

Draft Technical Specifications for Reinstating Historical cELB Program in the Shrimp Fishery

To monitor shrimping effort in the Gulf of Mexico software is needed to record date, time, latitude and longitude from a GPS affixed to the boat at 10 minute intervals, throughout the duration of each shrimping trip in the Gulf of Mexico. The data should be locally stored until it can be remotely uploaded to a NMFS server. The data recorded and transmitted should be compatible with existing inputs to NMFS effort analysis algorithms for the cELB program. Any system that meets the technical specifications must first be field tested aboard an offshore shrimp vessel to ensure reliability prior to its type-approval and implementation in the shrimping fleet.

To accomplish this the following specifications are needed:

Definitions and Acronyms

This section will be completed after finalization of technical specifications.

Vessel Monitoring System Type Approval Process

Applicability. This section applies to hardware/software devices, cellular mobile communications services, and bundles, installed upon vessels with a federal Gulf of Mexico shrimp permit, which collect time stamped position fix data at 10 minute intervals when shrimping in the Gulf of Mexico and automatically transmit recorded data to NMFS (with the exception of automatic transmission, whether direct or secondary, to NOAA Office of Law Enforcement) when in range of a non-roaming cellular mobile communications service signal in order for the data to be utilized in NMFS SEFSC shrimp effort analysis algorithms (reference CFR number here).

Application submission: A requestor must submit a written type-approval request and electronic copies of supporting materials that include the information required under this section to NMFS Southeast Regional Office at: (insert appropriate mailing address and attention line here).

Application requirements:

- Hardware/software identifying information: In a type-approval request, the requestor should indicate whether the requestor is seeking approval for a hardware/software device, cellular mobile communications service, or bundle and must specify identifying characteristics as applicable: communication class; manufacturer; brand name; model name; model number; software version and date; firmware version number and date; hardware version number and date; antenna type; antenna model number and date; tablet, monitor or terminal number and date; cellular mobile communications service to be used in conjunction with hardware/software; entity providing cellular mobile communications service to the end user; and current global and regional coverage of the cellular mobile communications service.
- Requestor-approved third party business entities: The requestor must provide the business name, address, phone number, contact name(s), email address, specific services provided, and geographic region covered for the following third party business entities:
 - Entities providing bench configuration for the hardware/software at the warehouse or point of supply.
 - Entities distributing/selling the hardware/software to end users.
 - Entities currently approved by the requestor to install the hardware/software onboard vessels.
 - Entities currently approved by the requestor to offer a limited warranty.
 - Entities approved by the requestor to offer a maintenance service agreement.
 - Entities approved by the requestor to repair or install new software.

- Entities approved by the requestor to train end users.
- Entities approved by the requestor to advertise the hardware/software.
- Entities approved by the requestor to provide other customer services.
- Regulatory Requirements and Documentation: In a type-approval request, a requestor must:
 - Identify the NMFS region(s) and/or federal fisheries for which the requestor seeks type approval.
 - Provide a table with the type-approval request that lists in one column each requirement set out in the regulations. NMFS will provide a template for the table upon request. The requestor must indicate in subsequent columns in the table whether the hardware/software device, cellular mobile communications service, or bundle meets the requirement.
- Certify that the features, components, configurations and services of the requestor's hardware/software device, cellular mobile communications service, or bundle comply with each requirement set out in ____ through ____ and the regulations described under paragraph ____ of this section.
- Certify that, if the request is approved, the requestor agrees to be responsible for ensuring compliance with each requirement set out in ____ through ____ and the regulations described under paragraph ____ of this section over the course of the type-approval period.
- Provide NMFS with two devices loaded with appropriate software/hardware, with activated cellular mobile communications service, for which a type-approval request is submitted for a minimum of 90 calendar days for testing and evaluation. As part of its review, NMFS will perform at-sea trials aboard an offshore commercial shrimp vessel (i.e., in federal waters of the Gulf of Mexico) that involve demonstrating every aspect of the hardware/software device and cellular mobile communications service operation. At-sea testing aboard an offshore shrimp vessel includes, but is not limited to: ensuring the installed hardware/software device's GPS signal and connection is sufficient to attain and record 95% of the required 10 minute interval position fix data in a 24-hour period for each 24-hour day of at-sea testing, with a minimum of 7 days spent at-sea for these trials; comparing vessel speed and activity as recorded by human observer aboard the offshore shrimp vessel with speed and activity generated by NMFS shrimp effort algorithm programs using data from the hardware/software device, cellular mobile communications service or bundle seeking type-approval to ensure proper functioning and accuracy of device(s) seeking type-approval; and mounting of the hardware/software device in a location where similar/traditional marine electronics are mounted aboard working trawlers to troubleshoot any issues associated with potential mounting locations and/or wiring and battery capabilities. The requestor is responsible for all associated costs including paying for: shipping of the hardware/software device to the required NMFS office for testing; the cellular mobile communications service during the testing period; and shipping of the hardware/software device back to the vendor.
- Provide thorough documentation for the hardware/software device and the cellular mobile communications service, including: hardware/software fact sheets; installation guides; user manuals; any necessary interfacing software; cellular mobile communications service global and regional coverage; performance specifications; and technical support information.

Certification. A requestor seeking type-approval of a hardware/software device to operate with a class or type of cellular communications, as opposed to type-approval for use with a specific cellular mobile communications service, shall certify that the hardware/software meets requirements under this subpart when using at least one cellular mobile communications service provider within that class or type of communications.

Notification. Unless additional time is required for hardware/software testing, NMFS will notify the requestor within 90 days after receipt of a complete type-approval request as follows:

- If a request is approved or partially approved, NMFS will provide notice as described under ____ (section number) and the type-approval letter will serve as official documentation and notice of type-approval. NMFS will publish and maintain the list of type-approved units on their web page.
- If a request is disapproved or partially disapproved:
 - NMFS will send a letter to the requestor that explains the reason for the disapproval/partial disapproval.
 - The requestor may respond to NMFS in writing with additional information to address the reasons for disapproval identified in the NMFS letter. The requestor must submit this response within 21 calendar days of the date of the NMFS letter sent under paragraph ____ of this section.
 - If any additional information is submitted under paragraph ____ of this section, NMFS, after reviewing such information, may either take action under paragraph ____ of this section or determine that the request should continue to be disapproved or partially disapproved. In the latter case, NMFS will send a letter to the requestor that explains the reasons for the continued disapproval/partial disapproval. NMFS's decision is final upon issuance of this letter and is not appealable.

Communications functionality

- The hardware/software device, cellular mobile communications service, or bundle must:
 - Be able to transmit automatically generated, 10 minute interval, time-stamped location fix data from hardware/software permanently affixed to the vessel when within range of a non-roaming cellular mobile communications service network/signal.
 - Have one-way communications, with transmission from the vessel to NMFS, that function uniformly throughout the geographic area covered by the type-approval when in range of a non-roaming cellular mobile communications network/signal.
 - Have data and communications mechanisms that are compatible with NMFS SEFSC shrimp cELB effort analysis programs.

Position fix data formats and transmission

The hardware/software device must meet the following requirements:

- Store and then transmit all automatically-generated time-stamped position fixes such that it meets the latency requirements under ____ (insert number here).
- When powered up, must automatically re-establish recording time-stamped position fixes at 10 minute intervals without manual intervention.
- Time-stamped position fix data is automatically transmitted to NMFS (with the exception of automatic transmission, whether direct or secondary, to NOAA Office of Law Enforcement) when within range of a non-roaming cellular mobile communications service signal.
- If time-stamped position fix data fails to transmit, an automatic retry feature is enabled.
- Time-stamped position fixes must contain all of the following:
 - Unique identification of the hardware/software device.
 - Date (year/month/day with century in the year) and time stamp (GMT) of the position fix.
 - Position fixed latitude and longitude, which comply with the following requirements:
 - The position fix precision must be to the decimal minute hundredths.
 - Accuracy of the reported position must be within 100 meters (328.1 ft).
 - Hardware/software device must have the ability to:
 - Store at least 14,400 position fixes in local, non-volatile memory.

- Allow for interval of 10 minutes between position fixes. Have the ability to be pre-programmed for 10 minute intervals by the type-approval holder prior to sale to fishers.
- Time-stamped position fix data and transmission must be in a format compatible with NMFS SEFSC shrimp cELB effort analysis programs.

Latency requirement

- Ninety percent of all pre-programmed time-stamped position fixes during each 24-hour period must reach NMFS within 15 minutes or less of being sent from the hardware/software device.
- NMFS will continually examine latency by type-approval holder.
- Exact dates for calculation of latency will be chosen by NMFS. Days in which isolated and documented system outages occur will not be used by NMFS to calculate a type-approval holder's latency.

Communications Security

Communications between a hardware/software device and the cellular mobile communications service should be secure from tampering or interception and have mechanisms to prevent to the extent possible:

- Sniffing and/or interception during transmission from the hardware/software device to the cellular mobile communications service.
- Spoofing.
- False time-stamped position fix data sent from the hardware/software device.
- Modification of the hardware/software identification.
- Interference with Global Maritime Distress and Safety System (GMDSS) or other safety/distress functions.
- Introduction of malware, spyware, keyloggers, or other software that may corrupt, disturb, or disrupt transmission, and the hardware/software device.

Field and technical services

As a requirement of type-approval, a type-approval holder must communicate with NMFS to resolve technical issues with a hardware/software device or cellular mobile communication service and ensure that field and technical services include:

- Diagnostic and troubleshooting support to NMFS and fishers.
- Established facilities and procedures to assist fishers in maintaining and repairing the hardware/software device.
- Assist fishers in the diagnosis of the cause of communications anomalies.
- Assistance in resolving communications anomalies that are traced to the hardware/software device.
- Assistance to NMFS and its contractors, upon request, in device operation, resolving technical issues, and data analysis related to the device.

General

- Hardware/software device must have the durability and reliability necessary to meet all requirements regardless of weather conditions. The cabling, antenna and any portion of the device intended to be installed outdoors must be resistant to salt, moisture and shock associated with sea-going vessels in the marine environment and have reliable functionality aboard vessels constructed of steel, wood, fiberglass or other material, especially if a portion of the device is intended to be installed inside of a steel cabin/wheelhouse.

- PII and Other Protected Information. Personally identifying information (PII) and other protected information includes Magnuson-Stevens Act confidential information as provided at 6 U.S.C. 1881a and Business Identifiable Information (BII), as defined in the Department of Commerce Information Technology Privacy Policy. A type-approval holder is responsible for ensuring that:
 - All PII and other protected information is handled in accordance with applicable state and Federal law.
 - All PII and other protected information provided to the type-approval holder by vessel owners or other authorized personnel for the purchase or activation of a hardware/software device or arising from participation in any Federal fishery are protected from disclosure not authorized by NMFS or the vessel owner or other authorized personnel.
 - Any release of PII or other protected information beyond authorized entities must be requested and approved in writing, as appropriate, by the submitter of the data in accordance with 16 U.S.C. 1881a, or by NMFS.
 - Any PII or other protected information sent electronically by the type-approval holder to NMFS must be transmitted by secure means that prevents interception, spoofing, or viewing by unauthorized individuals.

Notification of type-approval

- If a request made pursuant to ____ (insert number) is approved or partially approved, NMFS will issue a type-approval letter to indicate the specific hardware/software device(s) that is approved for use, the cellular mobile communications service permitted for use with the type-approved device(s) and the regions or fisheries in which the device(s) is approved for use.
- NMFS will maintain a list of the type-approved devices and bundles on a publicly available website and provide copies of the list upon request.

Changes or modifications to type-approvals

Type-approval holders must notify NMFS in writing no later than 2 days following modification to or replacement of any functional component or piece of their type-approved hardware/software device, cellular mobile communications service, or bundle. If the changes are substantial, NMFS will notify the type-approval holder in writing within 60 calendar days that an amended type-approval is required or that NMFS will initiate the type-approval revocation process.

Type-approval revocation process

- If at any time, a type-approved hardware/software device, cellular mobile communications service, or bundle fails to meet requirements at ____ (insert number) through ____ (insert number) and requirements in effect for the region(s) and Federal fisheries for which the device or cellular mobile communications service is type-approved, or if a device fails to meet the requirements under which it was type-approved, NMFS may issue a Notification Letter to the type-approval holder that:
 - Identifies the hardware/software device, cellular mobile communications service, or bundle that allegedly fails to comply with type-approval regulations and requirements;
 - Identifies the alleged failure to comply with type-approval regulations and requirements, and the urgency and impact of the alleged failure;
 - Cites relevant regulations and requirements under this subpart;
 - Describes the indications and evidence of the alleged failure;
 - Provides documentation and data demonstrating the alleged failure;
 - Sets a response date by which the type-approval holder must submit to NMFS a written response to the Notification Letter, including , if applicable, a proposed solution; and

- Explains the type-approval holder's options if the type-approval holder believes the Notification Letter is in error.
- NMFS will establish a response date between 30 and 120 calendar days from the date of the Notification Letter. The type-approval holder's response must be received in writing by NMFS on or before the response date. If the type-approval holder fails to respond by the response date, the type-approval will be revoked. At its discretion and for good cause, NMFS may extend the response date to a maximum of 150 calendar days from the date of the Notification Letter.
- A type-approval holder who has submitted a timely response may meet with NMFS within 21 calendar days of the date of that response to discuss a detailed and agreed-upon procedure for resolving the alleged failure. The meeting may be in person, conference call, or webcast.
- If the type-approval holder disagrees with the Notification Letter and believes that there is no failure to comply with the type-approval regulations and requirements, NMFS has incorrectly defined or described the failure or its urgency and impact, or NMFS is otherwise in error, the type-approval holder may submit a written objection letter to NMFS on or before the response date. Within 21 calendar days of the date of the objection letter, the type-approval holder may meet with NMFS to discuss a resolution or redefinition of the issue. The meeting may be in person, conference call, or webcast. If modifications to any part of the Notification Letter are required, then NMFS will issue a revised Notification Letter to the type-approval holder. However, the response date or any other timeline in this process would not restart or be modified unless NMFS decides to do so, at its discretion.
- The total process from the date of the Notification Letter to the date of final resolution should not exceed 180 calendar days, and may require a shorter timeframe, to be determined by NMFS, depending on the urgency and impact of the alleged failure. In rare circumstances, NMFS, at its discretion, may extend the time for resolution of the alleged failure. In such a case, NMFS will provide a written notice to the type-approval holder informing him or her of the extension and the basis for the extension.
- If the failure to comply with type-approval regulations and requirements cannot be resolved through this process, the NMFS will issue a Revocation Letter to the type-approval holder that:
 - Identifies the hardware/software device, cellular mobile communications service, or bundle for which type-approval is being revoked;
 - Summarizes the failure to comply with type-approval regulations and requirements, including describing its urgency and impact;
 - Summarizes any proposed plan, or attempts to produce such a plan, to resolve the failure;
 - States that revocation of the hardware/software device, cellular mobile communications service, or bundle's type-approval has occurred;
 - States that no new installations of the revoked unit will be permitted in any NMFS managed fishery requiring the use of this type of device;
 - Cites relevant regulations and requirements under this subpart;
 - Explains why resolution was not achieved;
 - Advises the type-approval holder that:
 - The type-approval holder may reapply for a type-approval under the process set forth in ____ (insert number here), and
 - A revocation may be appealed pursuant to the process under ____ (insert number here)

Type-Approval revocation appeals process

- If a type-approval holder received a Revocation Letter pursuant to ____ (insert number), the type-approval holder may file an appeal of the revocation to the NMFS.

- An appeal must be filed within 14 calendar days of the date of the Revocation Letter. A type-approval holder may not request an extension of time to file an appeal.
- An appeal must include a complete copy of the Revocation Letter and its attachments and a written statement detailing any facts or circumstances explaining and refuting the failures summarized in the Revocation Letter.
- The NMFS may, at its discretion, affirm, vacate, or modify the Revocation Letter and send a letter to the type-approval holder explaining his or her determination, within 21 calendar days of receipt of the appeal. The NMFS's determination constitutes the final agency decision.

Revocation effective date and notification to vessel owners

- Following issuance of a Revocation Letter pursuant to ____ (insert number) and any appeal pursuant to ____ (insert number), NMFS will provide notice to all vessel owners impacted by the type-approval revocation via letter and Federal Register Notice. NMFS will provide information to impacted vessel owners on:
 - The next steps vessel owners should take to remain in compliance with regional and/or national requirements;
 - The date, 60-90 calendar days from the notice date, on which the type-approval revocation will become effective.