Officier chef de quart machine pour titulaire du chef 750 kW

M1-3 1 Anglais

Durée : 1 heure

1re QUESTION (valeur = 7)

<u>Answer the following questions in relation to annex 1 :</u>

1 (valeur = 5)

Translate the part of the text in Italics and between***.***.

2 (valeur = 1)

What is the particularity of the coating used inside the 15ppm OWS ?

3 (valeur = 1)

What fluid should the OWS be filled with before receiving oily water ?

2e QUESTION (valeur = 6)

<u>Give a definition in English for the following words :</u>

- A cargo hold ;
- The draft ;
- A tug boat ;
- A windlass ;
- The fire squad station ;
- A sleeve.

3e QUESTION (valeur = 3)

Translate the following sentences into English :

Le chef mécanicien est de service durant l'escale.

Mettre le premier cylindre au point mort bas.

Remettre le clapet de refoulement avec son ressort.

4e QUESTION (valeur = 4)

Answer the following questions in relation to annex 2 :

1 (valeur = 2).
What is the name of this valve? Explain why.

2 (valeur = 0,5)
Which part of the valve is shown with number 2 ?

3 (valeur = 0,5)
Which part of the valve is shown with number 4 ?

4 (valeur = 0,5)
Which part of the valve is shown with number 6 ?

5 (valeur = 0,5)
Which part of the valve is shown with number 7 ?

Nota :
Dans le cas où un(e) candidat(e) repère ce qui lui semble être une erreur d'énoncé, il (elle) le signale très lisiblement sur sa copie, propose la correction et poursuit l'épreuve en conséquence. De même, si cela le (la) conduit à formuler une ou plusieurs hypothèses, il (elle) doit la (ou les) mentionner explicitement.

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ANNEXE SUPPORT 1

NE DOIT PAS ÊTRE RENDUE AVEC LA COPIE D'EXAMEN

Text adapted from marineInsight.com :

Oily Water Separator (OWS) Maintenance Tips Every Ship Engineer Must Know

**** ***Every engineer on a ship knows the importance of oily water separators (OWS) and must have heard stories of legal actions taken against seafarers who tried to fiddle* or bypass the automation system of the OWS.The most common cause of people tampering* with an oily water separator is the deterioration of the performance of the system.*

Apart from the filter getting clogged due to continuous usage, there can be many other reasons for the lack of performance.

A few critical points, which are often ignored and less commonly known to engineers operating oily water separators on a daily basis, are discussed in this article to ensure the efficient performance of an oily water separator (coalescing filter type) used onboard ships:

1. Oil in Bilge: The separator is suitable for separating a small quantity of oil in the bilge and not the other way round. If there is a mixture consisting of a small quantity of water in oil, better not to pass it through the OWS and directly transfer it to the waste oil tank for sludge disposal to shore or for incineration.

*2. Keep Viscosity within Limits: Highly viscous oil if supplied for oily water separation will clog the filter. It is important to keep the viscosity of the oil within 1000 mm^2/s *** ****

3. Discharge Outside Separator: Never discharge or drain a water-oil mixture from the separator abruptly out of OWS as it will lead to the separated oil to adhere to coalescers, making it inoperative. Ensure you discharge the collected separated oil outside the separator and clean the internals of the OWS by supplying water.

4. Install a Dust Filter: While using OWS for discharging a bilge mixture containing dust and sand (a coarse-grained entity), it will be difficult for the coalescer filter to pass dust and sand due to their sizes. This will reduce the operating hours of the filter and in turn the efficiency of the OWS. The ideal service life of the filter normally ranges from 1-2 years depending upon the manufacturing process, considering the daily operation of one hour. It is advisable to install a dust filter in the inlet line of the OWS to avoid this issue.

5. Exchanging Probe for Fault Finding: In most of the 15ppm OWS models, the oil level detecting probe and transmitting converter in the 1st and 2nd stage chamber are identical. In the event of trouble, exchange these with each other, between the chambers, as this will help in finding out the source of trouble quickly.

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6. Keep Check on the Heating Device: If a heating device is provided, ensure it is ON when the OWS is in operation and switched OFF before the OWS is stopped. In case the OWS ~~is~~ runs for a long time, keep a track on the heater for the overheating of coils. If the separator overheats to a high extent, there may be some production of inflammable gases inside.

7. Protect the Internal Coating: The OWS internals are coated with tar epoxy which is inflammable. Avoid bringing fire near to it or perform welding over the surface or body as the heat generated will damage the coating, making the OWS prone to corrosion.

8. Check the Water Level: Ensure that the separator is initially filled with seawater before the bilge mixture is supplied to it. This is to increase the life of filters and also to maintain the operational efficiency of the separator.

Adapted from *marineinsight.com*, 23/04/2021.

To fiddle : (verb) to act dishonestly in order to get something for yourself, or to change something dishonestly, especially to your advantage.

Tampering : (noun) the action of touching or making changes to something that you should not, usually when you are trying to damage it or do something illegal.

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ANNEXE SUPPORT 2

NE DOIT PAS ÊTRE RENDUE AVEC LA COPIE D'EXAMEN