VMS Issues Identified By the PFMC Enforcement Consultants

Clears

NOAA's Office for Law Enforcement (OLE) can support and implement a full Vessel Monitoring System (VMS) program for the Pacific Coast groundfish fishery once a full set of management measures and requirements have been established and funding secured. The selection of an appropriate system depends on seeking and receiving answers to specific questions and concerns. Keep in mind that the "Keep it Simple" principle applies to VMS. The more "bells and whistles", although nice to have, will add cost, time and complexity to the initial development and implementation.

The Enforcement Consultants are especially concerned thatVMS may not be effective if fishing with gear similar to the prohibited gear (i.e bottom trawl) is allowed in the closed areas. Our experience in each VMS program implemented to ensure compliance with other Magnuson Act fisheries closures in the EEZ is that they do not allow any fishing. Indeed, to facilitate enforcement in the New England fisheries requiring VMS, certain critical areas are even closed to transiting.

Another burden facing Enforcement officials involves solving the complex problem of enforcing a coast wide closure where vessels with VMS intending to fish seaward, or west, of the 150 fathom curve, must transit through the closed area to get to the fishing grounds. Consideration must be given to creating transit lanes, minimum vessel speeds, or some other innovative approach providing the ability to monitor vessel traffic effectively during transit to and from the fishing grounds.

VMS is only a tool. It does not replace the need for at sea vessel and air patrols.

The following is a sample of the questions and needs we need to begin considering:

GENERAL

1. Which fisheries and gear types will need VMS?

2. How many vessels are in each fishery. What are the sizes and electrical power capabilities of the vessels?

3. How will closed areas be defined? The enforcement consultants recommend using latitude and longitude to create the longest, straightest lines possible. Fathom curves are unenforceable.

4. If the closure is continuous along the entire west coast, how can we use VMS to monitor transiting through the closed areas? Are their other avenues or alternatives to those identified above (transit lanes and minimum speeds)?

5. Will there be season openings and closings? Shortening the current year long season would dramatically reduce the current enforcement burden and provide us the ability to focus limited resources. A value-added feature of VMS may allow a vessel to be at sea ready to set gear at the season opening and at sea, but with gear stowed and underway at the season closing. This scenario allows maximum fishing time and may be applicable to the fixed gear sablefish fishery.

6. How much consideration should be given to VMS requirements in other Pacific ocean fisheries? Some vessels authorized to fish in certain Alaska fisheries are operating under a new Alaska VMS requirement and many pelagic longline vessels carry a VMS as required by the Western Pacific Fishery Management Council. We need to avoid, if possible, requiring multiple vessel monitoring systems for vessels that engage in more than one fishery requiring this technology.

7. What will the requirement be regarding leaving the power and VMS unit on while vessels are in port? This has proven to be a significant issue in other VMS fisheries and requires special attention early in the decision making process. Allowing vessels to power down provides the opportunity to leave the unit off and fish undetected. Requiring the unit to remain on may create battery power-draining issues on the vessel.

POSITION REPORTING

8. What is the reporting interval i.e. 30 min., 1 hour, 2 hours, 4 hours, 12, 24 etc?

9. How much lag time is acceptable? No system is truly real time. INMARSAT is about 5 minutes and ARGOS can be several hours (depends on irregularly timed satellite passes).

10. Is random polling a requirement?

11. Do we want to establish buffer zones around the closed areas and initiate more frequent polling (like every 15 minutes) as vessels approach a closed area (2 miles, 1 mile, several hundred yards)?

12. Costs of transmitting position report varies from one system to another ranging from $1.00 per day to $5.00 per day. Over time, this can be a considerable financial burden. How much consideration should we give, up front, to these costs?

DATA

13. The position data generally comes from the GPS and is accurate to within about 50 meters. If the GPS malfunctions on an ARGOS system, the standard doppler positioning capability will initiate and is accurate only to about 300 meters. Boatracs is also only accurate to about 300 meters. Is the backup capability ARGOS provides important?

14. Do we want course and speed calculated through the transceiver's GPS or the base station? The base station is simpler but less accurate.

15. Will the Council or NMFS require electronic logbooks now or in the future?

16. If a vessel required to have VMS is allowed to change fisheries, either to another fishery where VMS is required or one where it is not, what is the notification procedure? Can this notification be made using the VMS?

17. Do we every foresee a need for sensor data i.e. water temperature, depth, air temperature, engine temp, engine rpm, etc.? Some of these capabilities are "off-the-shelf" and some, if truly important enough could be developed given the time, money and resources.

18. Do we need safety and distress functions?

Most of these questions/requirements go to the issue of one-way vs. two-way communication capabilities. ARGOS is one-way and INMARSAT is two-way.

COVERAGE

19. Different systems have different coverage capabilities. Boatracs will not generally work beyond 200 miles or in the Gulf of Alaska, Bering Sea or Hawaiian Islands. ARGOS was chosen in Alaska because it was believed to be the only system capable of providing full coverage.

VALUE ADDED SERVICES

20. Email?

21. Internet access?

22. News services?

23. Communication with owner, family, parts and supplies, shipyard, etc?

COSTS

24. Who pays? For:

25. The transceivers?

26. Communications?

27. Installation?

28. Maintenence?

29. Replacement?

30. Sensors?

31. Hardware and software for electronic log books?

HOW SOON CAN NMFS BE READY?

32. This question is hard to answer. All the above questions and more must be answered, regulations promulgated and implemented through final. And it depends on the number of vessels and complexity of the system. In general, a year is a good guess. If all the stops were pulled and we were working with a relatively small number of vessels with the funding in place and a system selected and the regulations implemented in final (and that alone is a 6 month process), we may be able to have a system in place in 6 months. However, that time frame is very optimistic.

WHERE WOULD THE DATA GO

33. Under the national VMS program, the data would be routed first to OLE in Seattle, then to OLE in HQ (Silver Spring, MD), then to the Coast Guard – all in near real time once OLE receives it from the Communications Service Provider.

34. Several OLE Divisions are developing a Web-based product to enable field agents to access the data, also in real time to increase response capability and efficiency.

35. The Coast Guard is also developing, or will develop, the ability to get the data to cutters and aircraft.

36. All individual vessel position data would be kept confidential.