

XII. ELECTRONIC MONITORING (VIDEO CAMERA) SYSTEM REQUIREMENTS²²²

SCOPE OF ELECTRONIC MONITORING (EM) REQUIREMENT

As of June 1, 2015, a vessel with an Atlantic Tunas Longline permit may not depart on a fishing trip with pelagic longline gear onboard unless it has an installed, operable, and certified electronic monitoring (EM) system. An EM system consists of video cameras and related recording and sensing equipment (as explained under “Equipment” below).

- The requirement for an EM system includes any U.S. flagged vessel with an Atlantic Tunas Longline category permit with pelagic longline gear onboard, regardless of where it is fishing.
- A vessel with an Atlantic Tunas Longline category permit that does not have pelagic longline gear onboard is not required to install an electronic monitoring system.

INSTALLATION OF EM SYSTEMS

- Permit owner/operators (or their representatives) that intend to fish using an Atlantic Tunas Longline permit using pelagic longline gear must coordinate with NMFS or NMFS-approved contractors to install and test EM equipment.
- Permit owner/operators are required to make their vessel accessible to NMFS or NMFS-approved contractors to allow installation and testing, and certification of the EM equipment and training in the use of EM equipment. Permit owner/operators may be required to steam to a designated port within their geographic region to enable such installation.
- Vessel owners should call the NMFS-approved contractor, Saltwater Inc., at 1-800-770-3241 to schedule the date of installation and training at least one week in advance of the desired date of installation.
- Prior to the scheduled date of installation, vessel operators must purchase a fitting for the pressure side of the line of the drum hydraulic system. The fitting may be either “T” or inline, with a female ¼ inch threaded “National Pipe Thread” (NPT) port, to enable connection to the pressure transducer (a component of the EM system).
- NMFS may require vessel owners to make minor modifications to vessel equipment to facilitate installation and operation of the EM system. Such modifications might include, but are not limited to, installation of a fitting for the pressure side of the line of the drum hydraulic system, a power supply for the EM system and power switches/connections, additional lighting, or a mounting structure(s) for installation of the camera(s).
- The vessel owner and/or operator should provide information to the EM technician about the power supply and other vessel infrastructure, and other information as needed. A vessel assessment form is available from Saltwater Inc. at 1-800-770-3241 that includes all the information needed.
- Vessel operators need to be present during the entire day of installation to assist with camera placement; hydraulic fitting, skipper education, and certification.

FUNDING FOR INSTALLATION

If funds are available, owners of pelagic longline vessels may receive funding and/ or reimbursement for the some or all of the costs associated with installation of EM systems.

CERTIFICATION OF EM SYSTEM AND VESSEL MONITORING PLANS

- Unless authorized by NMFS, vessels may not depart on a fishing trip with pelagic longline gear onboard without a valid Certificate of Installation and Vessel Monitoring Plan on board.

- The NMFS-approved contractors will develop a written Vessel Monitoring Plan to document the standardized procedures relating to EM and facilitate communication of procedures to the vessel crew and to improve safety. The Vessel Monitoring Plan serves as a reference and instructional document on the vessel, and includes information on catch handling procedures that will result in capturing the required images; vessel-specific details on the installed equipment; and a log of any modifications made to the system and service and repair history.

RECORDING AND SUBMITTING DATA

- At the start of each trip, ensure the power is on, and check that it remains powered on through the duration of the trip. Cameras must be cleaned routinely and the EM components must not be tampered with.
- The permit owner/operator is responsible to ensure that all fish are handled in a safe manner that enables the electronic monitoring system to record such fish, and must identify a crew person or employee responsible for ensuring that all handling, retention, and sorting of bluefin tuna occurs in accordance with the regulations.
- The permit owner/operator must submit the electronic monitoring hard drives, according to instructions provided by NMFS or NMFS-approved contractors, within 48 hours of the completion of the trip.

EQUIPMENT

As explained in more detail below, vessels must, in accordance with instructions provided by NMFS or NMFS-approved contractors, install and maintain the following equipment, as components of an electronic monitoring system:

- two to four video cameras
- a recording device
- video monitor
- hydraulic pressure transducer
- winch drum rotation sensor
- system control box
- GPS receiver, and
- related support equipment needed to achieve the objectives (e.g., power supply, camera mounts, and lighting).
- Vessel owner/operators must allow inspection of the equipment by an authorized officer, or NMFS' designee.
- The EM system must include software to enable a test function so that the vessel operator may test the status of the system (i.e., whether it is fully functional) prior to each trip, and record the outcome of the test. A vessel operator may not depart on a pelagic longline trip unless the pre-trip test indicates that the system is fully functioning (unless authorized by NMFS).
- A fully functioning EM system must have cameras installed that provide a view of the area where the longline gear is retrieved and catch is removed from the hook (prior to placing in the hold or discarding boatside) and a requirement that the system be connected to the mechanical hauling device so that recording is initiated by gear retrieval.

Video Cameras:

- Video data are produced by digital IP (Internet protocol) video cameras at a resolution of no less than 720p (1280x720).
- The individual vessel systems must include no less than two cameras:
 - at least one camera to record clear, unobstructed, close-up images of the deck at the haul back station for species identification/length estimation, and

- at least one camera to record activity along the side of the vessel at the water line of the haul back station to document animals that are caught and discarded but not brought aboard, as well as the disposition of that catch (released alive/dead).
- The frame rates of the footage will need to allow for ease of viewing. The cameras are not required to record audio.

GPS Receiver:

A GPS receiver is required to begin producing output at a rate of 1 Hz from the moment it receives power. This output, which includes location coordinates, velocity, and heading data, is directly logged by the control box.

Hydraulic & Drum Rotation Sensors:

- Hydraulic sensors are required to continuously monitor when the hydraulic pressure exceeds a specified threshold, thereby triggering a potential gear hauling state which would result in the video data being captured for later review.
- Drum rotation sensors must be used in a similar manner as the hydraulic pressure sensors. If the drum starts rotating, the system must trigger the video cameras to record.
- The combination of these two sensors must provide a mechanism to ensure that fishing activity, as instructed by NMFS, is captured on video.

EM Control Box & Monitor:

- The system must include a ‘control box’ to receive and store the raw data provided by the sensors. Removable hard drives with the capacity to store data must be maintained, as instructed by NMFS (e.g., adequate to store the data associated with a trip lasting approximately 30 days).
- A wheelhouse monitor must provide a graphical user interface for harvesters to monitor the state and performance of the control box and should include information such as: Current date and time synced via GPS, GPS coordinates, operational status of the external sensors (via red/green color-coding), presence of a data disk, percentage used of the data disk, and an estimate of recording time left, video recording status, etc.

Hydraulics:

- Vessels are required to have a hydraulic pressure transducer installed inline on the pressure side of the line drum hydraulic system.
- Vessels must install a hydraulic tee fitting with a ¼” National Pipe Thread (NPT) port prior to a scheduled EM installation so technicians can apply the transducer.

Power:

- Electronic monitoring systems are capable of being powered by both alternating current (AC) and direct current (DC) power. However, they are most efficiently and reliably powered through vessel DC circuits.
- If the EM system is to be powered by a DC circuit, free space on a 12-volt bus bar must be provided in the wheelhouse.
- If the EM systems are to be powered by AC circuits, vessels must provide an Uninterrupted Power Supply (UPS) in the wheelhouse.

Camera Mounts:

- In order to capture imagery of activity along the side of the vessel at the water line, cameras must be mounted outboard of the vessel rail.

- If determined during the vessel assessment that there are not suitable mounting structures onboard, vessels must provide a mount that allows a camera to be positioned to view the waterline outboard of the vessel rail.
- This mount must be fabricated prior to the scheduled install and made available at the time of install.

Lighting:

- Vessels must provide sufficient lighting for cameras to capture imagery on deck at the haul back station and along the vessel rail at the waterline.
- Vessels must clearly illuminate individual fish.

For technical questions regarding electronic monitoring systems, please call the NMFS-approved contractor, Saltwater Inc., at 1-800-770-3241.