

source is planned to occur, and whenever the acoustic source is in the water, whether activated or not), a minimum of one trained and experienced independent PSO must be on duty and conducting visual observations at all times during daylight hours (*i.e.*, from 30 minutes prior to sunrise through 30 minutes following sunset) when operating in waters deeper than 100 m.

(iii) When operating in waters shallower than 100 m, LOA-holders must employ one trained visual PSO, who may be a crew member, only for purposes of conducting pre-start clearance monitoring. If PSOs are crew members, *i.e.*, are not independent PSOs, the PSOs are not subject to NMFS' approval. In these circumstances, LOA requests must describe the training that will be provided to crew members filling the role of PSO.

(iv) PSOs are not required during survey operations in which the active acoustic source(s) are deployed on an autonomous underwater vehicle.

(e) *Time-area closure.* From January 1 through May 31, no use of airguns may occur shoreward of the 20-m isobath and between 90–84° W.

(f) *Entanglement avoidance.* To avoid the risk of entanglement, LOA-holders conducting surveys using ocean-bottom nodes or similar gear must:

(1) Use negatively buoyant coated wire-core tether cable;

(2) Retrieve all lines immediately following completion of the survey; and

(3) Attach acoustic pingers directly to the coated tether cable; acoustic releases should not be used.

(g) *Vessel strike avoidance.* LOA-holders must adhere to the following requirements:

(1) Vessel operators and crews must maintain a vigilant watch for all marine mammals and must slow down, stop their vessel, or alter course, as appropriate and regardless of vessel size, to avoid striking any marine mammal. A visual observer aboard the vessel must monitor a vessel strike avoidance zone around the vessel, which shall be defined according to the parameters stated in this subsection. Visual observers monitoring the vessel strike avoidance zone may be third-party ob-

servers (*i.e.*, PSOs) or crew members, but crew members responsible for these duties must be provided sufficient training to distinguish marine mammals from other phenomena and broadly to identify a marine mammal as a baleen whale, sperm whale, or other marine mammal;

(2) Vessel speeds must be reduced to 10 kn or less when mother/calf pairs, pods, or large assemblages of marine mammals are observed near a vessel;

(3) All vessels must maintain a minimum separation distance of 500 m from baleen whales;

(4) All vessels must maintain a minimum separation distance of 100 m from sperm whales;

(5) All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all other marine mammals, with an exception made for those animals that approach the vessel; and

(6) When marine mammals are sighted while a vessel is underway, the vessel must take action as necessary to avoid violating the relevant separation distance, *e.g.*, attempt to remain parallel to the animal's course, avoid excessive speed or abrupt changes in direction until the animal has left the area. If marine mammals are sighted within the relevant separation distance, the vessel must reduce speed and shift the engine to neutral, not engaging the engines until animals are clear of the area. This does not apply to any vessel towing gear or any vessel that is navigationally constrained.

(7) These requirements do not apply in any case where compliance would create an imminent and serious threat to a person or vessel or to the extent that a vessel is restricted in its ability to maneuver and, because of the restriction, cannot comply.

§217.185 Requirements for monitoring and reporting.

(a) *PSO qualifications.* (1) PSOs must successfully complete relevant, acceptable training, including completion of all required coursework and passing (80 percent or greater) a written and/or oral examination developed for the training program.

(2) PSOs must have successfully attained a bachelor's degree from an accredited college or university with a major in one of the natural sciences, a minimum of 30 semester hours or equivalent in the biological sciences, and at least one undergraduate course in math or statistics. The educational requirements may be waived if the PSO has acquired the relevant skills through alternate experience. Requests for such a waiver must be submitted to NMFS and shall include written justification. Requests will be granted or denied (with justification) by NMFS within one week of receipt of submitted information. Alternate experience that may be considered includes, but is not limited to:

- (i) Secondary education and/or experience comparable to PSO duties;
- (ii) Previous work experience conducting academic, commercial, or government-sponsored marine mammal surveys; or
- (iii) Previous work experience as a PSO; the PSO should demonstrate good standing and consistently good performance of PSO duties.

(b) *Equipment.* LOA-holders are required to:

(i) Provide PSOs with bigeye binoculars (*e.g.*, 25 x 150; 2.7 view angle; individual ocular focus; height control) of appropriate quality solely for PSO use. These must be pedestal-mounted on the deck at the most appropriate vantage point that provides for optimal sea surface observation, PSO safety, and safe operation of the vessel.

(ii) For each vessel required to use a PAM system, provide a PAM system that has been verified and tested by an experienced acoustic PSO who will be using it during the trip for which monitoring is required;

(iii) Work with the selected third-party observer provider to ensure PSOs have all equipment (including backup equipment) needed to adequately perform necessary tasks, including accurate determination of distance and bearing to observed marine mammals. (Equipment specified in A. through G. below may be provided by an individual PSO, the third-party observer provider, or the LOA-holder, but the LOA-holder is responsible for ensuring PSOs have the proper equipment required to per-

form the duties specified herein.) Such equipment, at a minimum, must include:

(A) Reticle binoculars (*e.g.*, 7 x 50) of appropriate quality (at least one per PSO, plus backups);

(B) Global Positioning Unit (GPS) (plus backup);

(C) Digital camera with a telephoto lens (the camera or lens should also have an image stabilization system) that is at least 300 mm or equivalent on a full-frame single lens reflex (SLR) (plus backup);

(D) Compass (plus backup);

(E) Radios for communication among vessel crew and PSOs (at least one per PSO, plus backups); and

(F) Any other tools necessary to adequately perform necessary PSO tasks.

(c) *Data collection.* PSOs must use standardized electronic data forms. PSOs must record detailed information about any implementation of mitigation requirements, including the distance of marine mammals to the acoustic source and description of specific actions that ensued, the behavior of the animal(s), any observed changes in behavior before and after implementation of mitigation, and if shutdown was implemented, the length of time before any subsequent ramp-up or activation of the acoustic source. If required mitigation was not implemented, PSOs must record a description of the circumstances. At a minimum, the following information should be recorded:

(1) Vessel names (source vessel and other vessels associated with survey), vessel size and type, maximum speed capability of vessel, port of origin, and call signs;

(2) PSO names and affiliations;

(3) Dates of departures and returns to port with port name;

(4) Dates of and participants in PSO briefings;

(5) Dates and times (Greenwich Mean Time) of survey effort and times corresponding with PSO effort;

(6) Vessel location (latitude/longitude) when survey effort began and ended and vessel location at beginning and end of visual PSO duty shifts;

(7) Vessel location at 30-second intervals (if software capability allows) or 5-

minute intervals (if location must be manually recorded);

(8) Vessel heading and speed at beginning and end of visual PSO duty shifts and upon any line change;

(9) Environmental conditions while on visual survey (at beginning and end of PSO shift and whenever conditions changed significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon;

(10) Vessel location when environmental conditions change significantly;

(11) Factors that may have contributed to impaired observations during each PSO shift change or as needed as environmental conditions change (*e.g.*, vessel traffic, equipment malfunctions);

(12) Survey activity information, such as acoustic source power output while in operation, number and volume of airguns operating in an array, tow depth of an acoustic source, and any other notes of significance (*i.e.*, pre-start clearance, ramp-up, shutdown, testing, shooting, ramp-up completion, end of operations, streamers, etc.); and

(13) Upon visual observation of a marine mammal, the following information:

(i) Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);

(ii) PSO who sighted the animal and PSO location (including height above water) at time of sighting;

(iii) Time of sighting;

(iv) Vessel coordinates at time of sighting;

(v) Water depth;

(vi) Direction of vessel's travel (compass direction);

(vii) Speed of the vessel(s) from which the observation was made;

(viii) Direction of animal's travel relative to the vessel;

(ix) Pace of the animal;

(x) Estimated distance to the animal (and method of estimating distance) and its heading relative to vessel at initial sighting;

(xi) Identification of the animal (*e.g.*, genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the com-

position of the group if there is a mix of species;

(xii) Estimated number of animals (high/low/best);

(xiii) Estimated number of animals by cohort (adults, juveniles, group composition, etc.);

(xiv) Description (as many distinguishing features as possible of each individual seen, including length, shape, color, pattern, scars or markings, shape and size of dorsal fin, shape of head, and blow characteristics);

(xv) Detailed behavior observations (*e.g.*, number of blows/breaths, number of surfaces, breaching, spyhopping, diving, feeding, traveling; as explicit and detailed as possible; note any observed changes in behavior), including an assessment of behavioral responses to survey activity;

(xvi) Animal's closest point of approach (CPA) and/or closest distance from any element of the acoustic source;

(xvii) Platform activity at time of sighting (*e.g.*, deploying, recovering, testing, shooting, data acquisition, other); and

(xviii) Description of any actions implemented in response to the sighting (*e.g.*, delays, shutdown, ramp-up) and time and location of the action.

(14) Upon acoustic detection of a marine mammal using a PAM system, the following information:

(i) An acoustic encounter identification number, and whether the detection was linked with a visual sighting;

(ii) Date and time when first and last heard;

(iii) Types and nature of sounds heard (*e.g.*, clicks, whistles, creaks, burst pulses, continuous, sporadic, strength of signal); and

(iv) Any additional information recorded such as water depth of the hydrophone array, bearing of the animal to the vessel (if determinable), species or taxonomic group (if determinable), spectrogram screenshot, and any other notable information.

(d) *Reporting.* (1) Annual reporting must be submitted as specified in this paragraph.

(i) LOA-holders must submit a summary report to NMFS on all activities and monitoring results within 90 days

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of the completion of the survey or expiration of the LOA, whichever comes sooner, and must include all information described above under §217.185(c). If an issued LOA is valid for greater than one year, the summary report must be submitted on an annual basis.

(ii) The report must describe activities conducted and sightings of marine mammals, must provide full documentation of methods, results, and interpretation pertaining to all monitoring, and must summarize the dates and locations of survey operations and all marine mammal sightings (dates, times, locations, activities, associated survey activities, and information regarding locations where the acoustic source was used). In addition to the report, all raw observational data must be made available to NMFS.

(iii) For operations requiring the use of PAM, the report must include a validation document concerning the use of PAM, which should include necessary noise validation diagrams and demonstrate whether background noise levels on the PAM deployment limited achievement of the planned detection goals. Copies of any vessel self-noise assessment reports must be included with the report.

(iv) The LOA-holder must provide geo-referenced time-stamped vessel tracklines for all time periods in which airguns (full array or single) were operating. Tracklines must include points recording any change in airgun status (*e.g.*, when the airguns began operating, when they were turned off). GIS files must be provided in ESRI shapefile format and include the UTC date and time, latitude in decimal degrees, and longitude in decimal degrees. All coordinates must be referenced to the WGS84 geographic coordinate system.

(v) The draft report must be accompanied by a certification from the lead PSO as to the accuracy of the report, and the lead PSO may submit directly to NMFS a statement concerning implementation and effectiveness of the required mitigation and monitoring.

(vi) A final report must be submitted within 30 days following resolution of any comments on the draft report.

(2) Comprehensive reporting must be submitted as specified in this para-

graph. LOA-holders must contribute to the compilation and analysis of data for inclusion in an annual synthesis report addressing all data collected and reported through annual reporting in each calendar year. The synthesis period shall include all annual reports deemed to be final by NMFS in a given one-year reporting period. The report must be submitted to NMFS within 90 days following the end of a given one-year reporting period.

(e) *Reporting of injured or dead marine mammals.* (1) In the event that personnel involved in the survey activities discover an injured or dead marine mammal, the LOA-holder must report the incident to the Office of Protected Resources (OPR), NMFS and to the Southeast Regional Stranding Network as soon as feasible. The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);

(ii) Species identification (if known) or description of the animal(s) involved;

(iii) Condition of the animal(s) (including carcass condition if the animal is dead);

(iv) Observed behaviors of the animal(s), if alive;

(v) If available, photographs or video footage of the animal(s); and

(vi) General circumstances under which the animal was discovered.

(2) In the event of a ship strike of a marine mammal by any vessel involved in the survey activities, the LOA-holder must report the incident to OPR, NMFS and to the Southeast Regional Stranding Network as soon as feasible. The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the incident;

(ii) Species identification (if known) or description of the animal(s) involved;

(iii) Vessel's speed during and leading up to the incident;

(iv) Vessel's course/heading and what operations were being conducted (if applicable);

(v) Status of all sound sources in use;

(vi) Description of avoidance measures/requirements that were in place at

the time of the strike and what additional measures were taken, if any, to avoid strike;

(vii) Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike;

(viii) Estimated size and length of animal that was struck;

(ix) Description of the behavior of the marine mammal immediately preceding and following the strike;

(x) If available, description of the presence and behavior of any other marine mammals immediately preceding the strike;

(xi) Estimated fate of the animal (*e.g.*, dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and

(xii) To the extent practicable, photographs or video footage of the animal(s).

(3) For deep penetration surveys, in the event of a live stranding (or near-shore atypical milling) event within 50 km of the survey operations, where the NMFS stranding network is engaged in herding or other interventions to return animals to the water, the Director of OPR, NMFS (or designee) will advise the LOA-holder of the need to implement shutdown procedures for all active acoustic sources operating within 50 km of the stranding. Shutdown procedures for live stranding or milling marine mammals include the following:

(i) If at any time, the marine mammal(s) die or are euthanized, or if herding/intervention efforts are stopped, the Director of OPR, NMFS (or designee) will advise the LOA-holder that the shutdown around the animals' location is no longer needed.

(ii) Otherwise, shutdown procedures will remain in effect until the Director of OPR, NMFS (or designee) determines and advises the LOA-holder that all live animals involved have left the area (either of their own volition or following an intervention).

(iii) If further observations of the marine mammals indicate the potential for re-stranding, additional coordination with the LOA-holder will be required to determine what measures are necessary to minimize that likelihood

(*e.g.*, extending the shutdown or moving operations farther away) and to implement those measures as appropriate.

(4) If NMFS determines that the circumstances of any marine mammal stranding found in the vicinity of the activity suggest investigation of the association with survey activities is warranted, and an investigation into the stranding is being pursued, NMFS will submit a written request to the LOA-holder indicating that the following initial available information must be provided as soon as possible, but no later than 7 business days after the request for information. In the event that the investigation is still inconclusive, the investigation of the association of the survey activities is still warranted, and the investigation is still being pursued, NMFS may provide additional information requests, in writing, regarding the nature and location of survey operations prior to the time period above.

(i) Status of all sound source use in the 48 hours preceding the estimated time of stranding and within 50 km of the discovery/notification of the stranding by NMFS; and

(ii) If available, description of the behavior of any marine mammal(s) observed preceding (*i.e.*, within 48 hours and 50 km) and immediately after the discovery of the stranding.

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§217.186 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, prospective LOA-holders must apply for and obtain an LOA.

(b) An LOA, unless suspended or revoked, may be effective for a period not to exceed the expiration date of these regulations.

(c) In the event of projected changes to the activity or to mitigation and monitoring measures required by an LOA, the LOA-holder must apply for and obtain a modification of the LOA as described in §217.187.

(d) The LOA shall set forth:

(1) Permissible methods of incidental taking;

(2) Means of effecting the least practicable adverse impact (*i.e.*, mitigation)