

DNVGL.com uses cookies to give you the best possible experience on our site. By browsing the site you agree to our use of cookies. You can click "Close" to remove this message. For more information please visit our [cookie information page](#).

[Close](#)



▶ [MARITIME](#) ▶ [NEWS](#) ▶ [CASUALTY INFORMATION](#)

## Casualty of overboard valves - learning from a recent event

**A leaking overboard discharge valve for cooling water contributed to a critical situation: water entered the vessel's engine room and caused a blackout while it was operating in rough seas. Easy and regular maintenance routines by crew could have prevented the incident. This news focuses on consequences of casualties of overboard valves and what measures may prevent similar incidents.**

**Published:** 03 December 2018    **Author:**    **Keywords:** Casualty information, Maritime

*Relevant for ship owners and managers.*

### Course of events

A leaking overboard non-return discharge valve resulted in seawater entering the engine room of a vessel operating in rough seas. The cooling water caused a blackout and the engine room began to flood, leading to a critical situation for the vessel and the crew. As a temporary measure, the leaking overboard valve was isolated and the vessel towed to port for repairs. During the damage survey, the bottom of the valve was found to be heavily corroded and holed.

The top of the valve, however, appeared normal. Leaking overboard valves can lead to water entering the engine room. In severe cases, where the valve completely gives way, seawater can directly enter the engine room, causing rapid flooding.

## Lessons learned and recommendations

Inspection of the valve seating, by partly opening of the valve, would not reveal the wastage in the bottom without fully dismantling the valve. However, inspection of the bottom part of the valve by using a hammer and visual inspection, e.g. a mirror, could have revealed deterioration of the valve body without being dismantled.

All sea valves, including scuppers and sanitary discharges, are to be thoroughly examined and fully opened at the time of class survey involving bottom surveys in dry dock. It is strongly recommended that the sea valves are overhauled at the same time. The condition of the valve body can be difficult to assess, but there are some easy regular inspection checks, when implemented in the maintenance plan on board, that help evaluate the condition of the valves:

- In addition to a visual inspection of the body, a hammer test can be performed to evaluate thinning and corrosion. (Note: NDT of valve bodies are usually not a good option since the bodies are cast and usually have minor internal flaws even in a new condition.)
- Always check the bottom of the valve.
- If rubber lining has been provided in the valves, check that the lining is intact. If lining is partly peeled off, concentrated local corrosion may occur. Examine the fastening of the valves to the hull.
- If the body cannot be fully visual surveyed in situ, this is also an indication that the valve should be fully dismantled, since most likely no one is looking at it in service. All the more reason for a stringent examination at 5-year intervals.
- Please note there may be external corrosion as well as internal pitting / erosion at the same spot. A mirror or camera may be helpful tools.
- Systems in which heated seawater is passing may corrode more rapidly.

The costs of the proper examination/overhaul/replacement of a valve are minor compared to the cost for replacing a broken valve in service with unscheduled repairs and disrupted service. Upon reassembly, the valves should be tested to

confirm satisfactory operation of the valves and their actuating mechanism, full closing of the valve and tightness of the valve when fully seated (ref. IACS Rec.144).

## References

[DNV GL Rules for Classification](#): RU-SHIP-Pt.7 Ch.1 Sec.5 1.1.2. Bottom survey

## Contact

For customers: DATE - Direct Access to Technical Experts via [My Services](#) on Veracity. Otherwise, please use our [office locator](#) to find the nearest DNV GL maritime office.

## Latest Technical and Regulatory News

<p>03 DECEMBER 2018   CASUALTY INFORMATION   NEWS</p> <p><b>Casualty of overboard valves - learning from a recent event</b></p> <p>A leaking overboard discharge valve for cooling water contributed to a critical situation: water entered the vessel's</p>	<p>05 NOVEMBER 2018   STATUTORY   NEWS</p> <p><b>Draft amendments to MARPOL enabling use of electronic record books</b></p> <p>Draft amendments to MARPOL and the NOx Technical Code, which will enable the use of electronic record books, were</p>
<p>30 OCTOBER 2018   STATUTORY   NEWS</p> <p><b>Outcome of IMO's Marine Environment Protection Committee, MEPC 73</b></p> <p>IMO adopts carriage ban on non-compliant fuel from March 2020 and discusses amendments to EEDI</p>	<p>15 OCTOBER 2018   STATUTORY   NEWS</p> <p><b>Is the ballast water treatment system installed on your vessel also type</b></p> <p>This question is relevant if a BWTS (ballast water treatment system), installed before the date of type approval by the USCG,</p>

→ [View all](#)