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**Approved Recommendation to be applied from 29 March 2019**

**Reference:**

MEPC.227(64), Grey water connection to final stage of Sewage Treatment Plant  
Item MED/2.6

**Key words:**

Sewage Treatment Plant, Grey water connection, Dilution, EC Type Approval

**Question raised:**

It is noted that there are Sewage Treatment Systems on the market who are provided with a grey water connection to the final treatment stage of the sewage treatment plant.

Is it possible to obtain type approval on such systems where based on review of the approval documentation, the prototype tests were carried out with a grey water flow of 0. (According to the MEPC.227(64)  $Q_i / Q_e = 1$  (no dilution)) ?

**Text/Explanations:**

Marpol Annex IV refers to pollution prevention by sewage, a clear definition of sewage is provided for under the Annex; “drainage and other wastes from any form of toilets and urinals”, on board commonly defined as “black water” next to this “black water”, which must be lead to the sewage treatment system, or to the sewage holding tank, there is a drainage from “grey water” which is water coming from for example showers, wash basins, galleys etc. (not including “black water”).

The Annex IV is not related to “grey water” which may, in principle, be discharged overboard without any treatment. For cargo ships, considering that the quantity of grey water is relatively small, the grey water is often directly discharged overboard using scupper valves, it is impossible, because of arrangement of the piping system to divert the grey water to a holding/storage tank.

Recently because of stricter local environmental regulations, owners are requesting also treatment or storage of grey water, one of the approaches used is to redirect the grey water to the final treatment stage (the disinfection stage) of the sewage treatment system, another approach is to divert the water to a collection tank which will be discharged at sea.

By allowing grey water to run to the final stage of the system, the actual on board situation is not reflecting the situation at the time of type approval, and adding the grey water may (or will) possibly have a negative effect on the effluent discharged, resulting into unsatisfactorily operation of the sewage plant.

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The MEPC 227(64) allows for dilution, for example by process water, sea water but also by “grey water” however if dilution is applied, a dilution factor should be taken into account during the type approval process.

**Recommendation:**

If during the type approval process the design criteria for a sewage treatment plant are  $Q_i/Q_e = 1$  (no dilution), no “grey water” shall be led to the sewage treatment system, accordingly there shall be no connection available to lead “grey water” in the final stage of the sewage treatment system.

Concluding if a  $Q_i/Q_e = 1$  system has a connection for grey water it cannot be approved under the MED.

Where NoBo’s receive a request for renewal of the MED approval of existing sewage system, upgrading from MEPC 159(53) to MEPC 227(64), they should carry out proper drawing review, both from the system as the attached Piping Diagram, to confirm if a dilution connection is existing. If existing the manufacturer should be requested to modify the drawings (remove the connection) or to carry out the performance tests again with taking into account the dilution influent.

**Note:**

Reportedly running “grey water” to the final stage is common, as it is the only way to treat (disinfect) grey water before discharging overboard, apparently it is often used on ferries and passenger ships.

Cargo ships do normally not have a grey water connection on the sewage treatment plant, the piping system is not designed to reroute the “grey water” from the scupper pipes to the treatment plant.

Local regulations, e.g. Black Sea regulations, require rerouting of grey water to holding tanks (quite often temporary tanks like a ballast tank or an aft peak tank) most cargo ships are not equipped with a sewage holding tank, nor with a grey water holding tank.

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