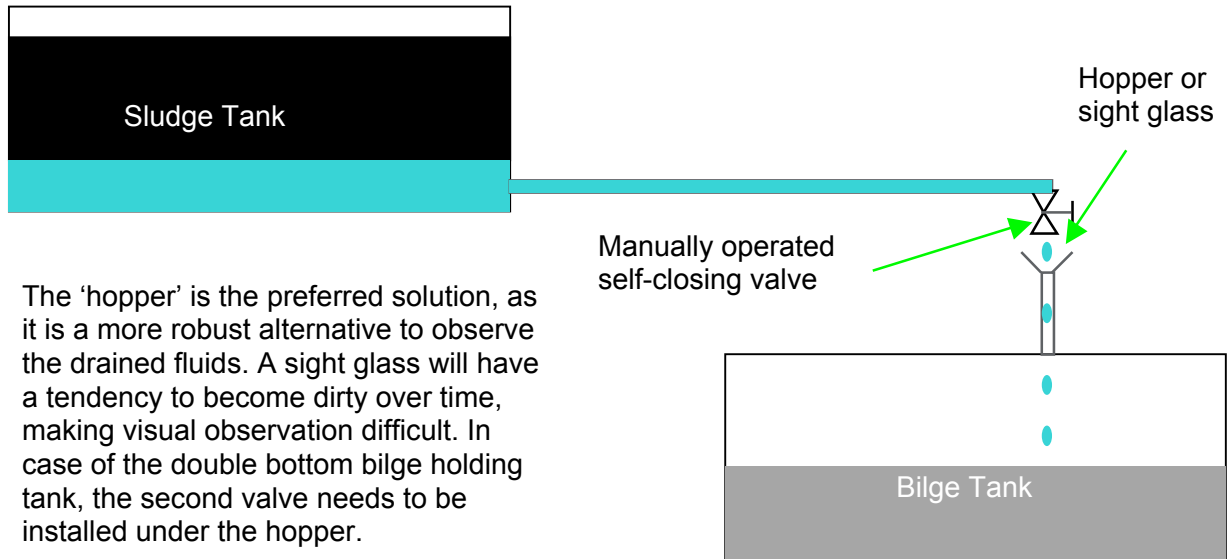
- * Ship delivered before 1 January 2014 means a ship:
 - .1 for which the building contract is placed before 1 January 2011; or
 - .2 in the absence of a building contract, the keel of which is laid or which is at a similar stage of construction before 1 January 2012; or
 - .3 the delivery of which is before 1 January 2014.
- Ships delivered before 1 January 2014 will need to comply with the requirements in force at the time the ship was built.
- Ships delivered after 1 January 2014 will need to comply with the requirements as shown below.

6. Revised Regulation 12.2.2 - Decanting Sludge to Bilge

- Regulation 12.2.2 states that, *“The oil residue (sludge) tank(s) shall have no discharge connections to the bilge system, oily bilge water holding tank(s), tank top or oily water separators except that the tank(s) may be fitted with drains, with manually operated self-closing valves and arrangements for subsequent visual monitoring of the settled water, that lead to an oily bilge water holding tank or bilge well, or an alternative arrangement, provided such arrangement does not connect directly to the bilge piping system.”*
- However, there is an exception to this general rule which allows draining of settled water from the sludge tank if certain conditions are met.
 - 1. the water is drained **only** to the bilge water holding tank or bilge well (not to the bilge piping system or other bilge areas); and
 - 2. the drains have a manually operated self-closing valve; and
 - 3. the draining operation is visually monitored.
- “Visually monitored” means monitoring the draining operation in real-time either through a site glass or through a funnel, whereby the draining can be stopped immediately if oil is seen.

No. 121

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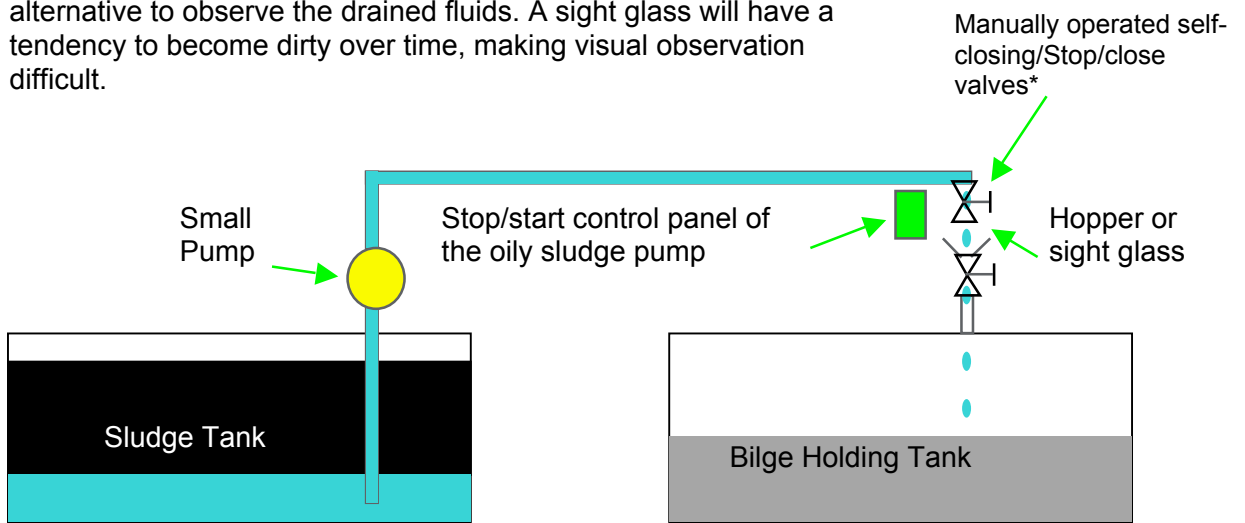
The 'hopper' is the preferred solution, as it is a more robust alternative to observe the drained fluids. A sight glass will have a tendency to become dirty over time, making visual observation difficult. In case of the double bottom bilge holding tank, the second valve needs to be installed under the hopper.

- If the previous arrangement is not possible, such as in way of double bottom spaces, then the following could be a possible solution (an exemption would be required from the Flag Administration):
- Pumping settled water from the double bottom oil residue (sludge) tank to an oily bilge water holding tank provided that the requirements of MARPOL Annex I, Regulation 12.2 are met and the other requirements of Regulation 12.2.2 are satisfied i.e.:
 1. the water is pumped **only** to the oily bilge water holding tank or bilge well by a small oily sludge pump; and
 2. the pumping operation is visually monitored by a responsible person; and
 3. the stop/start control panel of the oily sludge pump must be located close to the operator checking the transfer of settled water.
- If settled water is removed from the oil residue (sludge) tank using this method, the discharge line leading from the oil residue (sludge) tank must be connected directly to the oily bilge water holding tank or bilge well and **must not under any circumstances connect directly to any section of the bilge piping system or bilge area.**
- In the event that the double bottom oil sludge or bilge holding tanks are damaged by grounding or stranding, the engine room may progressively flood via the transfer line to the bilge holding tank or via hopper as shown below. To prevent this situation, the above transfer lines are to be provided with manually operated self-closing valves or stop/close valves where appropriate to prevent the ER flooding in the event of damage to these double bottom tanks.

No. 121

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The 'hopper' is the preferred solution, as it is a more robust alternative to observe the drained fluids. A sight glass will have a tendency to become dirty over time, making visual observation difficult.

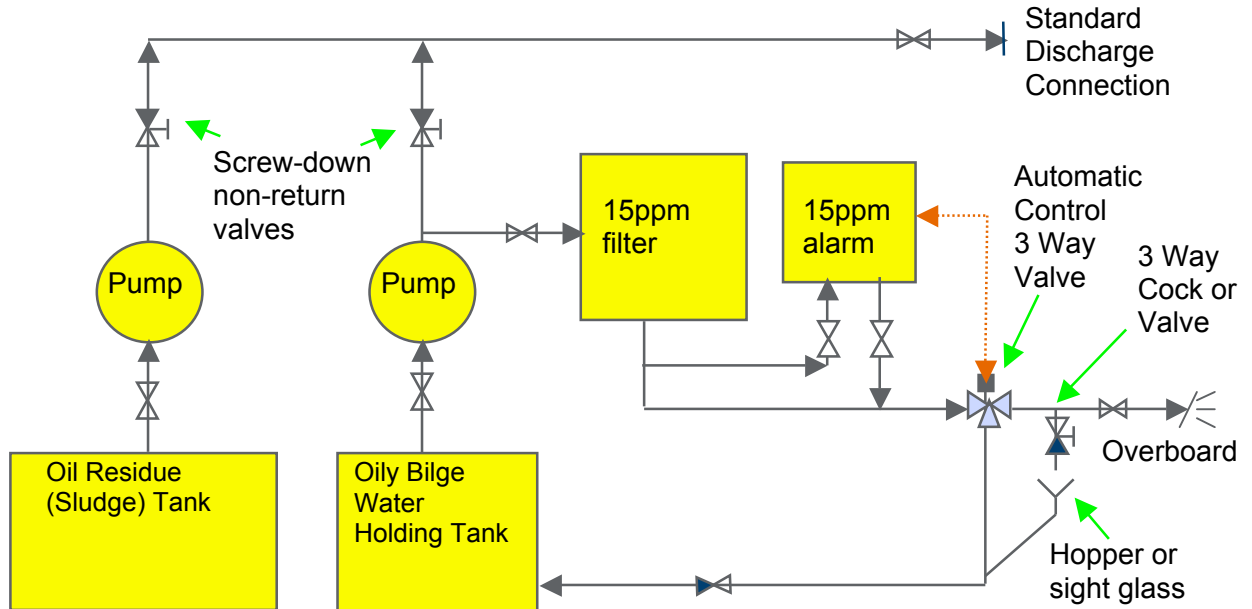


- *) The second valve needs to be installed under the hopper, if settled water is transferred to the bilge holding tank. No valve needs to be installed under the hopper in case where settled water is transferred to the bilge well.

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7. Acceptable Arrangements for ships delivered after 1 January 2014

The following diagrams describe, in simplified form, some common compliant arrangements found on ships:

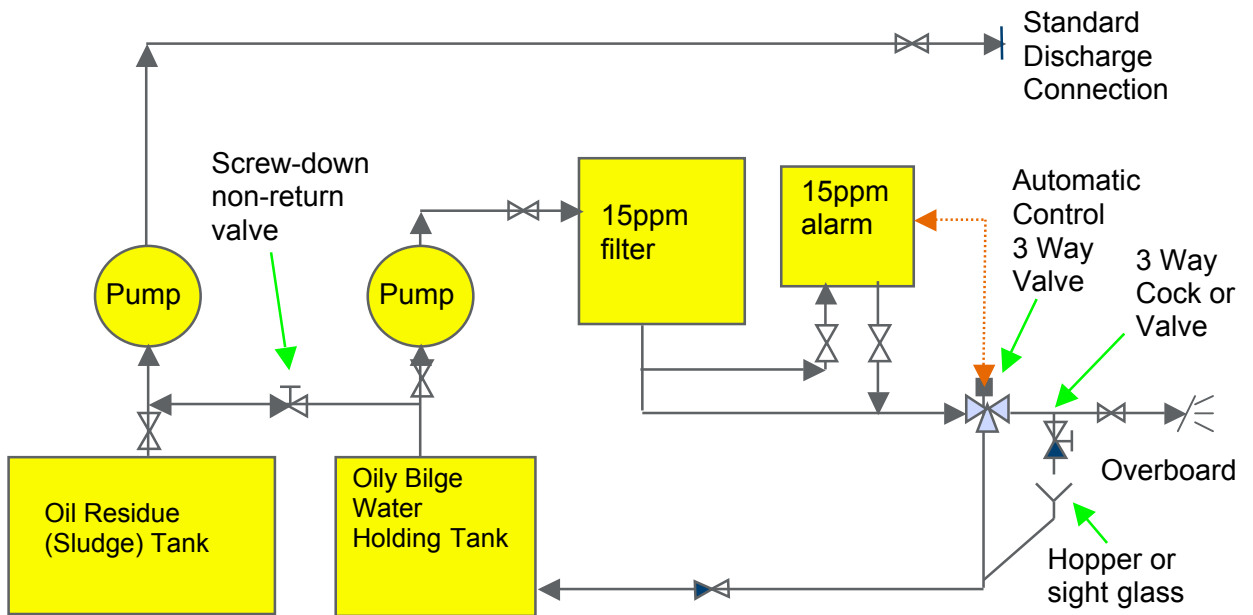


The above arrangement is considered acceptable:

- Where common arrangements are provided for the discharge of bilge water and sludge through the standard discharge connection, a screw-down non-return valve must be provided to prevent the accidental discharge of sludge to the bilge system.
- The screw-down non-return valve stops possible discharge of oil residue (sludge) to the 15 ppm Filter Unit and also the Oil Bilge Water Holding Tank.

No. 121

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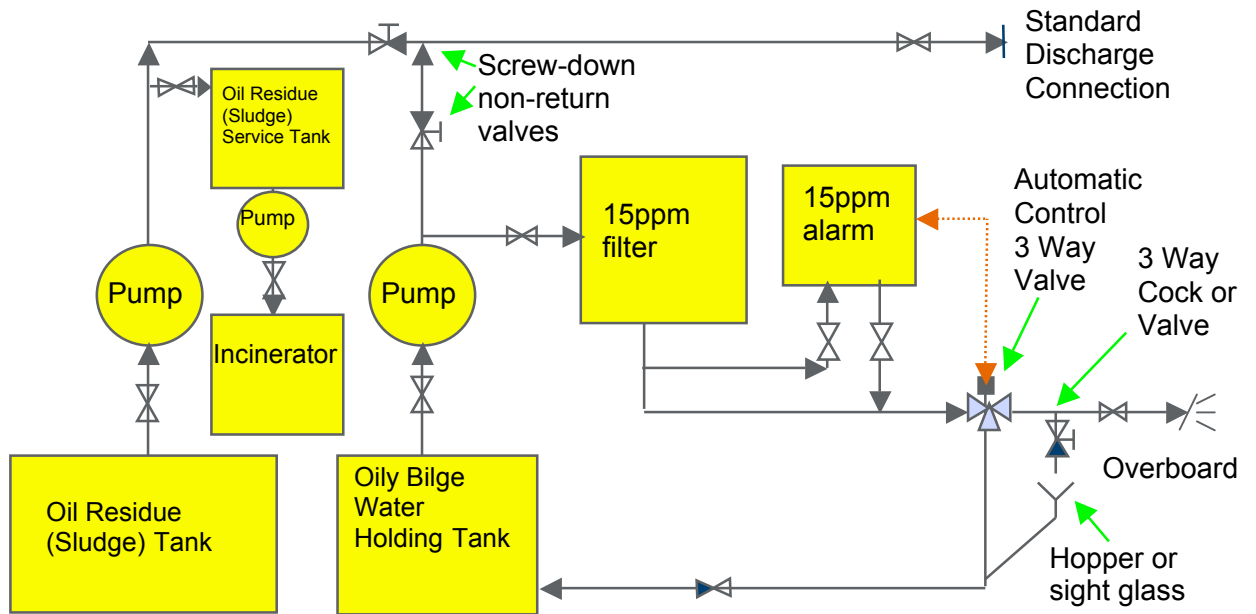


The above arrangement is considered acceptable:

- Where there are common arrangements for discharge of bilge water and sludge through the standard discharge connection, a screw-down non-return valve is arranged in the line to the common piping leading to the standard discharge required by Regulation 13. To satisfy this interpretation, the common line with a screw-down non-return valve is to be arranged on the suction side of the pumps; and
- The screw-down non-return valve stops possible discharge of oil residue (sludge) to the 15 ppm Filter Unit and also to the Oil Bilge Water Holding Tank.

No. 121

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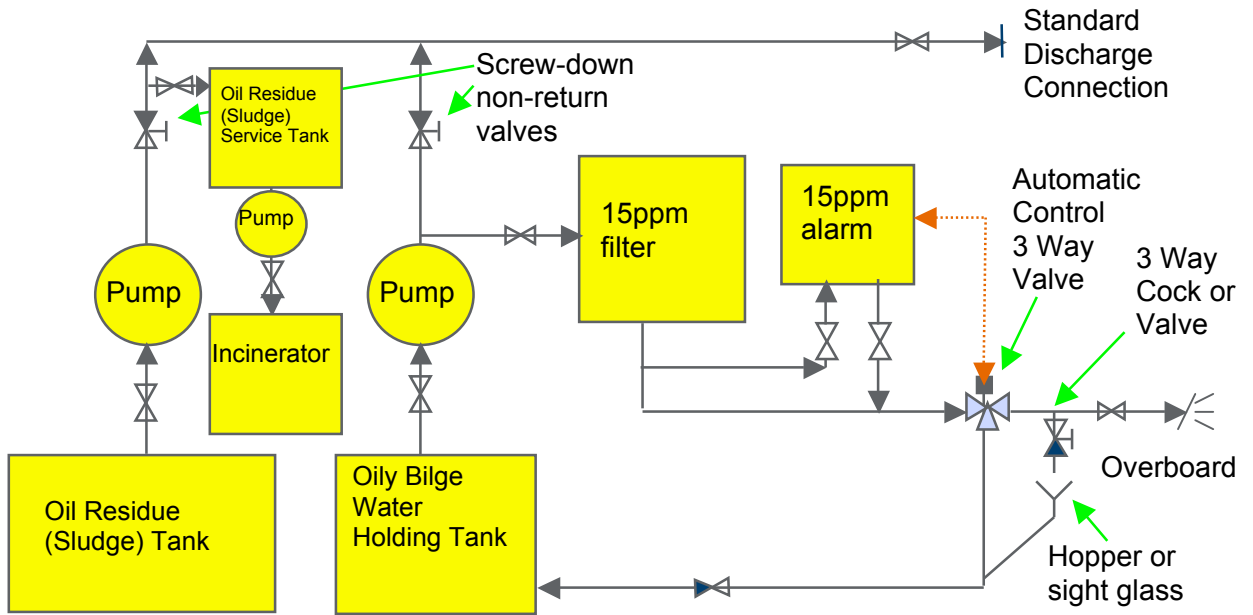


The above arrangement is considered acceptable:

- Where common arrangements are provided for the discharge of bilge water and sludge through the standard discharge connection, and the sludge can also be transferred to an incinerator, screw-down non-return valves must be provided to prevent the accidental discharge of sludge to the bilge system.
- The screw-down non-return valve stops possible discharge of oil residue (sludge) to the 15 ppm Filter Unit and also the Oil Bilge Water Holding Tank.

No. 121

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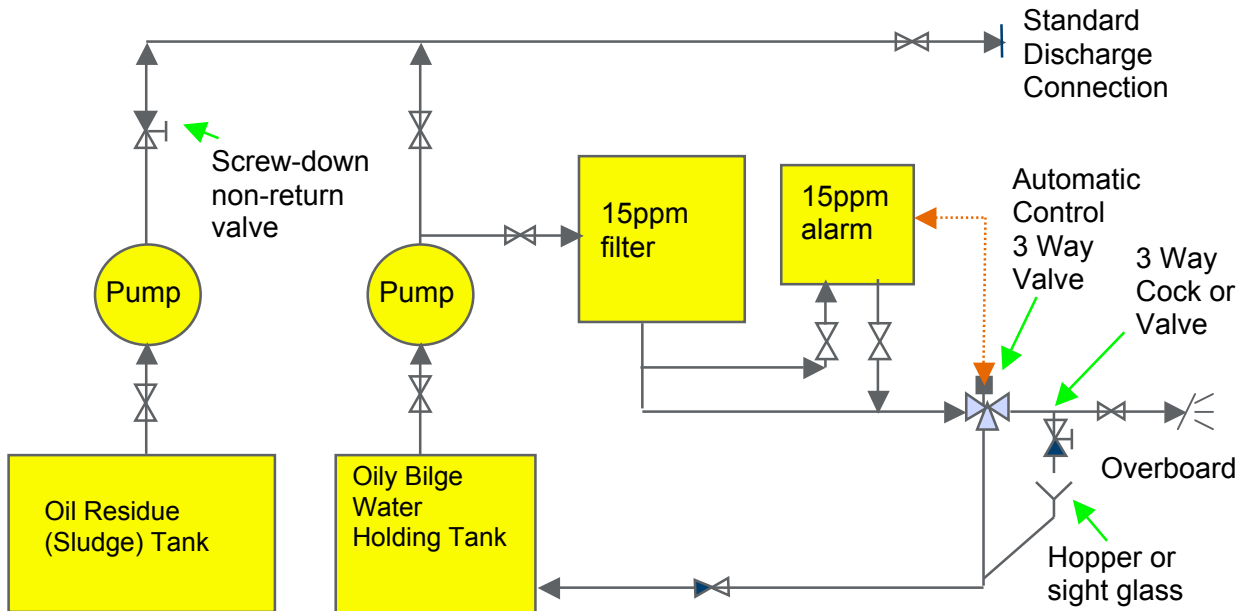
The above arrangement is considered acceptable:

- Where common arrangements are provided for the discharge of bilge water and sludge through the standard discharge connection, and the sludge can also be transferred to an incinerator, screw-down non-return valves must be provided to prevent the accidental discharge of sludge to the bilge system.
- This arrangement also allows for the transfer of suitable oily bilge water to the incinerator oil residue (sludge) service tank for burning.
- The screw-down non-return valve stops possible discharge of oil residue (sludge) to the 15 ppm Filter Unit and also the Oil Bilge Water Holding Tank.

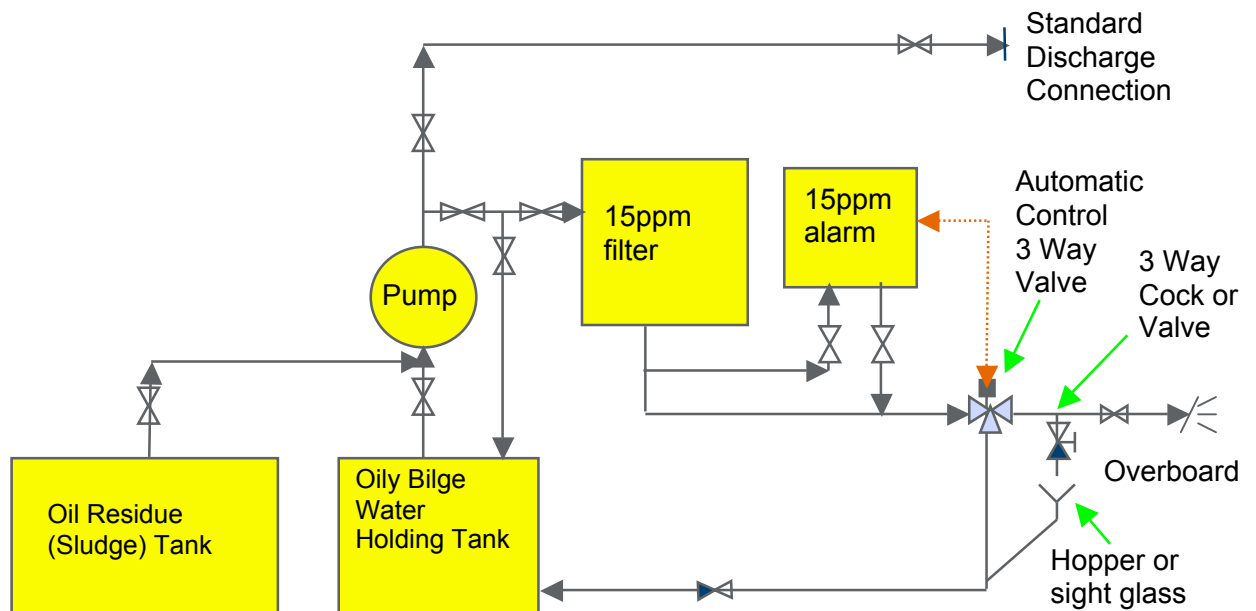
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8. Non-Compliant Arrangements for ships delivered after 1 January 2014

The following diagrams describe, in simplified form, some common non-compliant arrangements:

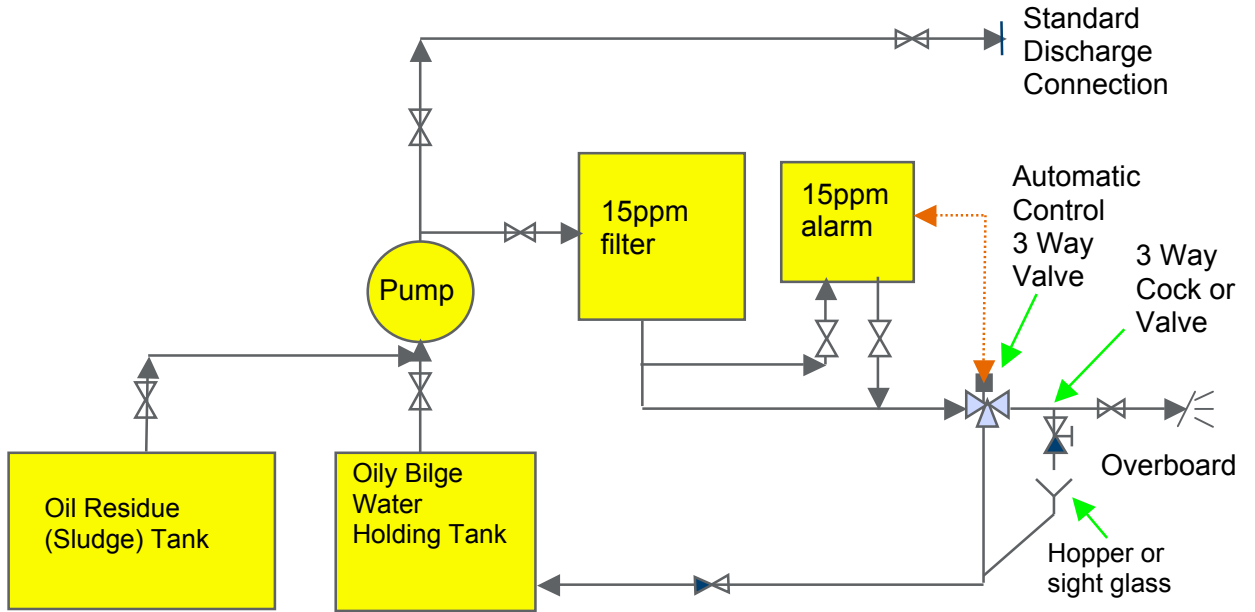


The arrangement above is not acceptable as there is a sludge discharge connection to the oily water separator, bilge system and Oily Bilge Water Holding Tank – prohibited under Regulation 12.2.2.

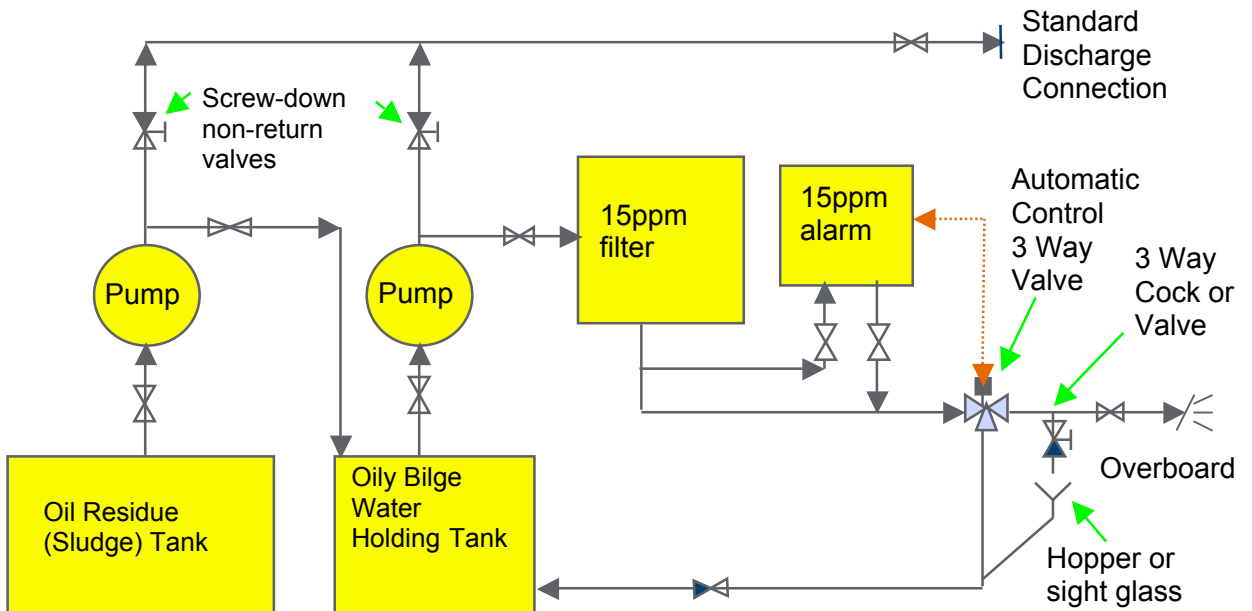


The arrangement above is not acceptable as there is a sludge discharge connection to the oily water separator, bilge system and Oily Bilge Water Holding Tank – prohibited by Regulation 12.2.2.

No. 121
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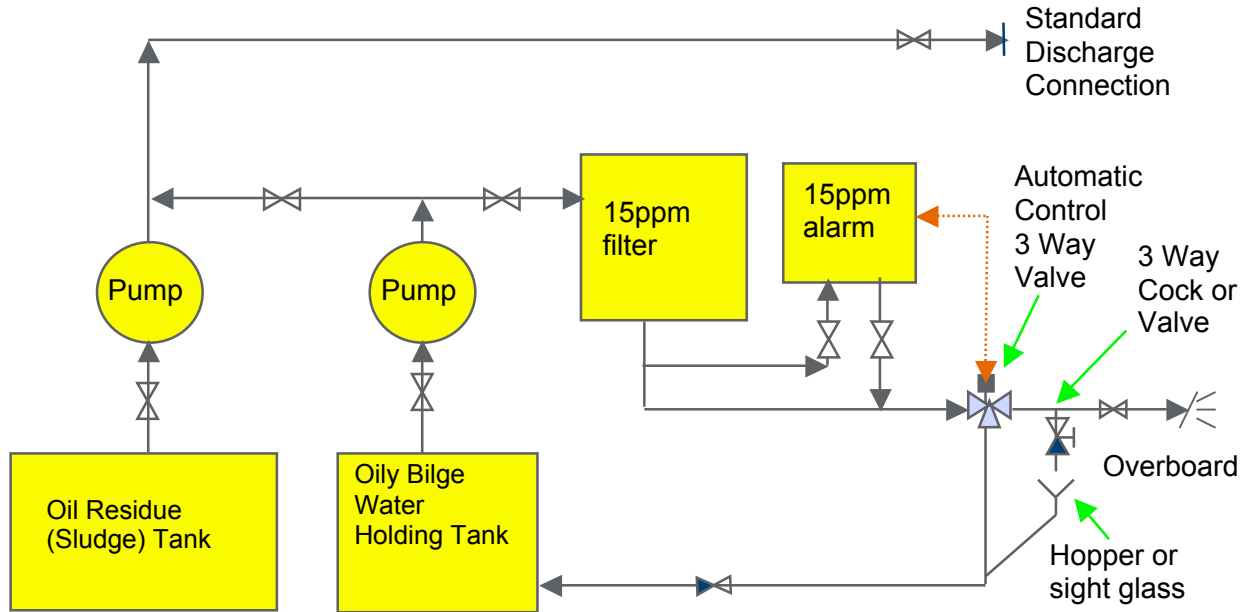


The arrangement above is not acceptable as there is a sludge discharge connection to the oily water separator and bilge system – prohibited by Regulation 12.2.2.

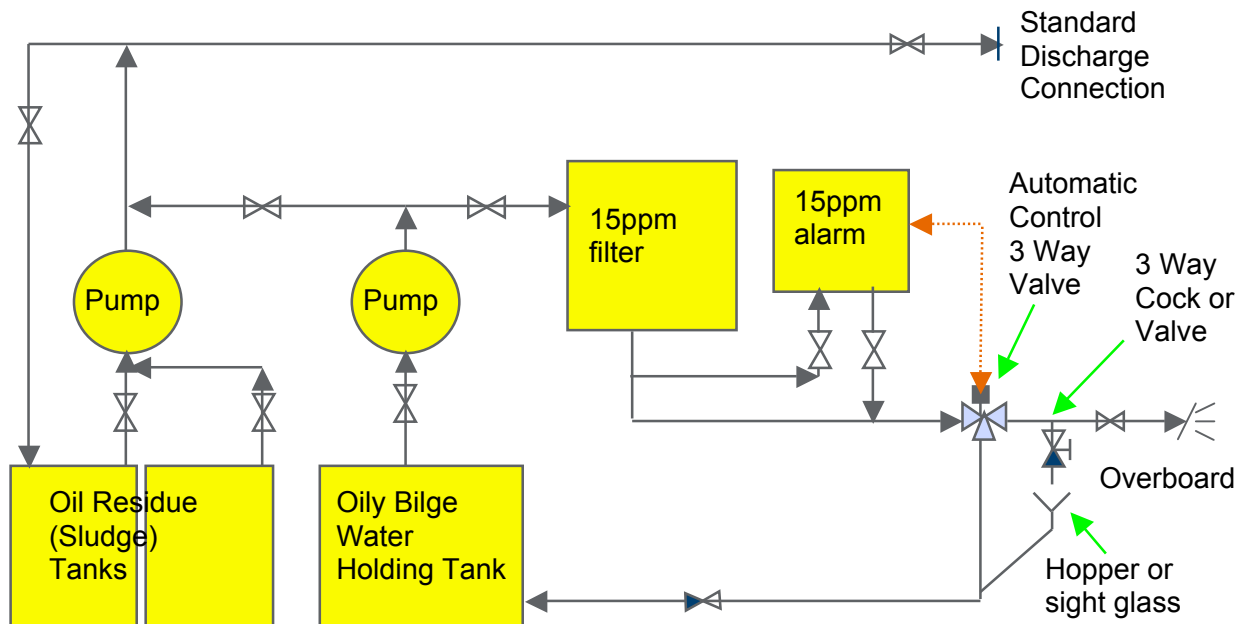


The above arrangement is not acceptable as there is a sludge discharge connection to the oily bilge water holding tank – prohibited by Regulation 12.2.2.

No. 121
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The arrangement is not acceptable as there is a sludge discharge connection to the oily water separator, Bilge system and Oily Bilge Water Holding Tank – prohibited by Regulation 12.2.2.



The arrangement above is not acceptable as there is a sludge discharge connection to the oily water separator, Bilge system and Oily Bilge Water Holding Tank – prohibited by Regulation 12.2.2.

This arrangement is also not acceptable under MEPC.1/Circ.641 paragraph 5.3, as it is not permissible to use a common discharge pipe as an internal sludge transfer pipe between sludge tanks.

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