

Safety Bulletin for Vessels Operating in Australian Waters

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Technical Alert on Recent PSC Detentions Related to Ballast Tank Air Pipe Heads

1. Background

Recently, a number of vessels calling at ports on the east coast of Australia have been detained due to deficiencies associated with ballast tank air vent heads. Such deficiencies have remained one of the most frequent detention items over the years. To assist vessels operating in Australian waters in successfully passing Port State Control (PSC) inspections and avoiding related detentions, CCS Australia Office hereby issues this safety alert to remind ship management companies and shipboard personnel to pay close attention to the relevant requirements and maintenance of ballast tank air vent heads.

2. Recent Detention Cases

Case 1

Deficiency Description:

03108 – Several ballast tank air vent heads and closing arrangements defective.

Due to a prolonged lack of maintenance, the internal structure of the ballast tank air vent heads had severely deteriorated. The sealing ring groove at the top was heavily corroded, deformed and, in some cases, cracked. Several sealing bolts on the cover plate were missing and had not been replaced for an extended period.

Following the detention, rectification proved difficult because suitable replacement air vent heads were not readily available in Australia. In addition, the vessel did not carry sufficient spare parts and repair materials. As a result, considerable time and manpower were required to complete the repairs, causing delays to the vessel's departure schedule and resulting in financial losses.



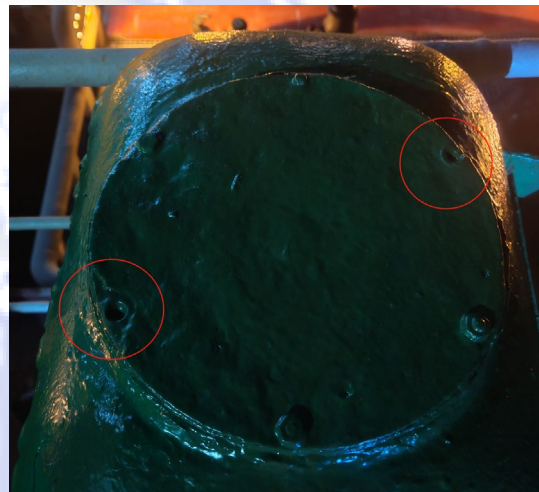
Cracking of the internal structure adjacent to the top sealing ring



Corrosion and cracking of the top sealing ring groove



Cover plate bolt holes wasted due to corrosion



Cover plate sealing bolts missing for an extended period

Case 2

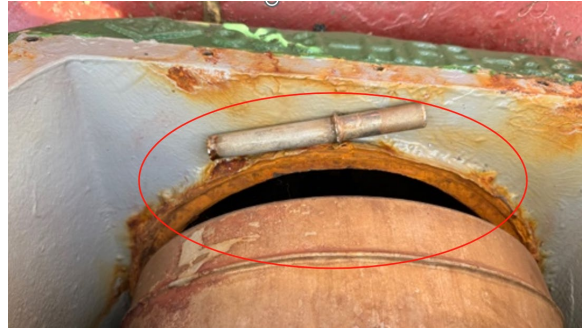
Deficiency Description:

03108 – Several ballast tank air vents closing arrangements defective.

During the PSC inspection, the air vent heads located in the forepart of the vessel were selected for inspection. Two air vent heads serving the forepeak tank were found with detached float discs. PSC subsequently required a third air vent head to be opened for examination, revealing that the internal float mechanism had completely disintegrated. The inspection was then expanded to other air vent heads throughout the vessel, where multiple similar serious deficiencies were identified.



Sealing rubber ring missing, detached float disc



Missing sealing ring and detached float spindle



Severely damaged float disc



Float disc unable to achieve proper sealing

Case 3

Deficiency Description:

03108 – Several ballast tank air vents closing arrangements defective.

Internal examination of the air vent heads revealed missing sealing rings and damaged float spindle arrangements, resulting in detached float discs. Further inspection identified similar deficiencies in several additional air vent heads. In some cases, damaged float discs had allowed water ingress into the float chambers, affecting the buoyancy and proper functioning of the closing arrangements.



Top sealing ring missing



Missing sealing ring and detached float disc

3. Cause Analysis

Some vessels arranged relevant repairs during dry-docking. However, the shipyard may have only carried out surface rust removal and painting, simple replacement of sealing rubber rings, or selective dismantling and inspection during the docking period. The internal structure of the air vent heads was not comprehensively dismantled and thoroughly repaired. Therefore, although the external condition appeared normal, hidden deficiencies could still exist internally. Ship management personnel and crew members may also assume that the equipment is in good condition and therefore overlook further inspection.

In another case, the vessel became aware of the relevant deficiencies while en route to Australia and carried out certain repairs and maintenance. However, due to prolonged lack of maintenance and insufficient spare parts, it was difficult to completely rectify the deficiencies within a short period. In addition, inadequate supervision of crew repairs resulted in incomplete rectification, with efforts limited to surface rust removal and painting.

Deficiencies in air vent closing arrangements are generally not formed within a short period of time, but are the result of a long-term lack of internal inspection and maintenance. Ballast tank air vent heads are not complicated equipment and have a relatively simple structure. Repair or replacement is generally not costly. Therefore, insufficient attention and a reliance on luck by both ship management and shipboard personnel, together with the failure to open and inspect the internal condition over a long period, are important reasons why such deficiencies were not identified in time.

Australian PSCOs have always conducted detailed and strict inspections of air vent closing arrangements serving the forepeak tank and ballast tanks in the forward part of the vessel. Once deficiencies are identified, expanded inspections are often carried out. If similar deficiencies are found to be widespread, detention is highly likely.

4. Reminders and Recommendations

1. Periodically open each air vent head and inspect the internal condition, including the float disc, internal structure and sealing ring.
2. Maintain an appropriate quantity of spare parts for each type of air vent head on board to ensure timely repair or replacement and avoid detention due to delayed rectification.
3. It is recommended that vessels prepare in advance before trading to Australia by conducting thorough inspections and carrying out necessary replacements. Spare parts supply in Australia is limited, and local repair or replacement costs can be extremely high.
4. For air vent heads in poor condition, the cost of repair is often higher than replacement. It is recommended to make full use of dry-docking opportunities to conduct thorough inspections and replace defective units where necessary to eliminate potential safety risks.
5. Company management personnel and masters should attach greater importance to this issue and ensure that inspections and maintenance required by the management system, as well as pre-arrival inspections, are properly carried out.

CCS Australian Office
May 29, 2026

Disclaimer:

1. The purpose of this document is to assist shipping companies in promptly understanding AMSA inspection requirements and better complying with relevant regulations in Australian waters.
2. For detailed information, please visit the AMSA website at www.amsa.gov.au or the CCS website at www.ccs.org.cn.
3. The content of this document does not replace any provisions of CCS rules, applicable conventions, AMSA regulations, or those of other competent authorities.