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Indian Ocean Tuna Commission
Commission des Thons de l'Océan Indien

IOTC-2022-VMSWG05-R[E]

Report of the Fifth Meeting of the Vessel Monitoring System Working Group

Held by video-conference, 27 September 2022

DISTRIBUTION:

Participants in the Meeting
IOTC CPCs
Chairperson IOTC
Chairperson IOTC Compliance Committee
Chairperson IOTC Scientific Committee

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HOW TO INTERPRET TERMINOLOGY CONTAINED IN THIS REPORT

The VMSWG05 Report has been written using the following terms and associated definitions so as to remove ambiguity surrounding how particular paragraphs should be interpreted.

Level 1: *From a subsidiary body of the Commission to the next level in the structure of the Commission:*

RECOMMENDED, RECOMMENDATION: Any conclusion or request for an action to be undertaken, from a subsidiary body of the Commission (Committee or Working Party), which is to be formally provided to the next level in the structure of the Commission for its consideration/endorsement (e.g. from a Working Party to the Scientific Committee; from a Committee to the Commission). The intention is that the higher body will consider the recommended action for endorsement under its own mandate, if the subsidiary body does not already have the required mandate. Ideally this should be task specific and contain a timeframe for completion.

Level 2: *From a subsidiary body of the Commission to a Contracting Party or Cooperating Non-Contracting Party (CPC), the IOTC Secretariat, or other body (not the Commission) to carry out a specified task:*

REQUESTED: This term should only be used by a subsidiary body of the Commission if it does not wish to have the request formally adopted/endorsed by the next level in the structure of the Commission. For example, if a Committee wishes to seek additional input from a CPC on a particular topic, but does not wish to formalize the request beyond the mandate of the Committee, it may request that a set action be undertaken. Ideally this should be task specific and contain a timeframe for the completion.

Level 3: *General terms to be used for consistency:*

AGREED: Any point of discussion from a meeting which the IOTC body considers to be an agreed course of action covered by its mandate, which has not already been dealt with under Level 1 or level 2 above; a general point of agreement among delegations/participants of a meeting which does not need to be considered/adopted by the next level in the Commission's structure.

NOTED/NOTING: Any point of discussion from a meeting which the IOTC body considers to be important enough to record in a meeting report for future reference.

Any other term: Any other term may be used in addition to the Level 3 terms to highlight to the reader of the IOTC report, the importance of the relevant paragraph. However, other terms used are considered for explanatory/informational purposes only and shall have no higher rating within the reporting terminology hierarchy than Level 3, described above (e.g. **CONSIDERED; URGED; ACKNOWLEDGED**).

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1. OPENING OF THE MEETING

1. The meeting was held online, via Zoom, on 27 September 2022.
2. The List of Participants is provided in [Appendix 1](#). A total of 24 participants (eight Members and two observers and four Invited Experts) attended the meeting. The fifth meeting of the Vessel Monitoring System Working Group (VMSWG05) was chaired by Mr Stephen Ndegwa (Kenya).

2. INTRODUCTION OF MEMBERS

3. The Chair of the VMSWG05 **INVITED** participants to introduce themselves.

3. ADOPTION OF THE AGENDA

4. The VMSWG05 **ADOPTED** the Agenda in [Appendix 2](#) without amendment.

4. UPDATE ON STATUS OF PROGRESS OF THE WORK PLAN

5. The VMSWG05 **NOTED** the low progress of the VMSWG work since its last meeting and **RECALLED** the status of implementation of VMSWG work plan.
6. The VMSWG05 **NOTED** that the IOTC Secretariat met with the GFCM Secretariat staff in July at a meeting that was held in Seychelles **FURTHER NOTED** the participation of a representative of the Seychelles in the meeting.
7. The VMSWG05 **NOTED** the delay faced on the adoption of the VMSWG04 report, which prevented the VMSWG to present recommendations arising from the VMSWG04 meeting to the Compliance Committee.
8. The VMSWG05 **NOTED** the reasons behind the delay and **URGED** the Chairperson to expedite the adoption of future reports of the VMSWG.
9. The VMSWG05 **NOTED** the request of the Chairperson for the meeting recordings to be shared with the Chairperson.
10. The VMSWG05 **NOTED** the advice of the IOTC Secretariat that this is not a practice in the IOTC, and any recommendation made in that respect will be submitted to the Executive Secretary for consideration by the Commission.

5. ROLE OF THE IOTC SECRETARIAT AND GUIDELINES FOR THE REGISTRATION, IMPLEMENTATION AND OPERATION OF VMS

11. The VMSWG05 **NOTED** presentation by the Seychelles ([IOTC-2022-VMSWG05-03](#)), on the role of IOTC Secretariat with respect to the handling of VMS data.
12. The VMSWG05 **NOTED** two possible monitoring scenarios:
 - a. Scenario 1, where active monitoring is conducted by CPCs and the IOTC Secretariat only monitors compliance with VMS Resolution. This scenario does not fully meet the objectives of the IOTC VMS.
 - b. Scenario 2, where the IOTC Secretariat actively monitors compliance with the VMS Resolution and other IOTC Conservation and Management Measures. This scenario ensures the objectives of the IOTC VMS are met fully, but the cost implications are higher than Scenario 1.

13. The VMSWG05 **NOTED** that a decision on the Scenarios will determine the requirements of the infrastructure and hardware components and whether the regional VMS is hosted internally, i.e., physical server(s) in the IOTC Secretariat, or is hosted externally at a VMS service provider.
14. The VMSWG05 **NOTED** the benefits of sharing and using VMS data in support of science and data verification and **FURTHER NOTED** that other RFMOs, such as the WCPFC, allow the use of old VMS data for science purposes and subject to prior approval for more recent VMS data.
15. The VMSWG05 **NOTED** the different context between WCPFC and the IOTC, and the value of the operating standards, general rules and specifications developed by WCPFC and **AGREED** on the need to develop relevant guidelines for the implementation of monitoring procedures for the IOTC VMS.
16. The VMSWG05 **RECALLED** [Resolution 12/02 on Data confidentiality policy and procedures](#), and **AGREED** that VMS data protection requirements could be included in the Resolution 12/02 or within the VMS Resolution itself.
17. The VMSWG05 **AGREED** to a phased approach, starting by Scenario 1 and **FURTHER AGREED** that the gradual shift to Scenario 2 could be considered at a later stage.
18. The VMSWG05 **AGREED** that rules to share VMS data for use for science purposes should be conditional to the consent of the flag State.
19. The VMSWG05 **NOTED** the requirements of [Resolution 22/02 on Establishing a Programme for Transshipment by Large-Scale Fishing Vessels](#) for carrier vessels authorised for transshipment to install and operate a Vessel Monitoring System (VMS).

6. TERMS OF REFERENCE TO DETERMINE EXTRA COSTS RELATED TO INFRASTRUCTURE, STAFFING, AND DATA SECURITY REQUIRED FOR THE IOTC VMS

20. The VMSWG05 **NOTED** paper [IOTC-2022-VMSWG05-02](#) on the Terms of Reference to determine extra costs related to infrastructure, staffing, and data security required for the IOTC Vessel Monitoring System.
21. The VMSWG05 **WELCOMED** the announcement that Australia will fund the study.
22. The VMSWG05 **AGREED** to make the following change to the section Report guidelines of the Terms of Reference:
 - a. considering the analysis of existing VMS in tuna RFMOs was covered by the previous consultant report ([IOTC-2019-WPICMM02-VMS Study](#)), the new study must take into account reports and other materials already available to the IOTC on this subject,
23. The VMSWG05 **NOTED** that some of the CPCs with the largest fleets are not attending this meeting, and that it would be important for them to understand the cost implications associated with an IOTC regional VMS.
24. The VMSWG05 **AGREED** to defer the revision of the Terms of Reference ([Appendix 3](#)) to another VMSWG meeting, after the special session of the VMSWG of 16 November 2022.

7. TECHNICAL COOPERATION BETWEEN THE SECRETARIATS OF THE GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN AND THE INDIAN OCEAN TUNA COMMISSION ON VESSEL MONITORING SYSTEM

25. The VMSWG05 **NOTED** the presentation of Seychelles on the lessons learnt from General Fisheries Commission for the Mediterranean (GFCM) Regional VMS and the work conducted by the GFCM to develop a VMS pilot project.
26. The VMSWG05 **NOTED** that GFCM, being an Article XIV body under the FAO Constitution, like the IOTC, has similar legal, administrative and financial rules that the IOTC would have to apply to set up a regional VMS and **FURTHER NOTED** the value of learning from their experience.
27. The VMSWG05 **NOTED** the possibility of capitalizing on the work conducted by the GFCM to expedite the preparatory phase and procurement process for an IOTC regional VMS and **FURTHER NOTED** the potential use of the same service provider or partition of the system to host the IOTC regional VMS.
28. The VMSWG05 **AGREED** to convene a special session of the VMSWG on 16 November 2022, with the aim of inviting the GFCM to present to the working group the GFCM experience and lessons learnt.

8. CONSIDER PENDING OR NEW AMENDMENTS TO RESOLUTION 15/03, AND THEIR PRESENTATION OR CO-SPONSORSHIP BEFORE THE COMMISSION BY A CPC OR CPCS

29. The VMSWG05 **NOTED** paper [IOTC-2022-VMSWG05-04](#) on Australia's proposed revision to Resolution 15/03, on top of the work previously carried out by the Working Group to amend the measure.
30. The VMSWG05 **AGREED** to defer discussions on the revisions of the Terms of Reference to determine extra costs related to infrastructure, staffing, and data security and the proposed amendments to Resolution 15/03 until after the special session of the VMSWG of 16 November 2022.
31. The VMSWG05 **RECALLED** that the scope was agreed at the VMSWG04 meeting (Paragraph 20: VMSWG04 **AGREED** to delete ex para 1 and **FURTHER AGREED** regarding para 2 (ex para 2) that VMS should cover all vessels of 12 metres in length overall and above, and listed in the IOTC Record of Authorised Vessels).
32. The VMSWG05 **NOTED** the VMS should cover all vessels of 12 metres in length overall and above, and **FURTHER NOTED** that the Resolution pertaining to the IOTC Record of Authorised Vessels will be required to be amended to extend its scope.
33. The VMSWG05 **AGREED** to make the following modification to the proposed revision of Resolution 15/03 ([Appendix 4](#)):
 - a. paragraph 5 b): to reduce the position error from 500 to 50 meters,
 - b. paragraph 5 c): to delete the brackets *on the speed and direction of the vessel*,
 - c. paragraph 7: to include after 2 hours "when the vessels are operating in the IOTC Area of competence",
 - d. paragraph 9 d): to replace the word "block" by "obstructed" and to provide for a transition period to implement [in xx years] of paragraph 9,
 - e. paragraph 10: to provide for a transition period to implement [in xx years].

34. The VMSWG05 **NOTED** the need to include relevant edits and comments from the legal scrubbing into the proposed amended Resolution 15/03.

9. DATE AND PLACE OF THE NEXT VMS WG MEETING(S)

35. The VMSWG05 **AGREED** that the next ordinary meeting of the VMSWG would be decided during the special session to be convened on 16 November 2022.

10. OTHER BUSINESS

Chairmanship of the Working Group

36. The VMSWG05 **NOTED** the delay with the adoption of the VMSWG04 report, the failure to present recommendations to the Compliance Committee (CoC19) and the subsequent delay to have those recommendations endorsed by the Commission (S26) in 2022.
37. The VMSWG05 **NOTED** that consequently the VMSWG has not benefited from the guidance of the CoC19 and the S26.
38. The VMSWG05 **NOTED** the explanation provided by the Chair of the VMSWG and **FURTHER NOTED** his commitment to continue his mandate given in the Terms of Reference of the VMSWG.

11. ADOPTION OF THE REPORT

39. The Report of the meeting was adopted by correspondence on 21 October 2022.

APPENDIX 1 LIST OF PARTICIPANTS

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APPENDIX 2
ADOPTED AGENDA

AGENDA FOR THE FIFTH MEETING OF THE VMS WORKING GROUP

Date: 27 September 2022

Location: Virtual

Time: 11:00 – 15:00 Seychelles Time

Chair: Mr Stephen Ndegwa, **Vice Chair:** Mr Johnny Louys

1. Opening of the meeting (Chair).
2. Introduction of members (Members).
3. Adoption of the Agenda (Members).
4. Update on status of progress of the work plan (Chair/Secretariat)
5. Role of the IOTC Secretariat and guidelines for the registration, implementation and operation of VMS (Seychelles)
6. Terms of reference to determine extra costs related to infrastructure, staffing, and data security required for the IOTC VMS (Secretariat/Members)
7. Technical cooperation between the Secretariats of the General Fisheries Commission for the Mediterranean and the Indian Ocean Tuna Commission on Vessel Monitoring System (Secretariat/Seychelles)
8. Consider pending or new amendments to Resolution 15/03, and their presentation or co-sponsorship before the Commission by a CPC or CPCs (Members).
9. Date and place of the next VMS WG meeting(s) (Members).
10. Other business (Members).

APPENDIX 3

TERMS OF REFERENCE TO DETERMINE EXTRA COSTS RELATED TO INFRASTRUCTURE, STAFFING, AND DATA SECURITY REQUIRED FOR THE IOTC VESSEL MONITORING SYSTEM

Date: 27 September 2022

The document has been produced in response to agreed discussion of the [VMSWG03](#) and the request made at the [VMSWG04](#):

Para 27: VMSWG03 **AGREED** that an analysis be carried out to determine the staffing, infrastructure, extra costs and data security that would be required.

Para 16: VMSWG04 **AGREED** that the IOTC Secretariat draft Terms of Reference to be circulated intersessionally.

Assignment title	TO DETERMINE EXTRA COSTS RELATED TO INFRASTRUCTURE, STAFFING, AND DATA SECURITY REQUIRED FOR THE IOTC VESSEL MONITORING SYSTEM
Contract duration	Maximum 30 working days.
Assignment location	Home based
Financed by	[Australia]

September 2022

GENERAL DESCRIPTION OF TASKS AND OBJECTIVES TO BE ACHIEVED

Rationale

The Twentieth Session of the Commission tasked the IOTC Secretariat with contracting an independent consultant to prepare a report identifying possible options to strengthen the IOTC vessel monitoring system (VMS). The results of this consultancy are enshrined in an [Options Paper for Strengthening the IOTC Vessel Monitoring System \(Options Paper\)](#). The VMS Working Group has since convened four times as detailed in the Reports of its [Meetings](#) and as summarised in [IOTC-2022-WPICMM05-08](#) has agreed on (i) the objectives of the VMS, (ii) a hybrid system in which CPCs may report data to the Secretariat using the Shared Decentralised or Partially Centralised options outlined in pages 13 to 15 of the Options Paper, (iii) the scope and application of VMS, and (iv) the methods for ensuring real time or near real time position reporting. Work on developing possible funding models is ongoing. To provide further clarity on the financial implications at the level of the IOTC Secretariat, the VMS Working Group agreed that an analysis to determine extra costs related to infrastructure, staffing, and data security is required.

Objective

To provide the Commission with the requirements and associated costs of a hybrid system IOTC VMS, in terms of infrastructure, staffing and data security. Such a VMS shall provide an effective platform for the monitoring of IOTC fisheries, consistent with the IOTC Agreement and the Commission’s management regime.

Report Guidelines

The consultant(s) shall produce a report on his/her analyses, [taking into account report and other materials already available to the IOTC](#), which makes specific reference to the elements agreed by the VMS Working Group in its various meetings, including and not limited to the agreed objectives, the scope and application of VMS, the two agreed methods of reporting (Partially Centralised and Shared Decentralised) and the VMS requirements described.

The Report shall comprise eight sections:

1. Introduction and objectives of the study
2. Background - a summary presentation of the objectives, options, the scope and application and methods already agreed by the VMS Working Group (and the proposed changes to Resolution 15/03).
3. Analysis – existing VMS in tuna RFMOs, considering:
 - a. Summary of each tuna RFMOs’ VMS ; and
 - b. summarized analysis of infrastructure, staffing, extra costs and data security elements of other RFMOs.
4. Capital costs for the IOTC Secretariat, including:
 - a. infrastructure and hardware required at the IOTC Secretariat;
 - b. VMS software: including cost comparisons between different VMS solutions, service providers and possible arrangements, inter alia, in-house or externally hosted VMS system; and
 - c. training of the IOTC Secretariat and CPCs’ personnel in charge of the monitoring centres.
5. Recurrent costs for the IOTC Secretariat, including:

-
- a. Additional staff required at the IOTC Secretariat (salaries and emoluments); and
 - b. IT costs: inter alia software maintenance, upgrades and operation; maintaining a secure database and IT hardware; managing, storing and processing the data;.
6. Data security and confidentiality requirements, including legal, physical and procedural safeguards. Additionally, an information sharing agreement describing the protocols for sharing VMS data with the IOTC Secretariat and among CPCs (flag State, port State, market State and coastal State) is required.
 7. Other considerations, including:
 - a. implications for Resolution 15/03
 - b. extra costs, including any additional costs not considered above
 - c. existing data rules/requirements in IOTC and whether any additional data rules or specifications may be required
 - d. financing models and potential for outsourcing.
 8. Conclusions and recommendations.

KEY PERFORMANCE INDICATORS

Tasks:	Required Completion Date:
Kick off meeting (virtual) with IOTC Secretariat	
Draft report to IOTC Secretariat for review	
Final report to VMSWG/IOTC Secretariat	
Presentation at VMS WG meeting and availability for questions from VMSWG Members	2022/2023

The implementation calendar will be agreed at the kick off meeting (virtual) with the IOTC Secretariat.

Annex:**1.1. IOTC**

The IOTC is an intergovernmental organization established under Article XIV of the FAO Constitution. The IOTC agreement was concluded in 1993 and entered in force in March 1996. The IOTC is mandated to manage tuna and tuna-like species in the Indian Ocean and adjacent seas with primary objective the conservation and optimum utilization of the stocks for long term sustainability.

Since 1998, the members of the IOTC have dedicated most of their effort to the scientific component of fisheries management, to manage the tuna and tuna-like resources. Since the mid 2000's, more emphasis has been placed on the compliance component of this tuna RFMO. A Compliance Section has been created to assist the Compliance Committee in the task of assessing and reviewing all aspects related to the compliance with IOTC conservation and management measures and to provide support to Contracting and Cooperating non-Contracting Parties (CPCs) in the implementation of Monitoring, Control and Surveillance (MCS) tools adopted by the IOTC Members (e.g. IUU vessel lists, authorized & active vessels lists, documents on board, marking of fishing vessels and gears, Vessel Monitoring System, fishing logbooks, regional observers scheme, transshipments programme, catch certification/trade documentation schemes).

The objective of the proposed activities is to provide the Commission with requirements for implementing IOTC's strengthened VMS, such that the VMS provides an effective platform for the monitoring and controlling IOTC fisheries, consistent with the Commission's management regime specifically, in monitoring and controlling the activities of vessels authorised to operate in the IOTC Area of Competence.

2. Scope of work

One consultant is required to complete the VMS study. The consultant(s) is recruited to provide a report determining extra costs related to infrastructure, hardware, software, staffing, and data security required for the application of IOTC's VMS.

3. Duration

Maximum 30 working days (inclusive of 1 day for presentation at IOTC's VMS Working Group and/or the Working Party on the Implementation of CMMs).

The implementation calendar will be agreed at the kick off meeting (virtual) with the IOTC Secretariat.

Activity	Timing / Deadline
Start of contract	Fourth quarter of 2022 or upon signature of contract.
End of contract	2022/2023 session of the VMS Working Group in advance of the 2023 WPICMM

4. Deliverable

- Draft report on financial implications at the level of the IOTC Secretariat for the changes to IOTC's VMS agreed by the VMSWG;
- Final report on financial implications at the level of the IOTC Secretariat for the changes to IOTC's VMS agreed by the VMSWG; and
- Presentation of the study at the VMS Working Group and/or the Working Party on Implementation of Conservation and Management Measures (WPICMM) and the Compliance Committee meetings.

5. Supervision responsibility

The consultant(s) will work under the supervision of the IOTC Secretariat.

6. Consultant(s) Qualifications

Profile and specific qualifications of the Consultant:

- Degree or equivalent in a discipline related to science or fisheries management or living marine resources management or computer science or related field pertinent to the study; or a minimum of eight (8) years' experience related to VMS;
- Demonstrable experience working in the field of fisheries monitoring or VMS;
- Demonstrable experience in setting or designing or managing or operating of VMS at national level or regional level;
- Demonstrable experience working with/for RFMOs will be an added advantage;
- Strong report writing and analytical skills; and
- Proficiency in English.

APPENDIX 4
PROPOSED REVISION TO RESOLUTION 15/03¹

Preamble [Changes yet to be discussed and agreed]

1. [New paragraph] The objective of the VMS is to support the Commission in ensuring implementing the IOTC Agreement, promote CPCs compliance with CMMs and to ensure sustainable fisheries. By providing accurate and reliable information on the location and activities of the vessels fishing those stocks, a secure, web-based, near real-time, user-friendly VMS will reinforce the Monitoring, Control and Surveillance mechanisms of the Commission and will:
 - a) Improve monitoring, control and surveillance capabilities of CPCs to ensure compliance with the IOTC Conservation and Management Measures;
 - b) Enhance the cooperation and coordination on monitoring, control and surveillance mechanisms in the IOTC Area between coastal, flag and inspecting CPCs;
 - c) Increase transparency among CPCs and the IOTC Secretariat, and promote a level playing field on the control of fishing activities relating to IOTC regulated stocks;
 - d) Prevent, detect and deter illegal, unreported and unregulated (IUU) fishing;
 - e) Obtain accurate, reliable and easily usable positioning data to be used for scientific research and fisheries management.
2. Each Contracting Party and Cooperating Non-Contracting Party (CPC) shall adopt a satellite-based vessel monitoring system (VMS) for all vessels¹ flying its flag of 12 metres in length overall or above, and listed in the IOTC Record of Authorised Vessels.
3. [Ex para 2 of 15/03] Those CPCs currently without a VMS for any additional vessel now meeting the criteria for inclusion in the VMS obligation since Resolution 15/03 was superseded, as defined in paragraph 2 above, shall submit an implementation plan to the Compliance Committee in [date] that sets out a phased approach to full implementation of their national VMS obligation within a maximum of two years from the date of this Resolution becoming binding. After this date, vessels not equipped with VMS shall not be authorized to fish for tuna and tuna like species managed by the IOTC.
4. [Ex para 4 of 15/03] The Commission may establish guidelines for the registration, implementation and operation of VMS in the IOTC area of competence with a view to standardising VMS adopted by CPCs.
5. [Ex para 5 of 15/03] Information collected in respect of each vessel covered under paragraph 2 shall include:
 - a) the vessel identification;

¹ Amendments to the text of Resolution 15/03 agreed by the VMSWG03 are presented in red underlined font, whilst amendments proposed in the Options Paper and accepted by the VMSWG03 are presented only in red font. Amendments proposed to the VMSWG05 are presented in blue underlined font. Amendments agreed by the VMSWG05 are presented in orange underlined font.

- b) the current geographical position of the vessel (longitude, latitude) with a position error which shall be less than 50⁰ metres, at a confidence level of 99%;
- c) the speed and direction of the vessel; and
- d) the date and time (expressed in UTC) of the fixing of the said position of the vessel.
6. [Ex para 6 of 15/03] Each CPC shall take the necessary measures to ensure that their land-based national Fisheries Monitoring Centre (FMC) receives through the VMS the information required in paragraph 5, and that the FMC is equipped with computer hardware and software enabling automatic data processing and electronic data transmission. Each CPC shall provide for backup and recovery procedures in case of system failures
7. [Ex para 7 of 15/03] Each CPC shall ensure that the information in paragraph 5 is transmitted to the IOTC Secretariat, either directly or through its FMC, at least once every [2 hours], when the vessels are operating in the IOTC Area of competence. Each CPC shall ensure the masters of fishing vessels flying its flag ensure that the satellite tracking device(s) are at all times fully operational.
8. [New paragraph] Each CPC shall ensure that information is transmitted to the Secretariat, [in near real time] automatically, and that the information provided shall not be altered in any way. The information shall be provided either a) through the flag State FMC, or b) directly from the vessels.
9. [Ex para 8 of 15/03] Each CPC as a Flag State shall ensure that the vessel monitoring device(s) on board its vessels are tamper resistant, that is, are of a type and configuration that prevent the input or output of false positions, and that they are not capable of being over-ridden, whether manually, electronically or otherwise. To this end, the on-board satellite monitoring device must:
- a) be located within a sealed unit;
 - b) be protected by official seals (or mechanisms) of a type that will indicate whether the unit has been accessed or tampered with;
 - c) be capable of providing specific automated reports when powered off or on; and
 - d) be capable of providing automated reports when the antenna is obstructed. [define a transition period for implementation of xx years]
10. [New paragraph] In addition, each CPC as a flag State shall ensure that the vessel monitoring device(s) on board its vessels have the following capabilities:
- a) be able to be programmed to provide automatic reports when the vessel enters or exits designated areas²; and
 - b) be able to be remotely prompted to provide position reports outside of regular reporting intervals [note - may be low priority if short reporting intervals are agreed]. [define a transition period for implementation of xx years]
11. [Ex para 9 of 15/03] The responsibilities concerning the satellite-tracking devices and requirements in case of technical failure or non-functioning of the satellite-tracking devices are established in **Annex I**.
12. [Ex para 10 of 15/03] Fishing vessels referred to in paragraph 2 and not already subject to

² VMSWG03 **AGREED** this should be made optional or revised.

[Resolution 15/03](#), which are not yet equipped with VMS shall report to their FMC at least daily by email, facsimile, telex, telephone message or radio. [This manual reporting shall be allowed for a maximum of \[2\] years from the date of this Resolution becoming binding, in accordance with paragraph 3.](#) Such reports must include, inter alia, information required in paragraph [5](#) when transmitting the report, to their competent authorities, as well as:

- a) the geographic position at the beginning of the fishing operation;
 - b) the geographic position at the end of the fishing operation.
13. [Ex para 11 of 15/03] CPCs that [wish to use the delayed implementation of VMS referred in paragraph 3](#) shall report to the IOTC Secretariat (i) the systems and infrastructure and capabilities existing with respect to the implementation this Resolution, and (ii) the hindrances for implementation of such a system and (iii) requirements for implementation.
 14. [Ex para 12 of 15/03] The IOTC Secretariat shall [prepare reports on the performance and operations of the VMS, including all details of potential CPC's compliance issues with the VMS prior to the meeting of the Commission and present it to the IOTC Compliance Committee.](#) Based on these reports, [the IOTC Compliance Committee will make recommendations to the Commission for improvements or modifications to the system, standards, specifications or procedures established to support the VMS.](#) Commission will discuss how best to proceed with future consideration of VMS to support its Conservation and Management Measures.
 15. [Ex para 13 of 15/03] CPCs are encouraged to extend the application of this Resolution to their fishing vessels not provided for in paragraph [2](#) if they consider this to be appropriate to ensure the effectiveness of IOTC Conservation and Management Measures.
 16. [Ex para 14 of 15/03] [Resolution 15/03 On establishing a Vessel Monitoring System Programme](#) is superseded by this Resolution.

ANNEX I
RESPONSIBILITIES CONCERNING THE SATELLITE-TRACKING DEVICES
AND REQUIREMENTS IN CASE OF TECHNICAL FAILURE OR NON-
FUNCTIONING OF THE SATELLITE-TRACKING DEVICES

- A) In the event that a CPC has information to suspect that on-board vessel monitoring device(s) do not meet the requirements of paragraph 5, or have been tampered with, it shall immediately notify the IOTC Executive Secretary and the vessel's Flag State.
- B) CPCs shall require masters and owners/licensees of fishing vessels subject to VMS to ensure that the vessel monitoring device(s) on board their vessels within the IOTC area of competence are at all times fully operational. Masters and owners/licensees shall in particular ensure that:
- a) VMS reports and messages are not altered in any way;
 - b) the antennae connected to the satellite monitoring device(s) are not obstructed in any way;
 - c) the power supply of the satellite monitoring device(s) is not interrupted in any way; and
 - d) the vessel monitoring device(s) are not removed from the vessel.
- C) [No change proposed – although port State consent should be considered in approval to turn VMS off] A vessel monitoring device shall be active within the IOTC area of competence. It may, however, be switched off when the fishing vessel is in port for a [period of more than one week], subject to prior notification to, and approval of, the Flag State provided that the first position report generated following the re-powering (activating) shows that the fishing vessel has not changed position compared to the last report. [In its consideration for giving approval the Flag State shall consult the Port State on any objections it might have and shall inform the IOTC Secretariat on any approval given.]
- D) In the event of a technical failure or non-operation of the satellite tracking device fitted on board a fishing vessel, the device shall be repaired or replaced within one month. After this period, the master of a fishing vessel is not authorised to commence a fishing trip with a defective satellite tracking device. [Furthermore, when a device stops functioning or has a technical failure during a fishing trip lasting more than one month, the repair or the replacement has to take place as soon as the vessel enters a port; the fishing vessel shall not be authorised to commence a fishing trip without the satellite tracking device having been repaired or replaced]³.
- E) In the event of a technical failure or non-functioning of the vessel monitoring device on board the fishing vessel, the master or the owner of the vessel, or their representative, shall communicate immediately to the FMC of the Flag State, and if the Flag State so desires also to the IOTC Secretariat, stating the time that the failure or the non-functioning was detected or notified in accordance with paragraph F of this Annex. In the event of a technical failure or non-functioning of the vessel
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monitoring device on board the fishing vessel, the master or the owner of the vessel, or their representative, shall also communicate to the FMC of the Flag State the information required in paragraph 5 of the Resolution every four hours, by email, facsimile, telex, telephone message or radio.

- F) When the Flag State has not received for 12 hours data transmissions referred to in paragraphs 7 of the Resolution and E of this Annex, or has reasons to doubt the correctness of the data transmissions under paragraphs 7 of the Resolution and E of this Annex, it shall as soon as possible notify the master or the owner or the representative thereof, **and the manual reporting provisions in paragraph E shall commence immediately**. If this situation occurs more than two times within a period of one year in respect of a particular vessel, the Flag State of the vessel shall investigate the matter, including having an authorised official check the device in question, in order to establish whether the equipment has been tampered with. The outcome of this investigation shall be forwarded to the IOTC Secretariat within 30 days of its completion.
- G) [No change proposed – but more real-time arrangements will be required for the provision of manual reports to the Secretariat once option 3 is implemented] With regard to paragraphs E and F of this Annex, each CPC shall, as soon as possible but no later than two working days following detection or notification of technical failure or non-functioning of the vessel monitoring device on board the fishing vessel, forward the geographical positions of the vessel to the IOTC Secretariat, or shall ensure that these positions are forwarded to the IOTC Secretariat by the master or the owner of the vessel, or their representative.