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MARINE SAFETY LESSONS LEARNED
Inspections and Compliance Directorate

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Avoid delays and keep your ship on schedule!

Does your BilgMon 488 Bilge Alarm / Oil Content Meter operate properly?

Recently, Marine Safety Detachment (MSD) Port Canaveral Port State Control Officers (PSCOs) identified MARPOL deficiencies related to the 15-ppm Bilge Alarm system of the Oily Water Separators (OWS) onboard four separate ships. They discovered that the entries in the Oil Record Book (ORB) did not correspond to the Bilge Alarm Data being displayed by the bilge alarm / oil content meter. The 15-ppm Bilge Alarm is required to record date, time, alarm status and the operating status of the 15-ppm Bilge Separator. The recording device should also store this data for at least eighteen months and be able to display or print a protocol for official system inspections as required by IMO Resolution MEPC.107(49), REVISED GUIDELINES AND SPECIFICATIONS FOR POLLUTION PREVENTION EQUIPMENT FOR MACHINERY SPACES OF SHIPS. In each case, PSCOs issued a deficiency on the Port State Control Report of Inspection (Form B) requiring that each vessel needed to verify the validity of the entries in the Bilge Alarm data log against the entries in the ORB. The deficiencies found were required to be rectified to the satisfaction of Recognized Organization, Flag Administration, and the U.S. Coast Guard prior to the vessels' departure from port.

The specific monitor in these cases was the BilgMon 488 model manufactured by Brannstrom, a Swedish company. The older model, BilgMon 488 shown on the right, has a battery that is not replaceable by the crew inserted behind the circuit board of the Bilge Alarm. The purpose of the battery is to maintain the stored data and Real Time Clock (RTC) when the unit is disconnected from a power supply. The circuit board contains two contact points which provide the ability to measure the battery voltage. In all four cases, the battery voltage was extremely low and failed to provide the required 2.5 volts necessary to maintain the stored data without error. As a result, when the data was viewed on the LCD screen it was scrambled and inaccurate. The operator's manual for this model clearly states that, under no circumstances should the battery be removed. Furthermore, a red warning sticker is affixed to the circuit board as pictured above. Attempting to remove the battery in this circumstance may cause an unrecoverable error, failure and data loss. A manufacturer's representative indicated that the battery was originally designed to last the lifetime of the device and that if the RTC stops due to a power supply

failure combined with a low back-up battery voltage, the unit is locked down and the display reads "RTC check: FAILED." Click here for the applicable manual.[1]

The newer model BilgMon 488 is equipped with a replaceable battery shown on the right below the yellow arrow. As a result, when the battery weakens the unit display will read "Batterylow: 0.5V Replace battery." The battery can then be safely removed because it utilizes a capacitor that ensures enough energy to maintain the stored data for several hours. Click here for the applicable manual.[2]

To identify what model you may have note that the older type of master unit has serial numbers starting with "A," "AE," "BFA," and "EDA." The newer type of master unit has serial numbers starting with "4A," "4AE," "4BFA," and "4EDA." Click here for information on how to locate these numbers.[3]

As a result of these discoveries the Coast Guard **strongly recommends** that ship owners and operators whose vessels use the BilgMon 488 to:

- Remind vessel engineers to routinely review the stored data available through the LCD display ensuring that the data matches the information recorded in the ORB and actual OWS operations.
- Maintain awareness that Port State Control Officers performing MARPOL examinations will verify that the BilgMon 488 is recording data properly and is aligned with the ORB entries. **Avoid potential departure delays.**

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[1] https://dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/INV/docs/bilgmonOLDER%20MODEL.pdf?ver=2019-07-24-084050-797
[2] https://dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/INV/docs/bilgmonNEWERMODEL.pdf?ver=2019-07-24-084051-907
[3] https://dco.uscg.mil/Portals/9/DCO%20Documents/5p/CG-5PC/INV/docs/bilgmonSN.pdf?ver=2019-07-24-084050-453