

6.2 Annex B

Technical specifications for remote electronic monitoring (“REM”) systems for pelagic boats specified pursuant to regulation 16(1) of the Sea Fisheries (Remote Electronic Monitoring and Regulation of Scallop Fishing) (Scotland) Regulations 2024

1. In exercise of Scottish Ministers’ powers at regulation 16(1) of the Sea Fisheries (Remote Electronic Monitoring and Regulation of Scallop Fishing) (Scotland) Regulations 2024 (SSI 2024/No.165) (“the Regulations”) and for the purposes of Part 3 of the Regulations, the technical specifications for REM systems for relevant pelagic boats are that an REM system must include:—

- (1) a control box or storage box which is capable of—
 - (a) housing and storing software; and
 - (b) housing and storing, until the time at which automatic transmission is successfully completed in accordance with paragraphs 1.(8) and 1.(9), recorded data consisting of—
 - (i) video recordings from digital cameras;
 - (ii) recorded data from winch sensors; and
 - (iii) recorded data from a vessel positioning system device;
- (2) a sufficient number of digital cameras positioned so as to comply with the requirements of paragraph 2, each of which—
 - (a) automatically begins recording video at the time of the first activation of a winch sensor during the first relevant pelagic fishing operation of the fishing trip;
 - (b) is capable of recording video at a minimum rate of 30 frames per second;
 - (c) produces video recordings with a minimum of 2 mega pixels per frame, with a minimum horizontal resolution of 1920 pixels per frame and a minimum vertical resolution of 1080 pixels per frame;
 - (d) has infra-red capability which is automatically enabled and is therefore capable of recording video in low light conditions; and
 - (e) has a minimum IP Rating of IP66;
- (3) winch sensors which are—
 - (a) connected to the winches by which fishing gear is deployed;
 - (b) activated when the winches are operated; and
 - (c) capable of detecting the operation of the winches to which they are connected for the duration of the movement of the winches.
- (4) a vessel positioning system device which automatically stores in the control box or storage box, at intervals of at least once every 10 seconds, the following information:—
 - (a) the pelagic boat’s unique identifier;

- (b) the most recent geographical position of the pelagic boat using co-ordinates of latitude and longitude on the World Geodetic System 1984 Reference System (WGS 84)⁽⁷⁾ and with a position error of less than 10 metres;
 - (c) the date and time of the fixing of each geographical position of the pelagic boat expressed in Co-ordinated Universal Time;
 - (d) the speed and course of the pelagic boat at that time; and
 - (e) the estimated accuracy of the fixing of each geographical position of the pelagic boat;
- (5) a means of enabling the master to view the recorded data in real time on board the pelagic boat on which the system is installed, for example, a monitor within the wheelhouse;
- (6) a means of allowing a British sea-fishery officer, from a position inside the wheelhouse of the pelagic boat, to extract data held in the control box or storage box;
- (7) the capability of enabling remote access to the REM system;
- (8) a means of automatically transmitting the recorded winch sensor data and vessel positioning system device data from the REM system to any data storage system owned, operated or hosted by or on behalf of the manufacturer of the REM system—
- (a) at least once in a 24 hour period; and
 - (b) in a manner which ensures that the recorded data—
 - (i) cannot be altered in any way after the data are recorded by the REM system; and
 - (ii) are transmitted in a secure manner;
- (9) subject to regulation 16(2) of the Regulations, a means of automatically transmitting the video recordings made by the digital cameras from the REM system to any data storage system owned, operated or hosted by or on behalf of the manufacturer of the REM system—
- (a) no later than the automatic data transmission deadline (see section 3 below); and
 - (b) in a manner which ensures that the recorded data—
 - (i) cannot be altered in any way after the data are recorded by the REM system; and
 - (ii) are transmitted in a secure manner; and
- (10) a means of enabling the Scottish Ministers at any time, without cost to the Scottish Ministers, to—
- (a) access the recorded data on the data storage system;

⁽⁷⁾ The World Geodetic System 1984 Reference System (WGS 84) is maintained by the United States National Geospatial-Intelligence Agency. This Reference System refers to the 1984 revision of the World Geodetic System and subsequent modifications. The authoritative definition of the World Geodetic System 1984 Reference System (WGS 84) is contained in the United States National Geospatial-Intelligence Agency Standardisation Document NGA.STND.0036_1.0.0_WGS84, Version 1.0.0 of 8th July 2014 entitled "Department of Defense World Geodetic System 1984: Its Definition and Relationships with Local Geodetic Systems" (<https://nsgreg.nga.mil/doc/view?i=4085>).

- (b) extract the recorded data from the data storage system; and
- (c) review the recorded data using the companion software to the REM system.

2. For the purposes of paragraph 1.(2), the requirements in relation to digital cameras are that the REM system must include—

(1) digital cameras located at each of the port side, the starboard side and the stern of the pelagic boat—

- (a) whose combined field of view captures all fishing activity, including the deployment and retrieval of any nets and any use of the pump; and
- (b) with a minimum of 1 digital camera located at each of the port side, the starboard side and the stern;

(2) digital cameras located in the area of the pelagic boat containing the separator grid—

- (a) whose combined field of view captures the passing of fish over the separator grid; and
- (b) with a minimum of 1 digital camera;

(3) where freezing or other processing of fish is carried out on board a pelagic boat, digital cameras—

- (a) whose combined field of view captures the journey of the catch from the buffer tanks, through the grading stage to any freezing activity; and
- (b) with a minimum of 1 digital camera;

(4) digital cameras located in the pump control room—

- (a) capturing continuous information of tank capacities and usage on the display screens for any chilled or refrigerated sea water system; unless this information is fed to the REM system via a mirrored feed of the display screen or direct integration of sensors with the data source; and
- (b) with a minimum of 1 digital camera;

(5) digital cameras—

- (a) located in the area of the pelagic boat which is designated for the purpose of discarding any marine animals brought on board the pelagic boat as a result of any fishing activity, in any information and documentation submitted to the Scottish Ministers in accordance with regulation 14 or regulation 19 of the Regulations;
- (b) whose combined field of view captures all activity in that designated area relating to the discarding of such marine animals; and
- (c) with a minimum of 1 digital camera;

(6) digital cameras—

- (a) positioned so that, where catch is pumped on board the pelagic boat from a fishing net, their combined field of view captures the cod-end of the fishing net so that any in-water releases of any marine animals, whether living or dead, which occur from the time that the catch begins to be pumped on board until the time at which the fishing net is empty, are visible in that combined field of view;

- (b) with a minimum of 1 digital camera; and
- (c) the capability to introduce additional cameras to any area of the pelagic boat not currently covered in these technical specifications.

3. For the purposes of these technical specifications, the following definitions apply:-

“automatic data transmission deadline” for video recordings means—

- (a) for a Scottish pelagic boat, whichever is the earlier of—
 - (i) the end of the period of 5 working days beginning with the time at which a fishing trip ends in accordance with regulation 13(a) of the Regulations, or
 - (ii) the time immediately before the Scottish pelagic boat starts the first fishing trip following the fishing trip in relation to which the video recordings were recorded,
- (b) For a non-Scottish registered pelagic boat which has undertaken a fishing trip which ended at the time that the pelagic boat arrived in a port in Scotland in accordance with regulation 13(b)(ii)(aa) of the Regulations, whichever is the earlier of—
 - (i) the end of the period of 5 working days beginning with the time at which the pelagic boat arrived at the port in Scotland, or
 - (ii) the time immediately before the pelagic boat starts the first fishing trip following the fishing trip in relation to which the video recordings were recorded,
- (c) For a non-Scottish registered pelagic boat which has undertaken a fishing trip which ended at the moment when the pelagic boat left the Scottish zone in accordance with regulation 13(b)(ii)(bb) of the Regulations, whichever is the earlier of—
 - (i) the end of the period of 5 working days beginning with the time at which the pelagic boat first arrived at a port after leaving the Scottish zone, or
 - (ii) the time immediately before the pelagic boat starts the first fishing trip following the fishing trip in relation to which the video recordings were recorded;

“British sea-fishery officer” means any person who by virtue of section 7 of the Sea Fisheries Act 1968 is a British sea-fishery officer;

“buffer tank” means any tank on board a pelagic boat which is used to hold fish prior to processing or discharging of catch;

“cod-end” means the rearmost part of a trawl net, of net of the same mesh size, having either a cylindrical or a tapering shape, whose transversal cross-sections are nearly a circle of the same or decreasing radius respectively;

“companion software to the REM system” means any software provided by or on behalf of the manufacturer of an REM system which is capable of synchronising the winch sensor, vessel positioning system device and video recording data outputs from the REM system along a single timeline and of displaying the data in an integrated interface, including in the form of graphs, maps and videos;

“grading” means separating and sorting fish according to size or weight;

“IP rating” means ingress protection rating as defined in international standard IEC 60529, setting out degrees of protection by enclosures against harmful ingress of water⁽⁸⁾;

“separator grid” means a mechanism used to remove excess sea water from fish before they are stored in a tank forming part of a chilled sea water system or refrigerated sea water system.

[31 January 2025]

⁽⁸⁾ Edition 2.2: International Electrotechnical Commission, 2013.