Paris MoU
on Port State Control

PSCircular 108

11 September 2025

GUIDANCE FOR PSCOs CONCERNING SHIPS THAT HAVE ENCOUNTERED CHALLENGING WATER QUALITY

Objective

1. This guidance aims to create a uniform approach throughout the Paris MoU region to deal with challenging water quality (CWQ) reports. It also focuses on the specific difficulties that some ships may encounter in effectively managing ballast water due to varying water quality. Additional guidance can be found in MEPC.387(81) – *Interim Guidance on the Application of the BWM Convention to Ships Operating in Challenging Water Qualities*

Context

2. CWQ refers to ambient uptake water with quality parameters (including, but not limited to, high total suspended solids or turbidity) that temporarily make a properly installed, maintained, and operated type-approved ballast water management system (BWMS) inoperable due to an operational limitation or an inability to meet operational demand. However, temperature and salinity are not parameters that define CWQ.

3. Challenging water quality can pose significant issues during Port State Control (PSC) inspections under the Ballast Water Management (BWM) Convention. Ballast water treatment systems (BWTS) may not perform optimally due to poor water quality, which can affect the removal or inactivation of harmful organisms.

4. When operating a BWMS in CWQ, encountering an operational limitation or experiencing a challenge in satisfying operational demand does not always indicate a BWMS failure. A BWMS has warnings and alarms to protect the BWMS equipment and/or the ship, and the triggering of these set points or flow reductions can demonstrate proper BWMS operation as designed.

5. Where the Convention is still within an Experience Building Phase (EBP), PSCOs face a challenge when inspecting under the BWM Convention. Much of the documentation available is guidance and not statutory requirement for deficiencies to be raised against, sampling capability and techniques vary between Member States, and PSCOs are encouraged not to detain vessels based on sampling results during the EBP.

Special consideration during the BWM Experience Building Phase

6. An Experience-building phase (EBP) associated with the BWM Convention was established to monitor the implementation of the Convention and learn lessons to improve. This details the conditions for temporary non-penalization agreed. These are contained in paragraph 4

of resolution MEPC.290(71) relating to non-compliance of a ship with the performance standard in regulation D-2 following the use of a BWMS during the EBP.

7. Aside from these non-penalization measures, the EBP does not alter the roles, responsibilities, obligations, and recommendations under the Convention and relevant guidance. The measures also recognize the need to protect the environment, human health, property, and resources in port States from the discharge of non-compliant ballast water.

Available Guidance

8. A number of documents are available from the IMO to provide guidance related to the BWM Convention and CWQ:

    a. Resolution MEPC.252(67) Guidelines on Port State Control for Ballast Water Management
    b. Circular BWM.2/Circ.62 Guidelines on Contingency Measures under Ballast Water Management
    c. Resolution MEPC.387(81) Interim Guidelines on Challenging Water Quality
    d. Circular BWM.2/Circ.80/Rev.1 2024 Guidance on Ballast Water Record Keeping and Reporting

Guiding Principles

9. The available guidance explains some of the steps that may be taken by a ship to restore or maintain the effective operation of a BWMS when operating in challenging water conditions. It includes contingency measures they may implement to maintain D-2 compliance standard in the event of bypass of the BWTS and presents examples of what may be presented by the ship to justify bypassing.

10. The Port State Control Officer (PSCO) should consider the following elements of ship response:

    - Review of Triggers, Actions and Contingencies contained within the approved Ballast Water Management Plan (BWMP)
    - Have the crew followed the actions contained within the BWMP?
    - Have records been kept in the Ballast Water Record Book (BWRB)?
    - Have communications with Port/Coastal states been undertaken?

Within this, the PSCO may consider:

- How they identified when a BWTS is inoperable due to CWQ?
- Actions taken to prevent bypass of the BWTS?
- How the bypass was recovered from, including steps to return to compliance with the D-2 discharge standard?
- Were the correct entries made in the BWRB?
- Were the Port State informed if untreated ballast is held onboard?

11. The Administration should ensure that ships are fully prepared to encounter CWQ. The BWMP should be ship-specific and approved by the Administration. It may reflect the operation maintenance and safety manual (OMSM) of the BWMS and could include : equipment maintenance procedures and intervals, predetermined mitigating measures that may preserve and optimize the treatment process in marginal conditions and/or a table of critical alarms that justify CWQ action.

12. Triggers for implementing CWQ procedures might be included in the BWMP and, if included, should be based on the performance and self-monitoring functions of the BWMS. The list of triggers should be developed based on information provided by the BWMS manufacturer in the OMSM, based on the BWMS design and operational limitation(s).

13. If CWQ is impacting ballasting operations, then the crew should implement ship-specific troubleshooting procedures to ensure the system is being operated by proper procedure in accordance with the BWMP (which may refer to Manufacturers Guidance/the OMSM). For example, this may include steps such as verifying the correct alignment of valves, that the BWMS is in the correct mode, fully addressing any BWMS warnings and alarms manually operating any backflushing controls, applying suitable backpressure at high differential filter pressure, maximizing UV intensity in the presence of turbid water or low UV transmittance, and progressively reducing ballast water flow rate to the point of operational demand or operational limitation.

14. It's important to note that this guidance does not cover situations where a BWMS is inoperable for reasons unrelated to CWQ, or where inadequate performance is due to installation, operation, or maintenance issues. It is emphasized in guidance that bypass should always be considered as the last resort, and the BWMS should be used as much as possible to treat ballast water with challenging water conditions. For example, before the BWMS is bypassed, the officer designated in accordance with regulation B-1.5 should ensure that any BWMS alarm that could be ascribed to CWQ is not due to other factors such as malfunction, maintenance, crew familiarity or experience.

Situations which may be encountered by the Port State Control Officer when dealing with Challenging Water Quality

15. The PSCO may encounter a number of differing scenarios onboard, dependent on if the CWQ has been encountered in the port of inspection, or the previous port of call. Some examples of scenarios that may be encountered are:

    a. Ship loaded untreated water elsewhere and was not able to implement contingency measures prior to arrival. This scenario poses a risk of a discharge violation in the port of inspection.

    b. Ship loaded untreated water elsewhere and was able to implement contingency measures prior to arrival and has made best efforts to return to D-2 compliance, or has arranged discharge to shore-side facilities in the port of inspection.

    c. Ship is able to treat ballast water taken up in the current port despite CWQ and has bypassed the BWTS pre-emptively, leading to untreated ballast being held onboard, potentially resulting in non-compliance during the forthcoming voyage.

    d. Ship is unable to follow the approved BWMP for uptake in the current port due to CWQ and has bypassed the BWTS, leading to untreated ballast being held onboard, potentially resulting in non-compliance during the forthcoming voyage.

Proposed Investigation Steps for Port State Control Officers (PSCOs) with respect to ships that have encountered challenging water quality

16. The PSCO should take into consideration the following :

.1 When determining compliance with the Convention by a ship that has encountered CWQ, the PSCO should primarily consult the approved BWMP and ballast water record book (BWRB) as the documents that are mandatory for carriage onboard. They can also consider interviewing crew, although other sources of information may be available onboard to complement this.

.2 In determining that the ship has done all it can to meet the D-2 standard, the PSCO should use professional judgment in considering:

- whether there has been proactive communication with port authorities about either the specific challenges faced due to local water quality, or specific challenges faced due to carriage of untreated ballast from the prior port call;
- whether the approved BWMP contains sections considering the nature and degree of the challenge and ship plans for dealing with regular operations in areas with known CWQ, including procedures for utilizing onshore facilities or alternative ballast water management strategies;
- whether the ship specific approved BWMP includes predetermined mitigating measures that may preserve and optimize the treatment process in marginal conditions;
- whether challenges arose despite proper BWMS operation in accordance with the approved BWMP;
- whether the approved BWMP contain steps to avoid or limit the bypass of a BWMS, and if these steps were taken, such as efforts to mitigate challenges while continuing to use the BWMS;
- whether the approved BWMP contains triggers for the implementation of bypass and were these triggers met;
- whether the approved BWMP contains safe bypass procedures that minimize the exposure of tanks/piping to unmanaged water and if these were correctly used;
- whether contingency measures on uptake of untreated ballast are contained within the approved BWMP and were these implemented;
- whether any contingency measures contained in the approved BWMP were properly undertaken and implemented in accordance with the BWMP following any bypass;
- whether processes implemented under the BWMP undertaken were safe for the ship and crew;
- whether the crew maintained accurate records of ballast water management practices in the BWRB including any irregularities or issues encountered due to CWQ and whether accurate records of steps taken to address this have been kept;

.3 The new format of BWRB came into effect on 1st February 2025. Circular BWM.2/Circ.80/Rev.1 contains guidance on the BWRB entries that should be recorded, with particular guidance in Example 27 Scenario 3 and 4 for records when bypassing due to CWQ (utilizing entries A and F).

.4 Note that if contingency measures are contained in the approved BWMP and have been implemented, appropriate entries to reflect these should have been made. For example: internal circulation for treatment (Code C) or discharge to a shore facility (Code D).

Additional Evidence that may be presented to a Port State Control Officer

17. Guidance on challenging water quality is, currently, only guidance, so the following list of examples cannot be demanded but could be presented as evidence by the vessel for consideration.

18. Some non-exhaustive examples of additional information that could be presented are as follows:
    a. Copies of communications with port facilities, coastal states and the port state regarding contingency measures;
    b. BWTS activity and alarm panels and histories;
    c. The OMSM of the BWMS, potentially including triggers for bypass and manufacturers recommended actions;
    d. Records of maintenance of the BWTS;
    e. The sustained flow rate below which cargo operations cannot be safely sustained by the ship, this could demonstrate that the minimum amount of bypassed water was/is being loaded.

Assessment

19. PSCO should consider a ship fully in compliance if all reasonable steps contained within the approved BWMP to minimize its risk of non-compliance with the D-2 standard during uptake and at subsequent discharge locations have been taken, that these steps have been implemented in accordance with the approved BWMP and appropriate entries have been recorded in the BWRB. If the ship is considered not in compliance, the PSCO may wish to consider taking further action as below.

Action to be taken:

20. A deficiency should be documented for ships that are unable to manage ballast water according to their approved primary management method due to CWQ issues.

    Deficiency Code:

    14801 – BWMP – not updated/not as required (propose not approved)

    14802 – BWRB – entries missing/not properly filled

    Action Taken: The PSCO should select the appropriate action code based on the specific circumstances of each case.

    In cases where a bypass is found in progress, and measures to address this in the approved BWMP are not being followed, or a discharge of untreated ballast is found in progress, stopping the operation and use of Action Code 65 – Operation Stopped could be considered by the PSCO. For historical cases or discrepancies, use of Action Code 99 could be considered to ensure future compliance.