



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

INCIDENTAL HARASSMENT AUTHORIZATION

Virginia Electric and Power Company, d/b/a Dominion Energy Virginia (Dominion) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) and 50 CFR 216.107, to harass marine mammals incidental to high-resolution geophysical (HRG) survey associated with unexploded ordnance (UXO) investigation activities off the coast of Virginia in the area of the Research Lease of Submerged Lands for Renewable Energy Activities on the Outer Continental Shelf Offshore Virginia (OCS-A 0497) and coastal waters where one or more cable route corridors will be established (the Survey Area) when adhering to the following terms and conditions.

1. This IHA is valid for a period of one year from the date of issuance.
2. This IHA is valid only for UXO survey activities utilizing HRG survey equipment, as specified in the IHA application, in the Atlantic Ocean.
3. General Conditions
 - a) A copy of this IHA must be in the possession of Dominion, the vessel operator and other relevant personnel, the lead PSO, and any other relevant designees of Dominion operating under the authority of this IHA.
 - b) The species authorized for taking are listed in Table 1 (attached). The taking is limited to the species and numbers listed in Table 1. Any taking of species not listed in Table 1, or exceeding the authorized amounts listed, is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - c) The taking by injury, serious injury or death of any species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - d) Dominion must ensure that the vessel operator and other relevant vessel personnel are briefed on all responsibilities, communication procedures, marine mammal monitoring protocols, operational procedures, and IHA requirements prior to the start of survey activity, and when relevant new personnel join the survey operations.
4. Mitigation Requirements – the holder of this Authorization is required to implement the following mitigation measures:
 - (a) Dominion must use at least four (4) NMFS-approved protected species observers (PSOs) during HRG surveys. The PSOs must have no tasks other than to conduct observational effort, record observational data, and communicate with and



instruct relevant vessel crew with regard to the presence of marine mammals and mitigation requirements. PSO resumes must be provided to NMFS for approval prior to commencement of the survey.

- (b) Visual monitoring must begin no less than 30 minutes prior to initiation of survey equipment and must continue until 30 minutes after use of survey equipment ceases.
- (c) Exclusion Zones and Watch Zone – PSOs must establish and monitor marine mammal Exclusion Zones and Watch Zones. PSOs must monitor a marine mammal Watch Zone that must encompass an area 500 m from the survey equipment to encompass the exclusion zone for North Atlantic right whales. PSOs must document and record the behavior of all marine mammals observed within the Watch Zone. The Exclusion Zones are as follows:
 - (i) a 50-m Exclusion Zone for harbor porpoises;
 - (ii) a 100-m Exclusion Zone for large ESA-listed whales, except North Atlantic right whales (*i.e.*, fin whales); and
 - (iii) a 500-m Exclusion Zone for North Atlantic right whales.
- (d) Shutdown requirements – If a marine mammal is observed within, entering, or approaching the relevant Exclusion Zones as described under 4(c) while geophysical survey equipment is operational, the geophysical survey equipment must be immediately shut down.
 - (i) Any PSO on duty has the authority to call for shutdown of survey equipment. When there is certainty regarding the need for mitigation action on the basis of visual detection, the relevant PSO(s) must call for such action immediately.
 - (ii) If a species for which authorization has not been granted, or, a species for which authorization has been granted but the authorized number of takes have been met, approaches or is observed within 100 m of the survey equipment, shutdown must occur.
 - (iii) When a shutdown is called for by a PSO, the shutdown must occur and any dispute resolved only following shutdown.
 - (iv) Upon implementation of a shutdown, survey equipment may be reactivated when all marine mammals have been confirmed by visual observation to have exited the relevant Exclusion Zone or an additional time period has elapsed with no further sighting of the animal that triggered the shutdown (15 minutes for harbor porpoises and 30 minutes for all other species).

- (v) If geophysical equipment shuts down for reasons other than mitigation (*i.e.*, mechanical or electronic failure) resulting in the cessation of the survey equipment for a period of less than 20 minutes, the equipment may be restarted as soon as practicable if visual surveys were continued diligently throughout the silent period and the relevant Exclusion Zones are confirmed by PSOs to have remained clear of marine mammals during the entire 20-minute period. If visual surveys were not continued diligently during the pause of 20 minutes or less, a 30-minute pre-clearance period must precede the restart of the geophysical survey equipment as described in 4(e). If the period of shutdown for reasons other than mitigation is greater than 20 minutes, a pre-clearance period must precede the restart of the geophysical survey equipment as described in 4(e).
- (e) Pre-clearance observation – 30 minutes of pre-clearance observation must be conducted prior to initiation of geophysical survey equipment. Geophysical survey equipment must not be initiated if marine mammals are observed within or approaching a 200-m radius from the geophysical survey equipment or any relevant Exclusion Zone as described under 4(d) during the pre-clearance period. If a marine mammal is observed within or approaching the relevant Exclusion Zone during the pre-clearance period, geophysical survey equipment must not be initiated until the animal(s) is confirmed by visual observation to have exited the relevant Exclusion Zone or until an additional time period has elapsed with no further sighting of the animal (15 minutes for small cetaceans and pinnipeds and 30 minutes for all other species).
- (f) Ramp-up – when technically feasible, survey equipment must be ramped up at the start or re-start of survey activities. Ramp-up must begin with the power of the smallest acoustic equipment at its lowest practical power output appropriate for the survey. When technically feasible the power must then be gradually turned up and other acoustic sources added in way such that the source level would increase gradually.
- (g) Vessel Strike Avoidance – Vessel operator and crew must maintain a vigilant watch for all marine mammals and slow down or stop the vessel or alter course, as appropriate, to avoid striking any marine mammal, unless such action represents a human safety concern. Survey vessel crew members responsible for navigation duties must receive site-specific training on marine mammal sighting/reporting and vessel strike avoidance measures. Vessel strike avoidance measures must include the following, except under circumstances when complying with these requirements would put the safety of the vessel or crew at risk:
 - (i) The vessel operator and crew must maintain vigilant watch for cetaceans and pinnipeds, and slow down or stop the vessel to avoid striking marine mammals;

- (ii) The vessel operator must reduce vessel speed to 10 kn (18.5 km/hr) or less when any large whale, any mother/calf pairs, whale or dolphin pods, or larger assemblages of non-delphinoid cetaceans are observed near (within 100 m (330 ft)) an underway vessel;
- (iii) The survey vessel must maintain a separation distance of 500 m (1640 ft) or greater from any sighted North Atlantic right whale;
- (iv) If underway, the vessel must steer a course away from any sighted North Atlantic right whale at 10 kn (18.5 km/hr) or less until the 500 m (1640 ft) minimum separation distance has been established. If a North Atlantic right whale is sighted in a vessel's path, or within 100 m (330 ft) to an underway vessel, the underway vessel must reduce speed and shift the engine to neutral. Engines must not be engaged until the North Atlantic right whale has moved outside of the vessel's path and beyond 100 m. If stationary, the vessel must not engage engines until the North Atlantic right whale has moved beyond 100 m;
- (v) The vessel must maintain a separation distance of 100 m (330 ft) or greater from any sighted non-delphinoid cetacean. If sighted, the vessel underway must reduce speed and shift the engine to neutral, and must not engage the engines until the non-delphinoid cetacean has moved outside of the vessel's path and beyond 100 m. If a survey vessel is stationary, the vessel must not engage engines until the non-delphinoid cetacean has moved out of the vessel's path and beyond 100 m;
- (vi) The vessel must maintain a separation distance of 50 m (164 ft) or greater from any sighted delphinoid cetacean. Any vessel underway remain parallel to a sighted delphinoid cetacean's course whenever possible, and avoid excessive speed or abrupt changes in direction. Any vessel underway reduces vessel speed to 10 kn (18.5 km/hr) or less when pods (including mother/calf pairs) or large assemblages of delphinoid cetaceans are observed. Vessels may not adjust course and speed until the delphinoid cetaceans have moved beyond 50 m and/or the abeam of the underway vessel;
- (vii) All vessels underway must not divert or alter course in order to approach any whale, delphinoid cetacean, or pinniped. Any vessel underway must avoid excessive speed or abrupt changes in direction to avoid injury to the sighted cetacean or pinniped;
- (viii) All vessels must maintain a separation distance of 50 m (164 ft) or greater from any sighted pinniped;
- (ix) The vessel operator must comply with 10 kn (18.5 km/hr) or less speed restrictions in any Seasonal Management Area per NMFS guidance;

- (x) If NMFS should establish a Dynamic Management Area (DMA) in the area of the survey, within 24 hours of the establishment of the DMA, Dominion must contact the NMFS Office of Protected Resources to determine whether survey location and/or activities should be altered to avoid North Atlantic right whales; and
- (xi) Between watch shifts, PSOs must consult NMFS' North Atlantic right whale reporting systems for the presence of North Atlantic right whales throughout survey operations.

5. Monitoring Requirements – The Holder of this Authorization is required to conduct marine mammal visual monitoring during geophysical survey activity. Monitoring must be conducted in accordance with the following requirements:

- (a) A minimum of four NMFS-approved PSOs, operating in shifts, must be employed by Dominion during geophysical surveys.
- (b) Observations must take place from the highest available vantage point on the survey vessel. General 360-degree scanning must occur during the monitoring periods, and target scanning by PSOs must occur when alerted of a marine mammal presence.
- (c) PSOs must be equipped with binoculars and have the ability to estimate distances to marine mammals located in proximity to the vessel and/or Exclusion Zones using range finders. Reticulated binoculars must also be available to PSOs for use as appropriate based on conditions and visibility to support the sighting and monitoring of marine species. Digital single-lens reflex camera equipment must be used to record sightings and verify species identification.
- (d) During night surveys, night-vision equipment and infrared technology must be used. Specifications for night-vision and infrared equipment must be provided to NMFS for review and acceptance prior to start of surveys.
- (e) PSOs operators must work in shifts such that no one monitor must work more than 4 consecutive hours without a 2 hour break or longer than 12 hours during any 24-hour period. During daylight hours the PSOs must rotate in shifts of 1 on and 3 off. During ramp-up procedures and nighttime operations PSOs must work in pairs.
- (f) Position data must be recorded using hand-held or vessel global positioning system (GPS) units for each sighting.
- (g) A briefing must be conducted between survey supervisors and crews, PSOs, and Dominion to establish responsibilities of each party, define chains of command,

discuss communication procedures, provide an overview of monitoring purposes, and review operational procedures.

- (h) PSO Qualifications must include direct field experience on a marine mammal observation vessel and/or aerial surveys.
- (i) Data on all PSO observations must be recorded based on standard PSO collection requirements. PSOs must use standardized data forms, whether hard copy or electronic. The following information must be reported:
 - (i) PSO names and affiliations;
 - (ii) Dates of departures and returns to port with port name;
 - (iii) Dates and times (Greenwich Mean Time) of survey effort and times corresponding with PSO effort;
 - (iv) Vessel location (latitude/longitude) when survey effort begins and ends; vessel location at beginning and end of visual PSO duty shifts;
 - (v) Vessel heading and speed at beginning and end of visual PSO duty shifts and upon any line change;
 - (vi) Environmental conditions while on visual survey (at beginning and end of PSO shift and whenever conditions change significantly), including wind speed and direction, Beaufort sea state, Beaufort wind force, swell height, weather conditions, cloud cover, sun glare, and overall visibility to the horizon;
 - (vii) Factors that may be contributing to impaired observations during each PSO shift change or as needed as environmental conditions change (*e.g.*, vessel traffic, equipment malfunctions);
 - (viii) Survey activity information, such as acoustic source power output while in operation, number and volume of airguns operating in the array, tow depth of the array, and any other notes of significance (*i.e.*, pre-ramp-up survey, ramp-up, shutdown, testing, shooting, ramp-up completion, end of operations, streamers, etc.);
 - (ix) If a marine mammal is sighted, the following information should be recorded:
 - (A) Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);
 - (B) PSO who sighted the animal;

- (C) Time of sighting;
- (D) Vessel location at time of sighting;
- (E) Water depth;
- (F) Direction of vessel's travel (compass direction);
- (G) Direction of animal's travel relative to the vessel;
- (H) Pace of the animal;
- (I) Estimated distance to the animal and its heading relative to vessel at initial sighting;
- (J) Identification of the animal (*e.g.*, genus/species, lowest possible taxonomic level, or unidentified); also note the composition of the group if there is a mix of species;
- (K) Estimated number of animals (high/low/best);
- (L) Estimated number of animals by cohort (adults, yearlings, juveniles, calves, group composition, etc.);
- (M) 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);
- (N) Detailed behavior observations (*e.g.*, number of blows, number of surfaces, breaching, spyhopping, diving, feeding, traveling; as explicit and detailed as possible; note any observed changes in behavior);
- (O) Animal's closest point of approach and/or closest distance from the center point of the acoustic source;
- (P) Platform activity at time of sighting (*e.g.*, deploying, recovering, testing, data acquisition, other); and
- (Q) Description of any actions implemented in response to the sighting (*e.g.*, delays, shutdown, ramp-up, speed or course alteration, etc.) and time and location of the action.

6. Reporting – a technical report must be provided to NMFS within 90 days after

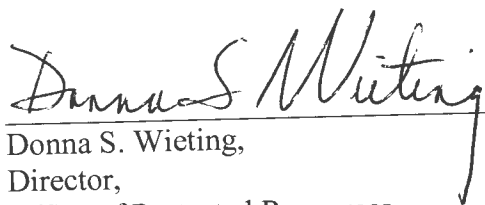
completion of survey activities that fully documents the methods and monitoring protocols, summarizes the data recorded during monitoring, estimates the number of marine mammals that may have been taken during survey activities, describes the effectiveness of the various mitigation techniques and provides an interpretation of the results and effectiveness of all monitoring tasks. Any recommendations made by NMFS must be addressed in the final report prior to acceptance by NMFS.

- (a) Reporting injured or dead marine mammals:
 - (i) In the event that the specified activity clearly causes the take of a marine mammal in a manner not prohibited by this IHA (if issued), such as serious injury or mortality, Dominion must immediately cease the specified activities and immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources ((301) 427-8401) and the NMFS New England/Mid-Atlantic Stranding Coordinator ((978) 282-8478). The report must include the following information:
 - (A) Time, date, and location (latitude/longitude) of the incident;
 - (B) Vessel's speed during and leading up to the incident;
 - (C) Description of the incident;
 - (D) Status of all sound source use in the 24 hours preceding the incident;
 - (E) Water depth;
 - (F) Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
 - (G) Description of all marine mammal observations in the 24 hours preceding the incident;
 - (H) Species identification or description of the animal(s) involved;
 - (I) Fate of the animal(s); and
 - (J) Photographs or video footage of the animal(s).

Activities must not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with Dominion to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Dominion may not resume their activities until notified by NMFS.

- (ii) In the event that Dominion discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition), Dominion must immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources ((301) 427-8401) and the NMFS New England/Mid-Atlantic Stranding Coordinator ((978) 282-8478). The report must include the same information identified in condition 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with Dominion to determine whether additional mitigation measures or modifications to the activities are appropriate.
 - (iii) In the event that Dominion discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the specified activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Dominion must report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources ((301) 427-8401) and the NMFS New England/Mid-Atlantic Stranding Coordinator ((978) 282-8478), within 24 hours of the discovery. Dominion must provide photographs or video footage or other documentation of the sighting to NMFS.
7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.
8. On a case-by-case basis, NMFS may issue a second one-year IHA when 1) another year of identical or nearly identical activities is planned or 2) the activities would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities, provided all of the following conditions are met:
- (a) A request for renewal is received no later than 60 days prior to expiration of the current IHA.
 - (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted beyond the initial dates either are identical to the previously analyzed activities or include changes so minor (*e.g.*, reduction in pile size) that the changes do not affect the previous analyses, take estimates, or mitigation and monitoring requirements.
 - (ii) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

- (c) Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures remain the same and appropriate, and the original findings remain valid.



Donna S. Wieting,
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JUL 3 1 2018

Date

Table 1. Numbers of Incidental Take of Marine Mammals Calculated and Authorized for Level B Harassment.

Species Common Name	Species Scientific Name	Authorized Level B Harassment Take
Bottlenose dolphin – N. Coastal Migratory	<i>Tursiops truncatus</i>	350
Bottlenose dolphin – Offshore	<i>Tursiops truncatus</i>	350
Atlantic spotted dolphin	<i>Stenella frontalis</i>	300
Common dolphin	<i>Delphinus delphis</i>	400
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	200
Short-finned/long-finned pilot whale	<i>Globicephala macrorhynchus/</i> <i>G. melas</i>	15
Harbor porpoise	<i>Phocoena phocoena</i>	6
Harbor seal	<i>Phoca vitulina</i>	5
Gray seal	<i>Halichoerus grypus</i>	1