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	<p>منظمة الأغذية والزراعة للأمم المتحدة</p>	<p>联合国 粮食及 农业组织</p>	<p>Food and Agriculture Organization of the United Nations</p>	<p>Organisation des Nations Unies pour l'alimentation et l'agriculture</p>	<p>Organización de las Naciones Unidas para la Agricultura y la Alimentación</p>
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**EXPERT CONSULTATION ON DATA FORMATS AND PROCEDURES
FOR MONITORING, CONTROL AND SURVEILLANCE**

**BERGEN, NORWAY
25 to 27 OCTOBER 2004**

CCAMLR XXII -- DRAFT CONSERVATION MEASURE 10-04

**AUTOMATED SATELLITE-LINKED VESSEL
MONITORING SYSTEMS (VMS)**

**DRAFT CONSERVATION MEASURE 10-04
Automated Satellite-Linked Vessel Monitoring Systems (VMS)**

ANNEX 9

DRAFT CONSERVATION MEASURE 10-04 Automated Satellite-Linked Vessel Monitoring Systems (VMS)

The following revision of Conservation Measure 10-04 is the Secretariat's final record of the draft measure which was discussed by the Drafting Group (CCAMLR-XXII, paragraphs 10.12 and 10.13).

CONSERVATION MEASURE 10-04 Automated Satellite-Linked Vessel Monitoring Systems (VMS)

Species	all except krill
Area	all
Season	all
Gear	all

The Commission,

Recognising that in order to promote the objectives of the Convention and further improve compliance with the relevant conservation measures,

Convinced that illegal, unreported and unregulated (IUU) fishing compromises the objective of the Convention,

Recalling that Contracting Parties are required to cooperate in taking appropriate action to deter any fishing activities which are not consistent with the objective of the Convention,

Mindful of the rights and obligations of Flag States and Port States to promote the effectiveness of conservation measures,

Wanting to reinforce the conservation measures already adopted by the Commission,

Recognising the obligations and responsibilities of Contracting Parties under the Catch Documentation Scheme,

Recalling provisions as made under Article XXIV of the Convention,

Committed to take steps, consistent with international law, to identify the origins of *Dissostichus* spp. entering the markets of Contracting Parties and to determine whether *Dissostichus* spp. harvested in the Convention Area that is imported into their territories was caught in a manner consistent with CCAMLR conservation measures,

hereby adopts the following conservation measure in accordance with Article IX of the Convention:

1. Each Contracting Party shall ensure that its fishing vessels, licensed¹ in accordance with Conservation Measure 10-02, are equipped with a satellite monitoring device allowing for the continuous reporting of their position in the Convention Area^{2,3} for the duration of the licence issued by the Flag State. The satellite monitoring device shall automatically communicate at least every four hours to a land-based fisheries monitoring centre (FMC) of the Flag State of the vessel the following data:
 - (i) fishing vessel identification;
 - (ii) the current geographical position (latitude and longitude) of the vessel, with a position error which shall be less than 500 m, with a confidence interval of 99%;
 - (iii) the date and time (expressed in UTC) of the fixing of the said position of the vessel;
 - (iv) the speed and course of the vessel.
2. The implementation of satellite monitoring device(s) on vessels while participating only in a krill fishery is not currently required.
3. Each Contracting Party as a Flag State shall ensure that the satellite monitoring device(s) on board its vessels are tamper proof, i.e. are of a type and configuration that prevent the input or output of false positions, and that are not capable of being over-ridden, whether manually, electronically or otherwise. To this end, the on-board satellite monitoring device must:
 - (i) be located within a sealed unit;
 - (ii) be protected by official seals (or mechanisms) of a type that indicate whether the unit has been accessed or tampered with.
4. In the event that a Contracting Party suspects tampering of an on-board satellite monitoring device they shall immediately notify the Secretariat and the vessel's Flag State.
5. A Contracting Party shall not issue licences to its flag vessels under Conservation Measure 10-02 and/or issue catch documents under Conservation Measure 10-05 unless the satellite monitoring device on board complies with paragraphs 1 and 3 in their entirety.
6. Each Contracting Party shall ensure that its FMC receives Vessel Monitoring System (VMS) reports and messages, and that the FMC is equipped with computer hardware and software enabling automatic data processing and electronic data transmission. Each Contracting Party shall provide for backup and recovery procedures in case of system failures.

¹ Includes permitted

² Except for waters adjacent to Kerguelen Island and Crozet Island.

³ Will apply on a voluntary basis to those vessels fishing within the Exclusive Economic Zone of their Flag State and/or in areas of the high seas outside the Convention Area.

7. Masters and owners/licensees of fishing vessels subject to VMS shall ensure that the satellite monitoring device on board their vessels within the Convention Area is at all times fully operational as per paragraph 1, and that the data are transmitted to the Flag State. Masters and owners/licensees shall in particular ensure that:
 - (i) VMS reports and messages are not altered in any way;
 - (ii) the antennae connected to the satellite monitoring device are not obstructed in any way;
 - (iii) the power supply of the satellite monitoring device is not interrupted in any way;
 - (iv) the satellite monitoring device is not removed from the vessel.
8. The satellite monitoring device shall be active at all times for the duration of the licence issued by the Flag State as per paragraph 1. 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 the Flag State and providing that the first position report generated following the repowering (activating) shows that the fishing vessel has not changed position compared to the last report.
9. In the event of a technical failure or non-functioning of the satellite monitoring device on board the fishing vessel, the master or the owner of the vessel, or their representative, shall communicate to the Flag State every six hours, starting at the time that the failure or the non-functioning was detected or notified in accordance with paragraph 11, the up-to-date geographical position of the vessel by electronic means (email, facsimile, telex, telephone message, radio).
10. Vessels with a defective satellite monitoring device shall take immediate steps to have the device repaired or replaced as soon as possible and, in any event, within two months. If the vessel during that time returns to port, it shall not be allowed by the Flag State to commence a further fishing trip without having the defective device repaired or replaced.
11. When the Flag State has not received for 12 hours data transmissions referred to in paragraphs 1 and 9, or has reasons to doubt the correctness of the data transmissions under paragraphs 1 and 9, it shall as soon as possible notify, during its working days, the master or the owner or the representative thereof. 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 CCAMLR Secretariat within 30 days of its completion.
12. Each Contracting Party shall, as soon as possible but not later than four hours after receipt pursuant to paragraph 1, forward reports and messages received to the CCAMLR Secretariat. Without prejudice to its responsibilities as a Flag State, if the Contracting Party so desires, it shall ensure that each of its vessels communicates these

reports in parallel to the CCAMLR Secretariat. With regard to paragraph 9, each Contracting Party shall, as soon as possible but no later than two working days, forward accumulated reports and messages to the Secretariat.

13. Each Flag State shall ensure that reports and messages transmitted by the Contracting Party or its fishing vessels to the CCAMLR Secretariat, are in a computer-readable form in the data exchange format set out in Annex 10-04/A.
14. Each Flag State shall in addition notify the CCAMLR Secretariat as soon as possible of each entry to and exit from the Convention Area by each of its fishing vessels in the format outlined in Annex 10-04/B.
15. Each Flag State shall notify the name, address, email, telephone and facsimile numbers, as well as the address of electronic communication of the relevant authorities of their FMC to the CCAMLR Secretariat before 1 January 2004 and thereafter any changes without delay.
16. In the event that the CCAMLR Secretariat has not, for 48 consecutive hours, received the data transmissions referred to in paragraph 12, it shall promptly notify the Flag State of the vessel and require an explanation. The CCAMLR Secretariat shall promptly inform the Commission if the data transmissions at issue are not received from the Contracting Party within two working days.
17. The CCAMLR Secretariat shall treat all messages and reports received under paragraph 12 in a confidential manner in accordance with the confidentiality rules established by the Commission as contained in Annex 10-04/C. Data from individual vessels shall be used for compliance purposes only and shall be made available to a Contracting Party other than the Flag State only for:
 - (i) active surveillance presence and/or inspections in a specified CCAMLR area, subarea or division for which the Contracting Party will conduct surveillance; or
 - (ii) the purposes of verifying the content of a *Dissostichus* Catch Document; noting that for VMS data to be released to a non-Contracting Party, the written permission of the Flag State must be obtained by the CCAMLR Secretariat.
18. The CCAMLR Secretariat shall place a list of vessels submitting reports and messages pursuant to this conservation measure on a password-protected section of the CCAMLR website. This list shall be divided into subareas and divisions, without indicating the exact position of the vessel, and be updated when a vessel changes subarea or division.
19. The CCAMLR Secretariat shall annually, before 30 September, report on the implementation of and compliance with this conservation measure to the Commission.

VMS DATA FORMAT

Data Element	Field Code	Mandatory/Optional	Remarks
Start record	SR	M	System detail; indicates start of record.
From	FR	M	Address of the transmitting party (Contracting Party).
Address	AD	M	Message detail; destination; 'CCA' for CCAMLR Secretariat.
Sequence number	SQ	O	Message detail; message serial number in current year.
Type of message	TM	M	Message detail; message type, 'POS' as position report/message to be communicated by VMS or other means by vessels with a defective satellite tracking device.
Radio call sign	RC	M	Vessel registration detail; international radio call sign of the vessel.
Trip number	TN	O	Activity detail; fishing trip serial number in current year.
Vessel name	NA	M	Vessel registration detail; name of the vessel .
External registration number	XR	M	Vessel registration detail; the side number of the vessel.
Latitude	LA	M	Activity detail; position at time of transmission.
Longitude	LO	M	Activity detail; position at time of transmission.
Speed	SP	M	Vessel speed in tenths of knots.
Course	CO	M	Vessel course 360° scale.
Date	DA	M	Message detail; date of transmission.
Time	TI	M	Message detail; time of transmission.
Record date	RD	M	Year, month and day.
Record time	RT	M	Hours and minutes in UTC.
Record number	RN	M	Serial number of the record in the relevant year.
End of record	ER	M	System detail; indicates end of the record.

Each data transmission is structured as follows:

- double slash (//) and the characters 'SR' indicate the start of a message;
- a double slash (//) and field code indicate the start of a data element;
- a single slash (/) separates the field code and the data;
- pairs of data are separated by space;
- the characters 'ER' and a double slash (//) indicate the end of a record.

ENTRY AND EXIT REPORTS

‘ENTRY’ report

Data Element	Field Code	Mandatory/ Optional	Remarks
Start record	SR	M	System detail; indicates start of record.
Address	AD	M	Message detail; destination, ‘CCA’ for CCAMLR.
Sequence number	SQ	M	Message detail; message serial number in current year.
Type of message	TM	M	Message detail; ‘ENT’ as Entry report.
Radio call sign	RC	M	Vessel registration detail; international radio call sign of the vessel.
Vessel name	NA	O	Vessel registration detail; name of the vessel.
Contracting Party internal reference number	IR	O	Vessel registration detail. Unique Contracting Party vessel number as ISO-3 Flag State code followed by number.
External registration number	XR	O	Vessel registration detail; the side number of the vessel.
Latitude	LA	M ¹	Activity detail; position at time of transmission.
Longitude	LO	M ¹	Activity detail; position at time of transmission.
Date	DA	M	Message detail; date of transmission.
Time	TI	M	Message detail; time of transmission.
End of record	ER	M	System detail; indicates end of the record.

‘EXIT’ report

Data Element	Field Code	Mandatory/ Optional	Remarks
Start record	SR	M	System detail; indicates start of record.
Address	AD	M	Message detail; destination, ‘CCA’ for CCAMLR.
Sequence number	SQ	M	Message detail; message serial number in current year.
Type of message	TM	M	Message detail; ‘EXI’ as Exit report.
Radio call sign	RC	M	Vessel registration detail; international radio call sign of the vessel.
Vessel name	NA	O	Vessel registration detail; name of the vessel.
Contracting Party internal reference number	IR	O	Vessel registration detail. Unique Contracting Party vessel number as ISO-3 Flag State code followed by number.
External registration number	XR	O	Vessel registration detail; the side number of the vessel.
Latitude	LA	M ¹	Activity detail; position at time of transmission.
Longitude	LO	M ¹	Activity detail; position at time of transmission.
Date	DA	M	Message detail; date of transmission.
Time	TI	M	Message detail; time of transmission.
End of record	ER	M	System detail; indicates end of the record.

¹ Optional if a vessel is subject to satellite tracking in accordance with Conservation Measure 10-04.

**PROVISIONS ON SECURE AND CONFIDENTIAL TREATMENT
OF ELECTRONIC REPORTS AND MESSAGES TRANSMITTED
PURSUANT TO CONSERVATION MEASURE 10-04**

1. Field of Application

1.1 The provisions set out below shall apply to all electronic reports and messages transmitted and received pursuant to Conservation Measure 10-04, hereinafter referred to as 'reports and messages'.

2. General Provisions

2.1 The CCAMLR Secretariat and the appropriate authorities of Contracting Parties transmitting and receiving reports and messages shall take all necessary measures to comply with the security and confidentiality provisions set out in sections 3 and 4.

2.2 The CCAMLR Secretariat shall inform all Contracting Parties of the measures taken in the Secretariat to comply with these security and confidentiality provisions.

2.3 The CCAMLR Secretariat shall take all the necessary steps to ensure that the requirements pertaining to the deletion of reports and messages handled by the Secretariat are complied with.

2.4 Each Contracting Party shall guarantee the CCAMLR Secretariat the right to obtain as appropriate, the rectification of reports and messages or the erasure of reports and messages, the processing of which does not comply with the provisions of Conservation Measure 10-04.

3. Provisions on Confidentiality

3.1 All requests for C-VMS data must be made to the CCAMLR Secretariat in writing.

3.2 Reports and messages shall only be released and used for the purposes stipulated in paragraph 17 of Conservation Measure 10-04.

3.3 Reports and messages released pursuant to paragraph 17 of Conservation Measure 10-04 shall provide details of: name of vessel, date and time of position report, latitude and longitude position at time of report, speed of vessel.

3.4 Each inspecting Contracting Party shall make available reports and messages only to their means of inspection and their inspectors assigned to the CCAMLR System of Inspection. Reports and messages shall be transmitted to the inspection platforms and inspectors no more than 48 hours prior to entry into the CCAMLR Statistical Area where surveillance is to be conducted by the Contracting Party. Contracting Parties must ensure that reports and messages are kept confidential by all inspectors assigned to the CCAMLR System of Inspection.

3.5 The CCAMLR Secretariat shall delete all the original reports and messages referred to in section 1 from the database at the CCAMLR Secretariat by the end of the first calendar month following the third year in which the reports and messages have originated. Thereafter the information related to the catch and movement of the fishing vessels shall only be retained by the CCAMLR Secretariat, after measures have been taken to ensure that the identity of the individual vessels can no longer be established.

3.6 The CCAMLR Secretariat shall not make available reports and messages to parties other than those specified explicitly in paragraph 17 of Conservation Measure 10-04 or where the Flag State gives the CCAMLR Secretariat written permission to release specified VMS data to a third party for the purpose of validating *Dissostichus* Catch Documents.

3.7 Inspecting Contracting Parties may retain and store reports and messages transmitted by the Secretariat until 24 hours after the vessels to which the reports and messages pertain have departed from the CCAMLR Statistical Area without re-entry. Departure is deemed to have been effected six hours after the transmission of the intention to exit from the CCAMLR Statistical Area.

4. Provisions on Security

4.1 Overview

4.1.1 Inspecting Contracting Parties and the CCAMLR Secretariat shall ensure the secure treatment of reports and messages in their respective electronic data processing facilities, in particular where the processing involves transmission over a network. Contracting Parties and the CCAMLR Secretariat must implement appropriate technical and organisational measures to protect reports and messages against accidental or unlawful destruction or accidental loss, alteration, unauthorised disclosure or access, and against all inappropriate forms of processing.

4.1.2 The following security issues must be addressed from the outset:

- System access control:
The system has to withstand a break-in attempt from unauthorised persons.
- Authenticity and data access control:
The system has to be able to limit the access of authorised parties to a predefined set of data only.
- Communication security:
It shall be guaranteed that reports and messages are securely communicated.
- Data security:
It has to be guaranteed that all reports and messages that enter the system are securely stored for the required time and that they will not be tampered with.
- Security procedures:
Security procedures shall be designed addressing access to the system (both hardware and software), system administration and maintenance, backup and general usage of the system.

4.1.3 Having regard to the state of the art and the cost of their implementation, such measures shall ensure a level of security appropriate to the risks represented by the processing of the reports and the messages.

4.1.4 Security measures are described in more detail in the following paragraphs.

4.2 System Access Control

4.2.1 The following features are the mandatory requirements for the CCAMLR C-VMS located at the CCAMLR Data Centre:

- A stringent password and authentication system: each user of the system is assigned a unique user identification and associated password. Each time the user logs on to the system he/she has to provide the correct password. Even when successfully logged on the user only has access to those and only those functions and data that he/she is configured to have access to. Only a privileged user has access to all the data.
- Physical access to the computer system is controlled.
- Auditing: selective recording of events for analysis and detection of security breaches.
- Time-based access control: access to the system can be specified in terms of times-of-day and days-of-week that each user is allowed to log on to the system.
- Terminal access control: specifying for each workstation which users are allowed to access.

4.3 Authenticity and Data Access Security

4.3.1 Communication between the Contracting Parties and the CCAMLR Secretariat for the purpose of Conservation Measure 10-04 shall use the X.25 or encrypted internet protocols.

4.4 Data Security

4.4.1 Access limitation to the data shall be secured via a flexible user identification and password mechanism. Each user shall be given access only to the data necessary for his task.

4.5 Security Procedures

4.5.1 Each Contracting Party and the CCAMLR Secretariat shall nominate a security system administrator. The security system administrator shall review the log files generated by the software, properly maintain the system security, restrict access to the system as deemed needed and act as a liaison with the Secretariat in order to solve security matters.