

Draft Electronic Monitoring Program Service Plan Guidelines

As part of an application for an EM (EM) service provider permit and endorsement, a service provider must develop and submit an EM Service Plan (EMSP) that describes how the EM service provider will provide EM services to the fleet. NMFS will review the EM Service Plan as part of the application package to ensure that it meets all the required elements and would effectively fulfill the EM service provider responsibilities. This document provides additional information on what NMFS is looking for in an EMSP and describes best practices and suggested language that could be used to satisfy the required components. Excerpts of regulations cited are provided in appendices for convenience.

Contact the Groundfish Permits Branch with questions and assistance in completing the EM Service Plan and provider permit application: (206)526-4353.

EM Service Plan Contents

The EM service plan should include the following sections:

- A. EM service provider information – This section should include contact information for the EM service provider(s) for NMFS and the Pacific States Marine Fisheries Commission (PSMFC) to use during the year.
- B. Program management – This should describes the service provider’s plans for hiring and training program staff, communicating with NMFS, PSMFC, and vessel representatives, and delivering and managing field services.
- C. Hard drive management – This section describes the service provider’s procedures for tracking and managing hard drives to maintain the integrity and confidentiality of EM data.
- D. EM system and software – This section contains detailed information about the EM system and software that the provider is proposing to deploy to allow NMFS to evaluate them.

A. EM Service Provider Information

1. Provide the name, address, phone number, and email address of the EM service provider.
2. Provide contact information for a primary point of contact for program operations inseason. This should be the person, such as the project manager, that NMFS and PSMFC would call with questions regarding installations, vessel monitoring plans, service events, technical issues, and other program logistics during the year.

B. Program Management

1. Describe procedures for hiring and training of competent program staff to carryout EM field services.
 - a. Describe minimum qualifications for EM technicians and other staff that may handle hard drives and EM data.
 - b. Describe or provide terms and conditions of employment.
 - c. Detail EM technician recruitment/hiring procedures including provider's interview process, review of educational background, background checks, physical/medical condition, CPR and first aid certification, citizenship.
 - d. Describe training program for staff in providing EM field services.
2. Describe provider's procedures for tracking performance and responding to identified poor performance by an EM technician or other staff that handle hard drives and EM data.
3. Describe provider's procedures for tracking, reporting to NMFS, and responding to identified harassment of EM provider staff.
4. Describe what support services are provided to the EM technicians deployed to a fishing community (i.e.; list of rentals, motels, laundry facilities).
5. Provide a detailed description of provider deployment procedures to a vessel.
6. Describe providers' interactions with vessel owners and NMFS to solicit feedback on EM technician performance (i.e., post visit check-in) and actions taken by a provider when performance issues involving the EM technician are identified.
7. Describe provider's process for tracking EM technician pay data and the system to record overtime, benefits, etc.
8. Describe procedures for communicating with individual vessel operators and NMFS to coordinate field services, provide technical support and other assistance, and to communicate feedback on vessel operations.
9. Describe the plan for provision of services including service locations, response timelines, equipment inventories, and procedures for installations, service visits, repairs, technical support, and other program services required of an EM service provider (*see* 50 CFR 660.603(k)).
10. Describe the company's procedures and policies related to data storage, access, handling, and release to maintain the integrity and confidentiality of the EM Program data.

C. Hard Drive Management

1. Describe procedures for tracking hard drives and datasets throughout their use cycle. This would apply to all providers that may come into possession of hard drives containing EM data either through providing hard drive retrieval services or technical support to vessel owners and NMFS (e.g., recovering corrupted data).
 - a. An inventory management system should be used to track individual hard drives using a hard drive ID number or other identification system. The provider should be able to determine whether a hard drive is deployed, in transit, or at the provider and at what stage.

- b. The inventory management system should log the names of any employees that come into possession of or access the hard drive.
 - c. The system should also log tracking numbers from shipping companies that were used, and dates of mailing and receipt.
2. Describe procedures to ensure the integrity and security of hard drives in transit (e.g., use of sealed tamper evident envelopes for hard drives).
3. Describe procedures to remove confidential data from hard drives before returning them to the field.

D. EM System and Software

1. Describe the identifying characteristics of the EM system to be deployed and the video review software to be used in the fishery, including but not limited to: manufacturer, brand name, model name, model number, software version and date, firmware version number and date, hardware version number and date, monitor/terminal number and date, pressure sensor model number and date, drum rotation sensor model number and date, and GPS model number and date.
2. Describe the EM system and software specifications, including a narrative statement describing how the EM system and associated equipment meets the performance standards at § 660.604(j).
3. EM video review software specifications, including a narrative statement describing how the software is sufficient to provide NMFS with the best available information to determine individual accountability for catch, including discards, of IFQ species and compliance with requirements of the Shorebased IFQ Program (§ 660.140) and MS Coop Program (§ 660.150).
4. NMFS may require litigation support if the EM system/data is being admitted as evidence in a court of law. All technical aspects of a NMFS-approved EM system are subject to being admitted as evidence in a court of law, if needed. The reliability of all technologies utilized in the EM system may be analyzed in court for, inter alia, testing procedures, error rates, peer review, technical processes and general industry acceptance. If the technologies have previously been subject to such scrutiny in a court of law, provide a brief summary of the litigation and any court findings on the reliability of the technology.

Appendix I EM Service Provider Services

Excerpt from 660.603(k)-(l) and (n)

(k) *Field and technical support services.* The EM service provider must provide and manage EM systems, installation, maintenance and technical support, as described below, according to a NMFS-accepted EM Service Plan and such that the EM Program is sufficient to provide NMFS with the best scientific information available to determine individual accountability for catch, including discards, of IFQ species and compliance with requirements of the Shorebased IFQ Program (§ 660.140) and MS Coop Program (§ 660.150).

(1) At the time of installation, the EM service provider must:

(i) Install an EM system that meets the performance standards under § 660.604(j);

(ii) Ensure that the EM system is set up, wires run, system powered, and tested with the vessel in operation;

(iii) Brief the vessel operator on system operation, maintenance, and procedures to follow for technical support or field service;

(iv) Provide necessary information for the vessel operator to complete the VMP, such as images and diagrams of camera views and vessel layout, specific information about system settings, and designated discard control points; and,

(v) Complete an EM System Certification Form for the vessel owner.

(2) The EM service provider must communicate with vessel operators and NMFS to coordinate service needs, resolve specific program issues, and provide feedback on program operations.

(3) The EM service provider must provide maintenance and support services, including maintaining an EM equipment inventory, such that all deployed EM systems perform according to the performance standards at § 660.604(j) and that field service events are scheduled and carried out with minimal delays or disruptions to fishing activities.

(4) The EM service provider must provide technical assistance to vessels, upon request, in EM system operation, the diagnosis of the cause of malfunctions, and assistance in resolving any malfunctions. Technical support must be available 24-hours per day, seven days per week, and year-round.

(5) The EM service provider must submit to NMFS reports of requests for technical assistance from vessels, including when the call or visit was made, the nature of the issue, and how it was resolved.

(l) *Program and technical support for NMFS.* The EM service provider must provide the following to NMFS or its agent, upon request, free of charge unless otherwise specified by contract.

(1) Assistance in EM system operation, diagnosing and resolving technical issues, and recovering corrupted or lost data.

(2) Support for inquiries related to data summaries, analyses, reports, and operational issues with vessel representatives

(3) Litigation support to NMFS if the EM system/data is being admitted as evidence in a court of law. All technical aspects of a NMFS-approved EM system are subject to being admitted as evidence in a court of law, if needed. The reliability of all technologies utilized in

the EM system may be analyzed in court for, inter alia, testing procedures, error rates, peer review, technical processes and general industry acceptance. The EM service provider must, as a requirement of the provider's permit, provide technical and expert support for litigation to substantiate the EM system capabilities or other relevant information to investigate or establish potential violations of this chapter or other applicable law, as needed, including:

(i) If the technologies have previously been subject to such scrutiny in a court of law, the EM service provider must provide NMFS with a brief summary of the litigation and any court findings on the reliability of the technology.

(ii) Sign a non-disclosure agreement limiting the release of certain information that might compromise the effectiveness of the EM system operations.

(4) Supply all software necessary for accessing, viewing, and interpreting the data generated by the EM system, including maintenance releases to correct errors in the software or enhance the functionality of the software.

(5) Notify NMFS within 24 hours after the EM service provider becomes aware of the following:

(i) Any information regarding possible harassment of EM provider staff;

(ii) Any information regarding possible EM system tampering;

(iii) Any information regarding any action prohibited under §§ 660.12(f) or 660.602(a)(13); and,

(iv) Any information, allegations or reports regarding EM service provider staff conflicts of interest.

(6) Notify NMFS of any change of management or contact information or a change to insurance coverage.

(7) If requested, provide NMFS with the following:

(i) A copy of any contract between the service provider and entities requiring EM services;

(ii) Proof of adequate insurance as defined in paragraph (i);

(iii) Copies of any information developed and used by the EM service provider and distributed to vessels, including, but not limited to, informational pamphlets, payment notifications, and description of EM service provider duties; and,

(iv) Access to and submit to NMFS raw EM imagery, sensor, GPS, or other data, processed data, copies of EM data, meta data, and other associated records.

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(n) *Data integrity and security.* The EM service provider must ensure the integrity and security of EM data and other records specified in this section.

(1) The EM service provider must not handle or transport hard drives containing EM data except to carry out EM services required by this section in accordance with a NMFS-accepted EM Service Plan.

(2) The EM service provider must not write to or modify any EM hard drive that contains raw EM data before it has been copied and catalogued.

(3) Consistent with the Magnuson-Stevens Act, an EM service provider and its employees must not disclose data and observations made on board a vessel to any person except the owner or operator of the observed vessel, an authorized state or an OLE agent or officer, NMFS or its designated agent.

Appendix II EM System Performance Standards

Excerpt from 660.604(k)

(j) *EM System Performance Standards*. The specifications (e.g., image resolution, frame rate, user interface) and configuration of an EM system and associated equipment (e.g., number and placement of cameras, lighting) used to meet the requirements of this section must be sufficient to:

(1) Allow easy and complete viewing, identification, and quantification, of catch items discarded at sea, including during low light conditions;

(2) Continuously record vessel location (latitude/longitude coordinates), velocity, course, and sensor data (i.e, hydraulic and winch activity);

(3) Allow the identification of the time, date, and location of a haul/set or discard event;

(4) Record and store image data from all hauls/sets and the duration that fish are onboard the vessel until offloading begins;

(5) Continuously record and store raw sensor data (i.e., GPS and gear sensors) for the entire fishing trip;

(6) Prevent radio frequency interference (RFI) with vessel monitoring systems (VMS) and other equipment;

(7) Allow the vessel operator to test and monitor the functionality of the EM system prior to and during the fishing trip to ensure it is fully functional;

(8) Prevent tampering or, if tampering does occur, show evidence of tampering; and,

(9) Provide image and sensor data in a format that enables their integration for analysis.