2020 West Coast Groundfish Electronic Monitoring Program

Service Plan Guidelines

Section 1: Introduction

Section 1.1 West Coast Groundfish Electronic Monitoring Program

In 2011, NOAA Fisheries (NMFS) implemented a catch share program for the West Coast Groundfish Trawl Fishery. The Pacific Coast Groundfish Fishery's Trawl Catch Share Program, also called the Trawl Rationalization Program, consists of an Individual Fishing Quota (IFQ) Program for the shorebased trawl fleet and cooperative programs for the at-sea mothership and catcher/processor trawl fleets.

The catch share program divides the amount of catch allocated to the trawl fishery into shares controlled by individual fishermen or groups of fishermen (cooperatives). Under this program, fishermen have more flexibility for harvesting their catch than under the previous management structure.

The Trawl Rationalization Program requires 100 percent monitoring at-sea and dockside in order to ensure accountability for all landings and discards of allocated species. Catcher processors and motherships are required to carry two observers at all times, depending on the length of the vessel, and catcher vessels are required to carry one observer, including while in port until all fish are offloaded. In addition, first receivers, which are processors that are licensed to receive IFQ landings, are required to have catch monitors to monitor 100-percent of IFQ offloads. Vessel owners and first receivers are responsible for obtaining and funding catch share observers and catch monitors as a necessary condition of their participation in the program. Beginning in 2021, electronic monitoring (EM) may be used by catcher vessels an alternative to meet the requirement for 100 percent monitoring at-sea.

Section 2: EM Service Provider Permit

A valid EM service povider permit is required to provide EM services for vessels authorized to use EM systems in the Trawl Rationalization Program. Generally, the responsibilities of an EM service provider are to (see 50 CFR 660.603(a)):

- Operate under a NMFS-accepted EM Service Plan.
- Provide and manage EM systems, field services, and technical assistance to contracted fishing vessels.
- Provide technical and litigation information to NMFS or its agent.
- Provide technical support to contracted fishing vessels 24-hour per day, seven days per week, and year-round.

- Provide EM data processing, reporting, and record retention services to contracted vessels using EM.
- Comply with data integrity and security requirements, including requirements pertaining to hard drives and data files containing EM data.

A provider may meet some requirements of the EM program through a partnership or subcontract with another entity. To apply for an EM service provider permit, a person must submit a complete application to the NMFS West Coast Region Fisheries Permit Office that includes the following information:

- An EM Provider Permit Application Form
- An EM Service Plan

More information about these requirements is provided in the following sections. An applicant may submit an application at any time. If a new EM service provider, or an existing EM service provider seeking to deploy a new EMS or software version, submits an application by June 1, NMFS will issue a new permit by January 1 of the following calendar year for completed applications that address all of the required components. Applications submitted after June 1 will be processed as soon as practicable. NMFS will only process complete applications.

After submitting an application, NMFS may request additional information or revisions from the applicant until NMFS is satisfied that the application is complete. Such information may include but not be limited to:

- Two EM system units loaded with software for a minimum of 90 calendar days for testing and evaluation.
- Thorough documentation for the EM system, including: User manuals, any necessary interfacing software, performance specifications, technical support information, and tamperproof or tamper evident features.
- The results of at-sea trials of the EM system.
- Two copies of video review and analysis software for a minimum of 90 calendar days for testing and evaluation.
- Thorough documentation for the video review and analysis software, including: User manuals, performance specifications, and technical support information.
- Descriptions of database models and analysis procedures for EM data and associated meta data to produce required reports.

The process for review of EM service provider applications is described in more detail in Section 2.3.

Section 2.1 EM Provider Permit Application Form

To be considered for an EM service provider permit and endorsement, the service provider must submit a complete EM Provider Permit Application. This application may be filled out and submitted online at this link. New users will need to create a registered user account in order to access the online application. You will be asked to provide the following information in the online application. Please note that the same information must be included for any partners or subcontractors if the applicant intends to satisfy

any of the EM service provider requirements through a partnership or contractual relationship with another entity.

Section A. Applicant Information

1. Legal Name of Applicant
2. Tax Identification Number (TIN) if business or Date of Birth (DOB) if person
3. State Registered In (if a U.S. business)
4. Business Mailing Address
5. Business Phone Number
6. Business Fax Number (optional)
7. Business Email

Section B. List of Owners, Board Members, Officers, Authorized Agents, and Employees

1. List Names, DOB or TIN, and Role in Applicant Organization for all.

Section C. Supplemental Information

In Section C, Supplemental Information, you will be asked to upload documents containing the following information.

1. Describe the management and structure of the applicant organization. At a minimum, such description should provide the general functional responsibilities of various staff, all office locations and their business addresses, business phone number, fax number and email addresses. Also, if a corporation attach articles of incorporation or if a partnership, attach the partnership agreement.
2. A narrative statement describing prior relevant experience in providing EM services, technical support, or fishery data analysis services, including recruiting, hiring, training, deploying, and managing of individuals in marine work environments and of individuals working with fishery data, in the groundfish fishery or other fisheries of similar scale.
3. An EM Service Plan that describes in detail how the applicant will provide EM services to the fishery 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). EM Program Guidelines containing best practices for EM Service Plans are available on NMFS's website: http://www.westcoast.fisheries.noaa.gov/fisheries/groundfish_catch_shares/electronic_monitoring.html.

In Section C, you will also be asked to agree to provide NMFS the following, if requested:

- Two EM system units loaded with software for a minimum of 90 calendar days for testing and evaluation.
- Thorough documentation for the EM system, including: user manuals, any necessary interfacing software, performance specifications, technical support information, and tamperproof or tamper evident features.

- The results of at-sea trials of the EM system.
- Two copies of video review and analysis software for a minimum of 90 calendar days for testing and evaluation.
- Thorough documentation for the video review and analysis software, including: user manuals, performance specifications, and technical support information.

Section D. Conflict of Interest, Criminal Convictions, Negative Performance Ratings on Federal Contracts, and Decertification

In Section D, you will be asked to attest with respect to conflicts of interest, criminal convictions, negative performance ratings on federal contracts, and decertifications. The statement will read:

"Under penalty of perjury, I either Affirm ***or*** *Do Not Affirm as specified below, that all owners, board members, officers, authorized agents, and employees, are free from the following:*

- *Conflict of interest as described in 50 CFR §660.18(c)(3).*
- *Criminal convictions.*
- *Any previous Federal contract with an unsatisfactory performance rating.*
- *Any previous decertification action while working as an observer provider, catch monitor provider, or EM provider."*

If you cannot affirm any of these statements or are unsure, check "Do Not Affirm" and attach to the application relevant information to enable NMFS to make a decision.

Section E. Certification of Applicant

In Section E, Certification of Applicant, you will be asked to attest to the completeness and accuracy of the application and that the applicant is willing and able to comply with all applicable requirements of the EM Program and to operate under a NMFS-accepted EM Service Plan. The language will read as follows:

"Under penalties of perjury, I hereby declare that I, the undersigned, am authorized to certify this application on behalf of the applicant and completed this form, and the information contained herein is true, correct, and complete to the best of my knowledge and belief. I also certify that the EM service provider is willing and able to comply with all applicable requirements of the EM Program as specified at 50 CFR Part 660 Subpart J and to operate under a NMFS-accepted EM Service Plan."

Section 2.2 EM Service Plan

As part of an application for an EM service provider pemit and endorsement, a service provider must develop and submit an EM Service Plan (EMSP) that describes in detail how the applicant will provide EM services for vessels. NMFS has developed this EM Program Guidelines document to assist EM service providers with developing an EMSP that meets the requirements of the EM Program as laid out in the regulations at §660.603. The Guidelines describe the requirments for EM service providers, the required elements of the EMSP, as well as best practices, recommendations, and other

information that NMFS will use to evaluate proposed EMSPs and to evaluate the performance of EM service providers in meeting the regulations to achive the purpose of the EM Program. Specific requirements and standards for EM data processing, reporting, and other services are contained in the EM Program Manual on NMFS's website. The EMSP need only address the regulations at §660.603; additional best practices and recommendations in this document are only examples of how the EM service provider may meet the requirements. If the provider does not utilize the recommended best practices or procedures, the EM service provider should explain in its EMSP how it would otherwise meet the EM Program requirements. An EM service provider may propose alternative, but equivalent methods to any of the recommendations in this document in their EMSP, and NMFS may consider and approve those methods if they achieve the purpose of the EM program as defined at 50 CFR §660.600(b).

Please include the following sections and information in your EMSP. At the time of initial application or renewal, the EM Program Coordinator and NMFS staff will review your EMSP to ensure that it is complete and addresses all of the required components.

Section A. EM Service Provider Information

1. The EMSP should include the name, address, phone number, and email address of the EM service provider to identify the entity to which the EMSP belongs.
2. The regulations require that the EMSP include "contact information for a primary point of contact for program operations inseason" (see §660.603(b)(1)(vii)(A)). This should be the person, such as the project manager, that NMFS would call with questions regarding installations, vessel monitoring plans, service events, technical issues, data analysis, reports, and other program logistics during the year.

Section B. Program Management

1. The regulations specify that the EMSP describe "procedures for hiring and training of competent program staff to carryout EM field services and data services, including procedures to maintain the skills of EM data processing staff in:
    - Use of data processing software;
    - Species identification;
    - Fate determination and metadata reporting requirements;
    - Data processing procedures;
    - Data tracking; and,
    - Reporting and data upload procedures" (see §660.603(b)(1)(vii)(C).

    The EM service provider can meet this requirement by having and describing in the EMSP:

    - Minimum qualifications for EM technicians, EM data analysts, and other staff that may handle hard drives/EM data, process EM data, or generate reports.

- EM technician and EM data analyst recruitment/hiring procedures including provider's interview process, review of educational background, and background checks.
- A training program for staff in providing EM field and data services, including certification of program staff to work on EM equipment and procedures to maintain the skills of EM data processing staff in:
    - Use of data processing software;
    - Species identification;
    - Fate determination and metadata reporting requirements;
    - Data processing procedures;
    - Data tracking; and,
    - Reporting and data upload procedures.
- Procedures for tracking performance and responding to identified poor performance by an EM technician, EM data analyst, or other staff that handle hard drives/EM data and reports.

If the EM service provider does not have these procedures, the EM service provider should explain how it would otherwise provide field and data services that meet the purpose of the EM program.

2. The regulations require that an EM service provider notify NMFS within 24 hours after the EM service provider becomes aware of any information, allegations, or reports regarding possible harassment of EM provider staff (see §660.603(l)(5)(i)). The EMSP should describe the provider's procedures for tracking, reporting to NMFS, and responding to identified harassment of EM provider staff. More information about what NMFS defines as harassment and how to report it is contained in the EM Program Manual.
3. The regulations require an EM service provider to notify NMFS within 24 hours after the EM service provider becomes aware of any information, allegations, or reports regarding EM service provider staff conflicts of interest (see §660.603(l)(5)(iv)). The EMSP should describe provider's procedures for tracking, reporting to NMFS, and responding to identified EM provider staff conflicts of interest. The regulations define a conflict of interest as "a direct financial interest, other than the provision of observer, catch monitor, EM, or other biological sampling services, in any federal or state managed fisheries, including but not limited to:
    - Any ownership, mortgage holder, or other secured interest in a vessel, first receiver, shorebased or floating stationary processor facility involved in the catching, taking, harvesting or processing of fish;
    - Any business involved with selling supplies or services to any vessel, first receiver, shorebased or floating stationary processing facility; or
    - Any business involved with purchasing raw or processed products from any vessel, first receiver, shorebased or floating stationary processing facilities" (see (see §660.603(h)).

    In addition, "EM service providers and their employees must not solicit or accept, directly or indirectly, any gratuity, gift, favor, entertainment, loan, employment, or anything of monetary value from any person who conducts fishing or fish

processing activities that are regulated by NMFS, or who has interests that may be substantially affected by the performance or nonperformance of the provider's contractual duties. The EM service provider may not employ any person to handle hard drives or EM data from a vessel by which the person was previously employed in the last two years. Provisions of contracts or agreements for remuneration of EM services … do not constitute a conflict of interest" (see §660.603(h)). More information about how to report a conflict of interest to NMFS is in the EM Program Manual.

4. The regulations require that the EM service provider "must ensure the integrity and security of vessels' EM data and other records specified in [§660 Subpart J]. The EM service provider and its employees:
    - Must not handle or transport hard drives or other medium containing EM data except to carry out EM services required by this section in accordance with a NMFS-accepted EM Service Plan.
    - Must not write to or modify any EM hard drive or other medium that contains EM data before it has been copied and catalogued.
    - Must not release a vessel's EM data and other records specified in this section (including documents containing such data and observations or summaries thereof) except to NMFS and authorized officers as provided in §660.603(m)(6), or as authorized by the owner or operator of the vessel" (see §660.603(n)).

In the EMSP, the EM service provider is required to describe its "policies on data access, handling, and release to prevent unauthorized disclosure of EM data and other records specified in this section by the EM provider as required under §660.603(n)" (see §660.603(b)(1)(vii)(G)).

Section C. EM System and Software

1. The regulations require that the EMSP describe the "identifying characteristics of the EMS [(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" (see §660.603(b)(1)(vii)(I)).
2. The EMSP must also 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)" (see §660.603(b)(1)(vii)(J). As stated at §660.604(j), "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:
    a. Allow easy and complete viewing, identification, and quantification, of catch items discarded at sea, including during low light conditions;
    b. Continuously record vessel location (latitude/longitude coordinates), velocity, course, and sensor data (i.e, hydraulic and winch activity);

c. Allow the identification of the time, date, and location of a haul/set or discard event;
d. Record and store image data from all hauls/sets and the duration that fish are onboard the vessel until offloading begins;
e. Continuously record and store raw sensor data (i.e., GPS and gear sensors) for the entire fishing trip;
f. Prevent radio frequency interference (RFI) with vessel monitoring systems (VMS) and other equipment;
g. 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;
h. Prevent tampering or, if tampering does occur, show evidence of tampering; and,
i. Provide image and sensor data in a format that enables their integration for analysis."

NMFS has provided recommended features for EM units in Appendix A.

3. Per the regulations at §660.603(l)(3)(i), "if the technologies have previously been subject to scrutiny in a court of law, provide a brief summary of the litigation and any court findings on the reliability of the technology."

Section D. Field and Technical Support Services

The EM service provider is required to provide various field and technical support services to contracted vessels, described at §660.603(k).

> "(k) *Field and technical support services.* The EM service provider must provide and manage EM systems, installation, maintenance and technical support, as described below and according to a NMFS-accepted EM Service Plan, which is required under §660.603(b)(1)(vii), and as described in the EM Program Manual or other written and oral instructions provided by the EM Program, such that the EM program achieves its purpose as defined at §660.600(b).
>
> (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."

1. The EMSP must 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, as described above.
2. The EMSP must also describe the plan for provision of field and technical 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 as described above.
3. To meet the requirements regarding timely and efficient field services at §660.603(k)(3), NMFS recommends that the EM service provider maintain appropriate inventory levels to service vessels as problems occur (e.g., 10% pool), conduct periodic stock inventories, maintain a list of component suppliers and stock availabilities, order stock as necessary, and monitor shipping/receiving and movements of inventory.

Section E. Data Services

The EM service provider is required to provide various data services, such as review of EM data, reporting of data to NMFS, and storage of EM data and records, for vessels with which it has a contract, as described at §660.603(m).

"(m) *Data services.* For vessels with which it has a contract (see §660.604(k)), the EM service provider must provide and manage EM data processing, reporting, and record retention services, as described below and according to a NMFS-approved EM Service Plan, which is required under §660.603(b)(1)(vii), and as described in the EM Program Manual or other written and oral instructions provided by the EM Program, and such that the EM Program achieves its purpose as defined at §660.600(b).

(1) The EM service provider must process vessels' EM data according to a prescribed coverage level or sampling scheme, as specified by NMFS, and determine an estimate of discards for each trip using standardized estimation

methods specified by NMFS. NMFS will maintain manuals for EM data processing protocols on its website.

(2) The EM service provider must ensure that its data processing staff are fully trained in:

(i) Use of data processing software;

(ii) Species identification;

(iii) Fate determination and metadata reporting requirements;

(iv) Data processing procedures;

(v) Data tracking; and,

(vi) Reporting and data upload procedures.

(3) The EM service provider must track hard drives and EM datasets throughout their cycles, including documenting any access and modifications. EM data must be removed from hard drives or other medium before returning them to the field.

(4) The EM service provider must communicate with vessel operators and NMFS to coordinate data service needs, resolve specific program issues, and provide feedback on program operations. The EM service provider must provide feedback to vessel representatives, field services staff, and NMFS regarding:

(i) Adjustments to system settings;

(ii) Changes to camera positions;

(iii) Advice to vessel personnel on duty of care responsibilities;

(iv) Advice to vessel personnel on catch handling practices; and,

(v) Any other information that would improve the quality and effectiveness of data collection on the vessel.

(5) On behalf of vessels with which it has a contract (see §660.604(k)), the EM service provider must submit to NMFS EM summary reports, including discard estimates, fishing activity information, and meta data (e.g., image quality, reviewer name), and incident reports of compliance issues according to a NMFS-accepted EM Service Plan, which is required under §660.603(b)(1)(vii), and as described in the EM Program Manual or other written and oral instructions provided by the EM Program, such that the EM program achieves its purpose as defined at §660.600(b). If NMFS determines that the information does not meet these standards, NMFS may require the EM service provider to correct and resubmit the datasets and reports.

(6) *Retention of records.* Following an EM trip, the EM service provider must maintain all of a vessel's EM data and other records specified in this section, or used in the preparation of records or reports specified in this section or corrections to these reports, for a period of not less than three years after the date of landing for that trip. EM data and other records must be stored such that

the integrity and security of the records is maintained for the duration of the retention period. The EM service provider must produce EM data and other records immediately upon request by NMFS or an authorized officer."

1. The EMSP must describe "EM video review software specifications, including a narrative statement describing how the software meets the EM Program Guidelines and will provide NMFS with data to achieve the purpose of the EM Program as defined at §660.600(b)" (see §660.603(b)(1)(vii)(K)). As described above, the EM service provider must provide NMFS with EM summary reports, including discard estimates, fishing activity information, and meta data (e.g., image quality, reviewer name) and incident reports of compliance issues, as described in the EM Program Manual. The EMSP should describe how video review software and the provider's protocols are sufficient to process EM data to provide these reports to NMFS.
2. The EMSP must also describe "procedures for tracking hard drives and/or data files throughout their use cycle, including procedures to ensure the integrity and security of hard drives or data files in transit, and for removing EM data from hard drives or other medium before returning them to the field" (see §660.603(b)(1)(vii)(D)).
    a. Note that this requirement applies to all providers that may come into possession of hard drives or data files containing EM data, either through providing data services or field services.
    b. NMFS recommends an inventory management system to track individual hard drives/data files using a unique ID number or other identification system. The provider should be able to determine whether a hard drive/data file is deployed, in transit, or at the provider and at what stage in the use cycle. The inventory management system should log the names of any employees that come into possession of or accessed the hard drive/data files. The system should also log tracking numbers from shipping companies that were used, and dates of mailing and receipt.
    c. Sealed tamper evident envelopes for hard drives and/or end-to-end encryption of data files may be used to protect EM data in transit.
3. The EMSP must describe "procedures for data processing, including tracking EM datasets throughout their processing cycle and documenting any access and modifications" (see §660.603(b)(1)(vii)(E)).
4. The EMSP must describe procedures for communicating with individual vessel operators and NMFS to coordinate data services, resolve specific program issues, and provide feedback on program operations, as specified at §660.603(m)(4), regarding:
    a. Adjustments to system settings;
    b. Changes to camera positions;
    c. Advice to vessel personnel on duty of care responsibilities;
    d. Advice to vessel personnel on catch handling practices; and,
    e. Any other information that would improve the quality and effectiveness of data collection on the vessel.
5. The EMSP must describe procedures for processing EM data from contracted vessels and submitting to NMFS EM summary reports, including discard estimates, fishing activity information, and meta data (e.g., image quality, reviewer name), and incident

reports of compliance issues, according to the EM Program Manual (see also §660.603(m)(5)).

6. The EMSP must describe "procedures for correction and resubmission of EM summary data reports and other reports that NMFS has determined are not of sufficient quality to meet the purpose of the EM program, as described at §660.603(m)(5), and to ensure that future reports are sufficient for use by NMFS" (see §660.603(b)(1)(vii)(F)).
7. The EMSP must describe how EM data and other records will be stored as required (see §660.603(m)(6) and (n)). The EM service provider can meet this requirement by doing the following. If the EM service provider does not have these procedures, the provider should explain how it would otherwise meet the record retention and data integrity and security requirements.
    a. The original EM data files should be copied, catalogued, and stored unmodified, immediately upon receipt from the vessel. EM staff should not write to or modify any EM hard drive or other medium that contains EM data before it has been copied and catalogued.
    b. The original data files or an exact copy should be stored, unmodified. Data processing, annotations, and any other modifications should be done on copies.
    c. All EM data and other records should be stored using redundancies and back-ups to guard against failure or physical destruction.
    d. EM data may be stored locally on hard drives, local servers, or using cloud storage services.
    e. NMFS expects most requests for access or submission of EM data and other records associated with a specific EM trip will be made during the year in which that trip was taken (January 1 – December 31) and until data is finalized for that year (on or about March 1 of the following year). EM data files may be transmitted to NMFS via a secure website from which NMFS and authorized officers can download the data files, or by mailing a hard drive, CD, or other medium containing the data files to the West Coast Groundfish Observer Program, Northwest Fisheries Science Center (NWFSC), 2725 Montlake Boulevard East, Seattle, WA 98112. The provider may wish to take this information into account when planning for and comparing the costs and accessibility of different storage options.

Section 2.3 Application Review Process

After submitting an application, NMFS may request additional information or revisions from the applicant until NMFS is satisfied that the application is complete. Complete applications will be forwarded to the EM Program for review and evaluation by the EM provider permit review board. If the applicant is an entity, the review board also will evaluate the application criteria for each owner, board member, officer, authorized agent, and employee. NMFS will evaluate the application based on these EM Program Guidelines (see §660.600(b)) and the following criteria:

1. The applicant's relevant experience and qualifications;

2. Review of any conflict of interest as described in §660.603(h);
3. Review of any criminal convictions;
4. Review of the proposed EM Service Plan, including evaluation of EM equipment and software;
5. Satisfactory performance ratings on any federal contracts held by the applicant;
6. Review of any history of decertification or permit sanction as an observer, catch monitor, observer provider, catch monitor provider, or EM service provider; and,
7. Review of any performance history as an EM service provider.

Based on a complete application, if NMFS determines that the applicant has met the requirements of the EM Program as described in the regulations at §660.603, NMFS will issue an initial administrative determination (IAD). If the application is approved, the IAD will serve as the EM service provider's permit and endorsement. If the application is denied, the IAD will provide an explanation of the denial in writing as well as how to appeal NMFS's decision following the process at §660.19. The provider permit is valid from the effective date identified on the permit until December 31 of the following year. Provider permit holders must renew biennially (see §660.603(f)).

Appendix A: Recommended EM Unit Features

To be approved for use in the West Coast groundfish fishery, EM units must meet the performance standards in the regulations at §660.604(j). NMFS has gathered required and recommended features of EM units from other EM programs and summarized them in this appendix. These recommendations are advisory in nature, informational in content, and are intended to assist an EM service provider in providing an EM unit and services that meet the goals of the EM Program. If the EM unit does not have these features, the EM service provider should explain how it would otherwise meet the standards in the regulations.

- Simple to use and require minimal maintenance.
- Durable in harsh marine environments.
- Be secure, using end-to-end encryption of data files and restricting access to system settings (i.e., prohibiting administrative access to vessel crew).
- Modular, small size, for ease in installation and component replacement.
- Have an internal UPS that carries the system through short power interruptions and provides for a controlled shutdown.
- Have a single means of distributing power to all system components with the ability to log the time and reason for any interruption to system power.
- Logs occurrences and reasons for system shutoff.
- Automatic re-starting of system based upon restoration of sufficient power.
- Data storage hardware should be resistant to damage and data loss and provide safeguards to retain data in the event of electrical failure or power spikes.
- Cameras should record continuously at a frame rate of 5 unique frames per second, and provide the option to produce still images for enhanced species identification and measurement.
- Cameras should produce images compatible with zoom function for enhanced identification during video review.
- Cameras should be capable of recording data at a resolution of 2MP (1080P).
- Cameras should produce color imagery with the ability to revert to black and white video output when light levels become too low for color recognition.
- The control box should log GPS positions every 10 seconds. The GPS should use a minimum of 3 satellites to triangulate vessel position. If 3 satellites are not available at any time, the system should not log a location rather than imputing a calculated location.
- Video imagery should be capable of being viewed on the vessel by the vessel crew or authorized officers without interfering with data collection.
- The video imagery should have embedded time stamps with time synced between GPS, imagery, and other sensors and data sets.