Procedure and workbook for Ballast Water Management On board Course

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# Document status

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# Changes in the document

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<tr>
<td>1667 A1</td>
<td>Para 1.2</td>
<td>Updated text with reference.</td>
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<td>Para 1.5</td>
<td>Updated with “Note”</td>
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<td>Para 2.1</td>
<td>Added text before Annex B.</td>
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<td>Chapt. 3</td>
<td>Added reference.</td>
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<td>Para 4.7</td>
<td>Changed text to “...several methods under development”</td>
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<td>Exercise 2</td>
<td>Added note since CBT is not updated.</td>
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<td>1667 A2</td>
<td>Para 1.5</td>
<td>Added text to paragraph.</td>
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<td>Para 1.8</td>
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<td>Para 4</td>
<td>Added text with marks</td>
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<td>1667 A3</td>
<td>Para 1.0</td>
<td>Added new paragraph 1.9, Evaluation of on board course.</td>
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<td>1667 A4</td>
<td>Para 1.5 – 1.8</td>
<td>Updated with new email and text.</td>
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<td>1667 A5</td>
<td>Para 1.3</td>
<td>Added prerequisites. New numbers on para after this.</td>
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<td>Text on front page changed to Procedure and workbook.</td>
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<td>Exercise 2 has been revised.</td>
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<td>1667 B1</td>
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<td>Major revision of workbook and procedure, WB divided into part A and B.</td>
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<td>1667 B2</td>
<td>Para 1.9</td>
<td>Removed “CBT Login ID” added “Ships flag”</td>
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<td>Major revision, chapters 2 and 3 are new.</td>
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<td>1667 C2</td>
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<td>Added text in chapter 2</td>
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<td>1667 C3</td>
<td>Para 1.7</td>
<td>Updated text</td>
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<td>Para 4</td>
<td>Updated evaluation form</td>
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<td>1667 C4</td>
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<td>Replaced e-learning module #27 with modules #421 and #422</td>
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1 Procedure for Ballast Water Management on board course

1.1 The objective

The objective of this on board course is to:

- familiarize the crew on board with the International Convention for the Control and Management of Ships’ Ballast Water and Sediments so that they can contribute to compliance with the training requirements in the convention.

Upon completion a Documentary Evidence will be issued.

1.2 Prerequisites

Access to the Ballast Water Management Convention.

1.3 Activities to be done

Complete the Seagull Maritime e-learning modules #421 and #422 version 3.0 or newer with at least 95% completion and a test score of at least 75%.

Read through and complete all exercises in this workbook.

1.4 Materials to be used

- Seagull Maritime e-learning modules #421 and #422
- Procedure and workbook for Ballast Water Management

1.5 Completion of training

The training procedure has been completed when:

- All prescribed activities has been performed and;
- The Master or Assessor on board has verified the result of each and every training activity and signed all documents.
- Printouts from the completed e-learning module and workbook with supporting documents are sent to Seagull Maritime for verification.

NOTE:
Each individual seeking certification must read through the workbook and complete all questions individually and submit all written answers formulated in own words so that the answers reflect individual competence. All submitted applications are filed and compared to previously received applications. Seagull Maritime will charge for applications which are found to be copied from previously submitted applications or are considered to be fraudulent.

E-learning test results must not be older than 12 months.
Incomplete documentation/not passing evaluation will be shredded and a complete new set must be sent.
1.6 Questions

Questions regarding the training can be sent by email to obtraining@sgull.com
The subject in the e-mail must be, “Ballast Water Management”

1.7 The following must be sent to Seagull:

Upon receipt of documentation as outlined in the checklist below, Seagull Maritime will assess the application and if approved, issue a documentary evidence which will be sent to the company.

All pages generated by the candidate on board must be signed and verified by Master or Assessor and marked with the vessel’s stamp.

Please send the documentation as one PDF attachment to the following email: obtraining@sgull.com

The subject in the email must be “Ballast Water Management course”

Please note:
All further correspondence regarding this application will include all recipients of the original mail sent to Seagull Maritime.
1.8 Documentation checklist

Ballast Water Management

The following documents, duly completed, must be submitted to Seagull for evaluation and approval before Seagull can issue the course diploma.

- Candidate detail page completed confirming candidate’s full name, date of birth, address and nationality, ship’s name, invoicing address etc.
- Copy of ID of person who is signing the checklist (Master or Assessor).
- Copy of candidate’s passport or discharge book confirming the full name and date of birth.
- Copy of detailed CBT report from e-learning modules #421 and #422
- Answers to all the questions and exercises in the workbook
- Documentation checklist completed (1.8) and signed by candidate.
- Verification checklist (1.10) read and signed by Master/Assessor.
- All submitted pages signed and verified by Master or Assessor on board and marked with ship’s stamp.

I hereby declare that this is my own work and effort and that all is done according to procedure:

---------------------------------  ---------------------------------
Date                              Candidate signature

IMPORTANT NOTE:

IF ANY OF THESE DOCUMENTS ARE MISSING, NOT READABLE OR OTHERWISE NOT COMPLETE, COURSE EVALUATION AND PROCESSING OF THE COURSE DIPLOMA CANNOT BE EXECUTED BY SEAGULL TRAINING DEPARTEMENT AND DELAYS WILL BE EXPERIENCED. INCOMPLETE DOCUMENTATION/NOT PASSING EVALUATION WILL BE SHREDDED AND A COMPLETE NEW SET MUST BE SENT TO SEAGULL.
### 1.9 Candidate detail page

**Ballast Water Management**

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<thead>
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<th>First name</th>
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<tr>
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<td>Nationality</td>
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**Master/Assessor details:**

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<td>Date of birth</td>
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<tr>
<td>Rank/Position</td>
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1.10 Verification checklist
Ballast Water Management

To ensure all Seagull Maritime courses are done according to our procedures, all documents and checklists must be signed and stamped. This must be done by Master or a qualified on board assessor.

If Seagull finds that an application is partially or entirely a duplicate of another application, the application will be rejected and certificate will not be issued. The candidate and company will be notified.

The Master/Assessor must take all necessary precautions to ensure that all these requirements are met.

The Master/Assessor is jointly responsible that the applications are according to our procedures and guidelines. In STCW regulation I/6 and section A-I/6 is stated that all training and seafarers are required to be administered, supervised and monitored. The Master/Assessor is part of fulfilling this requirement.

By signing this document I can confirm that the following items have been done and verified:

- That the participant’s ID and personal details are correct.
- That the e-learning module is at least 95% completed and achieved an assessment score of at least 75%.
- The e-learning training is individual and unaided work.

Date       Signature of Master*/Assessor

*If the candidate is the Master, another senior officer on board must act as Assessor.
2 International Convention for the Control and Management of Ships’ Ballast Water and Sediments

Foreign marine species are introduced into new environments through ships’ ballast water, sediments in ballast tanks or attached to the hull and propeller. This introduction is a major threat to the ecosystems around the globe.

It has been estimated that approx. 3,000 to 4,000 million tons of untreated ballast water are discharged every year. Globally it has been estimated that ship ballast is transporting more than 10,000 species including living organisms and pathogens such as bacteria and viruses, which are discharged with the ballast water when the ships reach their destination.

More than 90% of the world’s trade measured by volume spends some of its lifetime on board a ship. Without shipborne transportation the world’s economy would collapse. Further the use of ballast water is essential to the safe and efficient operation of shipping. As the ballast water with its content of foreign marine species and pathogens are a threat to ecosystems it is vital that active measures are put in place to minimize the spread of foreign species.

This is widely recognized and the International Convention for the Control and Management of Ships’ Ballast Water and Sediments (hereafter referred to as “Convention”) was adopted by the IMO in London 2004.

The Ballast Water Management Convention enters into force on September 9th 2017. Finland ratified the ballast water management convention on September 8th 2016 bringing the number of ratifying nations up to 52, well over the required number of ratifying states which is 30, and passing the required representation of world merchant ship tonnage of 35% by bringing the representation up to 35.14%.

The stated aim of the Convention is to reduce the risks to the environment. The Convention with its Annex and supporting guidelines regulates management of ballast water and sediments from ships. The Annex is an integral part of the Convention meaning that reference to the annex is the same as reference to the Convention.

Aim of the Convention:
Prevent, minimize and ultimately eliminate the risks to the environment, human health, property and resources arising from the transfer of harmful aquatic organisms and pathogens through the control and management of ships’ ballast water and sediments, as well as to avoid unwanted side-effects from that control and to encourage developments in related knowledge and technology.

The Convention provides four different methods to achieve the aim.
The date is determined by the first renewal survey of the International Oil Pollution Prevention (IOPP) Certificate after September 8th 2017.

Under US Coast Guard (USCG) regulations the BW Exchange method is not accepted. Alternate management systems i.e. not type approved are allowed until type approved systems are ready. Shipowners can apply for extensions to the deadline for compliance with USCG regulations.

The date for compliance with USCG regulations is determined by the first scheduled drydocking after June 21st 2012. See a summary of the implementation schedules below.

Annex D-2 to the Convention details the performance standard for discharged ballast water.

### IMO Compliance dates

Under US Coast Guard (USCG) regulations the BW Exchange method is not accepted. Alternate management systems i.e. not type approved are allowed until type approved systems are ready. Shipowners can apply for extensions to the deadline for compliance with USCG regulations.

The date for compliance with USCG regulations is determined by the first scheduled drydocking after June 21st 2012. See a summary of the implementation schedules below.

### Annex D-2 Performance standard

Annex B-1 to the convention requires ships to develop, carry and implement a Ballast Water Management Plan (BWMP) approved by the flag state. The BWMP is specific to each ship and shall detail how the ship implements the requirements of the Convention and the associated guidelines.

A proper Ballast Water Management Plan will help to avoid operational delays which again will save both time and cost.

Annex B-2 to the convention requires ships to have a Ballast Water Record Book where records of all ballast water operations are documented.

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**IMO Compliance dates**

Under US Coast Guard (USCG) regulations the BW Exchange method is not accepted. Alternate management systems i.e. not type approved are allowed until type approved systems are ready. Shipowners can apply for extensions to the deadline for compliance with USCG regulations.

The date for compliance with USCG regulations is determined by the first scheduled drydocking after June 21st 2012. See a summary of the implementation schedules below.

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**Annex D-2 Performance standard**

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A proper Ballast Water Management Plan will help to avoid operational delays which again will save both time and cost.

Annex B-2 to the convention requires ships to have a Ballast Water Record Book where records of all ballast water operations are documented.
Annex B-4 to the convention defines areas where ballast water exchange may be carried out as follows:

- conduct ballast water exchange at least 200 nautical miles from the nearest land and in water at least 200 metres in depth
- if unable to conduct ballast water exchange as above
  - as far from the nearest land as possible, and in all cases at least 50 nautical miles from the nearest land and in water at least 200 metres in depth.

When the requirements cannot be met areas may be designated by coastal States where ships can conduct ballast water exchange.

Annex B-5 to the convention requires all ships to remove and dispose of sediments from spaces designated to carry ballast water.

Training and education

Annex B-6 to the convention requires that officers and crew shall:

- be familiar with their duties in the implementation of ballast water management particular to the ship on which they serve and,
- appropriate to their duties, be familiar with the ship's ballast water management plan.

Training for ships' masters and crews as appropriate should include:

- instructions on the requirements of the Convention,
- the ballast water and sediment management procedures and,
- the ballast water record book.

Particular regard should be made to matters of ship safety and maintenance of records. All in accordance with the information contained in the IMO guidelines on ballast water management.
3 Exercises

Ensure that you have access to the International Convention for the Control and Management of Ships’ Ballast Water and Sediments including the guidelines accompanying the Convention before you start on the exercises. It can also be beneficial to have access to the vessels Ballast Water Management Plan when completing this course. All questions and exercises are marked with a score; to get full score try to answer all questions as comprehensive as possible. All questions must be answered and a score of 75% is required to pass the course.

3.1 Exercise 1 (5 marks)
It is essential that sounding pipes, air pipes and non-return devices in the ballast tanks are in good order. How do you ensure these components are in working properly on board your vessel, and what can be the consequence if they are not working properly?

3.2 Exercise 2 (5 marks)
Ballast water operation must continuously be monitored, which safety precautions must be considered before start-up of a ballast water operation? What may be the consequences if we do not take these safety precautions seriously?

3.3 Exercise 3 (5 marks)
Consult your ship’s certificates. When is your ship due to comply with the IMO performance standard – Annex D-2 to the Convention? Make reference to the dates on the relevant document stating the expiry date and the classification society issuing the certificate.

3.4 Exercise 4 (5 marks)
Consult your ship’s certificates. When is your ship due to comply with the USCG regulations on ballast water management? Make reference to the dates on the relevant document stating the reference date and the classification society issuing the document.

3.5 Exercise 5 (5 marks)
Describe the four methods for ballast water management available to ships. Describe which of the methods that are applicable to your ship today and explain why.

3.6 Exercise 6 (5 marks)
Consult the G6 guidelines. List the 3 accepted methods for ballast water exchange at sea. Discuss each of the methods and explain strengths and weaknesses.

3.7 Exercise 7 (6 marks)
Consult your ship’s documentation on ballast tanks and pumps. Select two tanks and state the volume of each tank.

State the pumping capacity available for each tank.

Calculate the time it would require to carry out ballast water exchange for the tanks using the sequential method to meet the 95% volumetric exchange requirement in the Convention.

Explain how you would carry out the exchange.
3.8 Exercise 8 (3 marks)
Ballast sediment can be a reservoir of foreign organisms and pathogens.

Consult the G4 guidelines. Describe how uptake of harmful organisms and pathogens may be minimized during ballast water uptake.

3.9 Exercise 9 (5 marks)
Consult the G6 guidelines.
Describe the training and familiarization requirements for ships’ officers and crew.

3.10 Exercise 10 (6 marks)
Describe the four main technologies utilized in ballast water treatment systems.

Select one technology and discuss strengths and weaknesses of the technology.

3.11 Exercise 11 (5 marks)
Consult the G2 guidelines (section 5). Describe how the samples needed to determine compliance with the Convention should / should not be taken.

Who are the G2 guidelines intended for?

3.12 Exercise 12 (5 marks)
Consult the G4 guidelines. Describe the procedure for removal of sediments and which considerations must be done before this operation is commenced.

How often are sediments removed from the ballast tanks on board your vessel?
4 Evaluation Ballast Water Management

1. How easy was it to understand how to complete the course?

   [ ] Poor  [ ]  [ ]  [ ]  [ ] Very good

2. Do you consider the Onboard Course to be a good tool for training?

   [ ] Poor  [ ]  [ ]  [ ]  [ ] Very good

3. To what degree do what you have learnt meet the learning objectives described in the course’s procedure?

   [ ] Poor  [ ]  [ ]  [ ]  [ ] Very good

4. How do you rate the possibility of putting what you have learnt into practice?

   [ ] Poor  [ ]  [ ]  [ ]  [ ] Very good

5. To what degree will this course raise your awareness regarding ballast water operations?

   [ ] Not at all  [ ]  [ ]  [ ]  [ ] Very much

6. What is your overall rating of the course?

   [ ] Poor  [ ]  [ ]  [ ]  [ ] Very good

Rank: __________________ Date: __________________ Place: __________________