

ANNEX H

MINIMUM CONTENTS OF THE VESSEL'S BIOFOULING MANAGEMENT PLAN AND BIOFOULING RECORD BOOK

a) BIOFOULING MANAGEMENT PLAN

The Biofouling Management Plan contains all the information used to identify the risk of accumulation of the ship's biofouling and the actions necessary to manage this risk. It should be specific to each vessel and should outline the type and frequency of inspection and cleaning activities throughout the hull and niche areas. The Biofouling Management Plan should address at least the following points:

1. The proactive maintenance and cleaning regime based on vessel-specific risk assessment (more information on biofouling risk assessment can be found in Appendix 1 of the IMO Biofouling Guidelines).
2. The schedule for inspections between and during planned docking in the vessel-specific risk assessment.
3. The procedures for cleaning actions if macrofouling is observed during inspections.
4. Contingency procedures to manage biological fouling that may accumulate if the ship deviates from its operational profile.
5. The regime of repairs, maintenance and renewal of the Coating System (AFC), when close to the end of its useful life, according to the manufacturer's instructions.
6. The monitoring of Marine *Growth Prevention Systems (MGPS)* to assess their effectiveness in inhibiting biofouling, including maintenance provided in accordance with the manufacturer's instructions. Examples of MGPS are: chemical injectors in internal seawater systems, ultrasound, anodes, among others.
7. Safety procedures for the ship and crew, training and familiarization of the crew regarding the management of biofouling.
8. Capture, collection and final disposal of biofouling management waste.

b) LIVRO REGISTRO DE BIOINCRUSTAÇÃO

The Biofouling Record Book shall contain all records relating to the vessel's biofouling management activities, and shall be separated into two parts, as described below:

Part I – Biofouling Management Activities: In the first part, the records of activities planned by the Biofouling Management Plan must be included. The detailing of the information, including observations of the biofouling before and after proactive cleaning are important for the continuous improvement of the Risk Assessment brought by the Biofouling Management Plan.

Part II – Monitoring of Biofouling Risk Parameters: The second part should include the operational events that exposed ships to a higher risk of biofouling accumulation. Records of deviation from the operational planning defined in the Biofouling Management Plan

and record of contingency actions taken in response to operational deviation must be entered.

Part I

(A) Proactive cleaning

1. Date and place on the ship where the proactive cleaning took place.
2. General remarks with respect to biofouling prior to cleaning, if any (i.e., extent of microfouling and macrofouling according to defined classifications).
3. Records of the permits required to perform proactive water cleaning, if applicable.
4. Details of hull areas and niches cleaned.
5. General remarks with respect to biofouling after cleaning, if any (i.e., extension of microfouling and macrofouling according to defined classifications).
6. Reference to any supporting evidence/report of the cleanup (e.g., cleaning report) supplier, photographs/videos and/or receipts), if any.
7. Method, manufacturer, and model of the proactive cleaning method used, if not provided in the BFMP.
8. Reference to the test standard for which the method was tested, if not provided in the BFMP.
9. Name, position and signature of the person responsible for the activity.

(B) Inspection

1. Date and place of inspection.
2. Methods used in inspection (including inspection tools/devices).
3. Inspected areas of the ship.
4. Biofouling remarks (extension of microfouling and macrofouling according to defined fouling rates).
5. Observations on the conditions of the antifouling system (AFS).
6. Reference to any supporting evidence/inspection report.
7. Name, position and signature of the person responsible for the activity.

(C) Reactive cleaning

1. Date and place of the ship on which the cleaning took place.
2. Records of the authorizations necessary to carry out the cleaning in the water, if applicable.
3. Description of hull areas and niches cleaned.
4. Reactive cleaning methods used.
5. Estimation of overall biofouling after cleaning, according to defined fouling rates.
6. Reference to any supporting evidence/report of the activity.

7. Receipt or other documentary evidence of the collection/delivery of the waste.
 8. Name, position and signature of the person responsible for the activity.
 9. Manufacturer and model of the cleaning and catching device, as well as the cleaning company that performs the cleaning.
 10. Reference to the test standard for which the method has been tested, if relevant.
- (D) Additional operating procedures and general remarks

Log Book Template (Part I):

Vessel Name:

IMO Number:

Gross tonnage:

Period from: day/month/year to: day/month/year

Biofouling management activities

Date	Code (letter)	Item (number)	Activity Log	Signature of the responsible person

Part II

Part II must contain the records associated with the monitoring of risk parameters, especially when there is a greater risk of bioinvasion associated with the accumulation of biofouling on the vessel:

(A) When the ship operates outside the expected operating profile specified in the BFMP (e.g., speed, temperature, or salinity)

1. Duration and dates when the vessel is not operating in accordance with its BFMP.
2. Reason for the departure from normal operation.
3. Contingency measures taken to minimize biofouling buildup (e.g., more frequent inspections) taken in the period when the ship is operating outside the expected operational profile.
4. Time and place (port name or latitude/longitude) at which the ship resumes operation as specified in the BFMP.

(B) Maintenance/service or damage to AFC

1. Date/period and description of any observed reduction in the effectiveness, damage or maintenance/service deviation of the Antifouling Coating (AFC) during its lifetime.
2. Date/period and description of any operation beyond the expected useful life.
3. Contingency actions taken to minimize biofouling buildup (e.g., more frequent inspections).
4. Date/period and place where any maintenance or repair of the AFC was performed (e.g., in dry dock).
5. Description of any AFC, including patch repairs, that has been applied during maintenance. Detail the type of AFC, the area and locations in which it was applied (including the location of the drydock support blocks, if relevant), an estimated percentage coverage of AFC reapplication, the coating of the AFC, the thickness of the coating obtained, and any surface preparation work (e.g., complete removal of the underlying AFC or application of new AFC over the existing AFC).
6. Reference to any supporting data for AFC maintenance (e.g., AFC technical file).
7. Name, position and signature of the person responsible for the activity.

(C) Marine Growth Prevention System (MGPS) *maintenance/service or downtime/malfunction*

1. Date/period and description of any observed reduction in the effectiveness, downtime, malfunction or deviation of maintenance/service of the *Marine Growth Prevention System (MGPS)* during its lifetime.
2. Date/period and description of the operation beyond the expected useful life.
3. Date and location of any instances where the system was not operating in accordance with BFMP.

4. Maintenance records (including regular monitoring of the electrical and mechanical functions of the systems, calibration or adjustment of treatment dosages).
5. Contingency actions taken to minimize biofouling buildup (e.g., more frequent inspections).
6. Name, position and signature of the person responsible for the activity.

(D) Maintenance/service or downtime/malfunction of another AFS

1. Date/period and description of any observed reduction in the effectiveness, downtime, malfunction, or deviation of maintenance/service of another AFS during its lifetime.
2. Date/period and description of the operation beyond the expected useful life.
3. Date and location of any instances where the system was not operating in accordance with the Biofouling Management Plan.
4. Maintenance records.
5. Contingency actions taken to minimize biofouling buildup (e.g., more frequent inspections).

(E) Deviation from regular use of expected proactive cleaning as specified in BFMP

1. Date and place when the ship did not perform the proactive cleanup as specified.
2. Contingency actions taken to minimize bioscale buildup (e.g., inspections and/or reactive cleaning before returning to proactive cleaning activity).
3. Maintenance records, if any.
4. Date the ship returned to normal activities with proactive cleaning.

(F) Deviation from the required reactive cleaning as specified in the BFMP

1. Date and place the ship was inspected and reactive cleaning was deemed necessary.
2. Contingency measures taken until reactive cleaning, including scheduling the reactive cleaning activity.
3. Date on which the ship completed reactive cleaning and reference to the relevant record in Part I.

(G) When the ship has been idle (berthed, anchored, berthed) for a longer period

1. Date and place of the ship stopped, including general description of the biofouling and whether in another marine biogeographic region.
2. Contingency actions taken to minimize the accumulation of biofouling (e.g., inspections, decommissioned sea boxes, or short voyages made before and after the stopped time period).
3. Precautions taken to minimize biofouling buildup (e.g., short trip).
4. Date on which the ship returned to normal operations.

(H) When the ship exhibits a loss of performance in accordance with the Performance Monitoring System for a period beyond what is expected in accordance with the BFMP

1. Date and place when the ship began to show a loss of performance beyond expectations.
2. Biofouling inspections or management actions taken before and after the loss-of-performance period.
3. Contingency measures taken to minimize the accumulation of biofoulers.
4. Date on which the ship returned to normal performance.

(I) Other deviations

Log Book Template (Part II):

Vessel Name: IMO Number:

Gross tonnage:

Period from: day/month/year to: day/month/year

Biofouling management activities

Date	Code (letter)	Item (number)	Activity Log	Signature of the responsible person