



# Review of Draft Type-Approval Specifications for Reinstating Historical cELB Program for the Shrimp Fishery

## Draft Approval Specifications Review



- Presentation responds to a request from the Council for NOAA Fisheries to evaluate and consider draft approval specifications developed by Council.
- Specifically, this requests NOAA Fisheries to consider:
  - (1) Logistics for data transmission;
  - (2) Which office of NOAA Fisheries would house technical specifications;
  - (3) Who will handle scientific testing and vetting of vendors.



*Question: “[What are the] Logistics involved in either bringing a National Environmental Satellite, Data, and Information Service server online for data transmission or use of a Gulf States Marine Fisheries Commission server.”*

- NOAA would need to pay for NESDIS or GSMFC to set up a cloud server
- NOAA Fisheries would need to maintain a Federal Information Security Management Act (FISMA) agreement
- NOAA Fisheries would need to open up a connection through firewall to any cloud assets, which typically requires a point to point VPN
- NOAA Fisheries would maintain an Application Programming Interface (API) which accepts updates, authenticates the data
- API would need to be token based and each unit would need their own unique token or key,
- Ensure security is up to date
- Establish access for OLE → OLE could still access data at any time
- Maintain database links
- GSMFC stated this would also require a format change from the current data file format.



*Question: “Logistics involved in either bringing a National Environmental Satellite, Data, and Information Service server online for data transmission or use of a Gulf States Marine Fisheries Commission server”-cont.*

- Would require significant additional programming and infrastructure costs.

On the regulatory side it would require:

- A modified version of the national VMS tech spec regulations in our local regs, presumably in section 622.50.
- Major undertaking for SERO reg writers.
- Would constitute a significant expansion of the Gulf shrimp fishery regulations and largely be redundant of the national regulations.
- SERO would also be responsible for maintaining and revising those regulations over time as technology changes.



Question: *“Who will handle the scientific testing and vetting of vendors seeking type-approval?”*

Under the current VMS type approval process

- NOAA Fisheries contracts a global expert in Denmark who performs VMS testing and provides recommendations.
- SEFSC would maintain additional requirements for vendors on the SEFSC program website much like the SEFHIER website <https://www.fisheries.noaa.gov/southeast/recreational-fishing/information-vendors>.
- SEFSC would maintain a website with those approved vendors for the shrimp fishery.

If national VMS process is not followed:

- SEFSC would need to develop a separate contract for Shrimp-specific testing and certification.
- SEFSC would maintain requirements for vendors on the SEFSC Shrimp program website.
- Shrimp Specifications would be added to 50 CFR part 622.

After review by staff from SEFSC, SERO, GC, and VMS, NOAA Fisheries staff arrived at the below conclusions:



- We thank in-depth efforts by the Chair of the Shrimp AP to dig into these details!
- Other than 2-way communication and electronic form capability, most differences were minor or are details that can be specified in the Fishery Management Plan (FMP).
- Hardware, support, and security should remain unchanged from VMS specifications to provide similar standards, economy of scale, and choice of vendors.
- Setting up a redundant hardware (and possibly data routing) for one fishery would not be an efficient use of taxpayer funds, would be counter to several national data strategies, & would not change ability for OLE to access data.
- Many of the key points do not require modification of National VMS type-approval specs. The Council has flexibility to address these in the FMP but can't modify the national VMS specifications.
- These include: ping rate, minimum number of position fixes to store in local memory, hail-in/hail-out, exemption periods to get units repaired, power-down exemption, additional reporting forms.



# Similar Elements

- Latency Requirement
- Communications Security
- Field and Technical Service support
- Notification of Type-Approval
- Changes or Modifications to Type-Approvals
- Type-Approval Revocation Process
- Type-Approval Revocation Appeals Process
- Revocation Effective Date and Notification to Vessel Owners



# Differences

## Change VMS to cELB where stated in draft tech specs

- The existing 3G cELBs really are location recording devices not logbooks *per se* (logbooks require fishermen to enter the fishing catch and effort information).
- VMS are a satellite and/or cellular based system designed to monitor the location and movement of vessels using onboard VMS units that send GPS position reports to an authorized entity (see 50 CFR 600.1500).
- Regardless of what they are called, cELBs and VMS both monitor the location and movement of vessels and send GPS position reports. By definition a cELB is a VMS.





# Differences

**Add Time-stamped position fix data must be in a format compatible with NMFS cELB effort analysis programs**

- Very minor thing, does not require modification of type approval.
- Important feature that needed variables are collected and have same spatial and temporal specificity (ie. HH:MM:SS; Degrees, Minutes, Seconds).
- Data formats are routinely adjusted from format in the storage database to the format that is needed in the analysis application.



# Differences

## 10 minute ping rate be specified in tech specs.

- This can simply be done in the FMP reg requirements and not in the tech specs.
- The requirement of the number of position fixes is considered during the type-approval process for a particular fishery.
- The range of ping rates tested in the VMS approval process is 1 minute intervals to 1 hour intervals, so no need to include this in a separate tech spec.
- Any hardware unit selected for recording vessel location would just need to be able to ping at 10 mins and store enough data.



# Differences

**Specify the minimum number of position fixes (14,400) to be stored in local memory in separate tech specs.**

- The requirement of the number of position fixes is considered during the type-approval process for a particular fishery. If the units can't queue enough position reports to sustain the particular fishing habits of a fishery, then it is not type-approved for that fishery.
- Woods Hole Group NEMO (<https://fisheries.groupcls.com/sustainable-fisheries-administrations/nemo-for-small-scale-fisheries/>) units can hold approximately 50,000 positions.
- Faria Beede E-TERM [https://fariabeede.com/2-pages/entelnet\\_fishing.php](https://fariabeede.com/2-pages/entelnet_fishing.php) units can hold 20,000 positions.



# Differences

## Remove requirement for two-way communication in separate tech specs.

- 2-way comms is the basic standard for most devices of this nature today- how it gets used would be specified in the **FMP**.
- Any device with a cellular or satellite modem is capable of two-way communication, as were the cELB units.
- Two-way communication is required to transmit confirmation to the unit that the data were received.
- Also required to push software updates to keep the unit protected from software vulnerabilities and update firmware without manually accessing the unit.

# Differences



## Remove requirement for electronic forms in separate tech specs.

- Forms are fishery specific and would be specified in the FMP reg requirements for this fishery.
- For VMS requirements a terminal/tablet just needs to be supported, not necessarily have one connected.- 3G cELB units had this capability.
- As only having the **capability** to attach a terminal/tablet is the requirement, this should be maintained in tech specs to allow for changes in reporting requirements without replacing the unit on board to meet evolving needs.

# Differences



**NOAA Office of Law Enforcement is specifically excluded for transmission purposes in separate technical specifications.**

- Would create redundant infrastructure to receive & store location information for one fishery.
- Counter to Office of Management and Budget Federal Data Strategy emphasizing transparency and sharing of data platforms and resources.

<https://strategy.data.gov/2021/action-plan/>

- DOC and NOAA have similar, required, strategies.
- OLE would still have easy access to these data whether stored at SEFSC or Office of Chief Information Officer (OCIO) servers. All NMFS data are available for law enforcement as REQUIRED by MSA section 311(b)(1)(A)(v) and (vi).

# Summary



Specification	Issue	Recommendation
Hardware	Add 10 minute ping rate	Specify in FMP
	Specify the minimum number of position fixes	Specify in FMP
	Remove two-way communication	Keep current specs
	Remove electronic forms requirement	Keep current specs
	Mandatory at sea testing	Specify in FMP
Support	Remove Litigation Support	Keep-Supports MSA requirement
Utilization/Data routing	Exclude OLE from transmission	Would require separate specs
Programming	Maintain current format	Part of type approval
Language	Remove reference to EMTU, EMTU-C, VMS, or MTU	Keep current spec

