



INCIDENTAL HARASSMENT AUTHORIZATION

Dominion Energy Virginia (Dominion) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to marine site characterization surveys off the coast of Virginia when adhering to the following terms and conditions.

1. This incidental harassment authorization (IHA) is valid from the date of issuance until August 27, 2021.
2. This IHA is valid only for the marine site characterization surveys specified in the IHA application in the Atlantic Ocean off the coast of Virginia.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of Dominion, the vessel operators, the lead protected species observers (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. The taking, by Level B harassment only, 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 in Table 1, 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 of the species listed in Table 1 of the Authorization or any taking of any other 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 employ a minimum of one (1) NMFS-approved PSO on each survey vessel at all times when high-resolution geophysical (HRG) equipment is in use during daylight operations. The PSO(s) must be on duty 30 minutes prior to ramp-up of HRG equipment on each survey vessel. 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.
 - (b) During survey operations (*e.g.*, any day on which use of the acoustic source is planned to occur), a minimum of one (1) 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).
 - (c) A minimum of two (2) NMFS-approved PSOs must be on duty and conducting visual observations when HRG equipment is in use during night time operations on all survey vessels during geophysical surveys.
 - (d) Shutdown Zones – PSOs must establish and monitor marine mammal Shutdown Zones when the Geo Marine Dual 400 Sparker and Triple Plate Boomer 1000J (or equivalent sources) are in use. Distances to Shutdown Zones must be from any survey equipment, not the distance from the vessel. Shutdown Zones must be as follows:
 - (i) 500-m Shutdown Zone for North Atlantic right whales;
 - (ii) 100-m Shutdown Zone for all other marine mammals except delphinid(s) from the genera *Delphinus*, *Lagenorhynchus*, *Stenella* or *Tursiops* and seals.
 - (iii) 25-m Shutdown Zone for all marine mammals except delphinid(s) from the genera *Delphinus*, *Lagenorhynchus*, *Stenella* or *Tursiops* and seals when the Triple Plate Boomer 1000J (or equivalent source) is in use and the Geo Marine Dual 400 Sparker is not operating.
 - (e) Marine Mammal Monitoring Zone – PSOs must establish and monitor a marine mammal Monitoring Zone that represents a distance of 500 meters from survey equipment.
 - (f) Marine Mammal Buffer Zone – PSOs must establish and monitor a 200-m Buffer Zone.

- (i) During use of the Geo Marine Dual 400 Sparker and Triple Plate Boomer 1000J (or equivalent sources), occurrences of marine mammals within the Buffer Zone must be communicated to the vessel operator to prepare for potential shutdown of the acoustic source.
 - (ii) The Buffer Zone is not applicable when the EZ is greater than 100 meters.
- (g) Shutdown requirements
- (i) If a marine mammal is observed within or entering the relevant Shutdown Zones as described under 4(d) while geophysical survey equipment is operational, the geophysical survey equipment must be immediately shut down.
 - (ii) 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.
 - (iii) When a shutdown is called for by a PSO, the shutdown must occur and any dispute resolved only following shutdown.
 - (iv) The vessel operator must establish and maintain clear lines of communication directly between PSOs on duty and crew controlling the geophysical source(s) to ensure that shutdown commands are conveyed swiftly while allowing PSOs to maintain watch.
 - (v) Upon implementation of a shutdown, survey equipment may be reactivated when all marine mammals that triggered the shutdown have been confirmed by visual observation to have exited the relevant Shutdown Zone or an additional time period has elapsed with no further sighting of the animal that triggered the shutdown (15 minutes for porpoises and seals and 30 minutes for all other marine mammals).
 - (vi) If geophysical survey equipment shuts down for less than 30 minutes for reasons other than marine mammal mitigation (*e.g.*, due to mechanical or electronic failure) the equipment may be re-activated as soon as is practicable at full operational level if PSOs have maintained constant visual observation during the shutdown and no visual detections of marine mammals occurred within the applicable Shutdown and Buffer Zones during that time. For a shutdown of 30 minutes or longer, or if visual observation was not continued diligently during the pause, pre-clearance observation is required, as described under 4(h).

- (vii) If a delphinid(s) from the genera *Delphinus*, *Lagenorhynchus*, *Stenella* or *Tursiops* or seals are visually detected within the shutdown zone, no shutdown is required unless a visual PSO confirms the individual to be of a genus other than those listed, in which case a shutdown is required.
- (viii) Shutdown of geophysical survey equipment is required upon observation of a species for which authorization has not been granted, or, observation of a species for which authorization has been granted but the authorized number of takes has been met, approaching or observed within the Level B harassment zone (*i.e.*, within 100 meters of active geophysical survey equipment).
- (h) Pre-clearance observation – PSOs must conduct 30 minutes of pre-clearance observation prior to initiation of geophysical survey equipment. If a marine mammal is observed within or approaching the buffer zone described below during the pre-clearance period, geophysical survey equipment must not be initiated until the marine mammal(s) is confirmed by visual observation to have exited the relevant zone, or, until an additional time period has elapsed with no further sighting of the animal (15 minutes for small odontocetes and seals and 30 minutes for all other species). The pre-clearance requirement includes small delphinids (as described in 4(g)(vii) above). PSOs must also continue to monitor the zone for 30 minutes after survey equipment is shut down or survey activity has concluded. Geophysical surveys must not be initiated if:
 - (i) a North Atlantic right whale is observed within a 500-m radius of geophysical survey equipment during the pre-clearance period; or
 - (ii) any other marine mammals are observed within a 200-m radius of geophysical survey equipment during the pre-clearance period.
- (i) 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 a way such that the source level would increase gradually.
- (j) Seasonal Restrictions
 - (i) Dominion must comply with seasonal mandatory speed restrictions in the Mid-Atlantic Seasonal Management Area near Norfolk, VA from November 1 through April 30 for any vessels.

- (ii) If a Dynamic Management Area (DMA) is established in the Lease Area or export cable corridor being surveyed, Dominion must within 24 hours of the establishment of the DMA work with NMFS to determine whether alteration of survey activities is warranted to avoid right whales to the extent possible.

- (k) Vessel Strike Avoidance – Vessel operators and crews must maintain a vigilant watch for all protected species and slow down, stop their vessel, or alter course, as appropriate and regardless of vessel size, to avoid striking any protected species. A visual observer aboard the vessel must monitor a vessel strike avoidance zone around the vessel (distances stated below). Visual observers monitoring the vessel strike avoidance zone may be third-party observers (i.e., PSOs) or crew members, but crew members responsible for these duties must be provided sufficient training to 1) distinguish protected species from other phenomena and 2) identify a marine mammal as a right whale, other whale (defined in this context as sperm whales or baleen whales other than right whales), or other marine mammal.
 - (i) All vessels, regardless of size, must observe a 10-knot speed restriction in the following areas designated by NMFS for the protection of North Atlantic right whales from vessel strikes: any dynamic management areas (DMAs) when in effect, the Mid-Atlantic Seasonal Management Areas (SMA) (from November 1 through April 30), and the Southeast SMA (from November 15 through April 15). See www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales for specific detail regarding these areas.
 - (ii) Vessel speeds must also be reduced to 10 knots or less when mother/calf pairs, pods, or large assemblages of cetaceans are observed near a vessel.
 - (iii) All vessels must maintain a minimum separation distance of 500 m from right whales. If a whale is observed but cannot be confirmed as a species other than a right whale, the vessel operator must assume that it is a right whale and take appropriate action
 - (iv) All vessels must maintain a minimum separation distance of 100 m from sperm whales and all other baleen whales.
 - (v) 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 understanding that at times this may not be possible (e.g., for animals that approach the vessel).
 - (vi) When protected species are sighted while a vessel is underway, the vessel shall 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 protected species 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.

5. Monitoring Requirements – Dominion is required to conduct marine mammal visual monitoring during geophysical survey activity. Monitoring must be conducted in accordance with the following requirements:
 - (a) PSO resumes must be provided to NMFS for approval prior to commencement of the survey. PSO qualifications must include completion of a PSO training course and direct field experience conducting similar surveys.
 - (b) PSOs must be employed by a third-party observer provider, must have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of marine mammals and mitigation requirements (including brief alerts regarding maritime hazards), and must have successfully completed an approved PSO training course appropriate for their designated task.
 - (c) Visual monitoring must begin no less than 30 minutes prior to initiation of geophysical survey equipment and must continue until one hour after use of the acoustic source ceases or until 30 minutes past sunset.
 - (d) PSOs must coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts.
 - (e) Visual observations must be conducted using binoculars and the naked eye while free from distractions and in a consistent, systematic, and diligent manner.
 - (f) PSOs may be on watch for a maximum of four consecutive hours followed by a break of at least two hours between watches and may conduct a maximum of 12 hours of observation per 24-hour period.
 - (g) In cases where multiple vessels are surveying concurrently, any observations of marine mammals must be communicated to PSOs on all active survey vessels.
 - (h) PSOs must be equipped with binoculars and have the ability to estimate distances to marine mammals located in proximity to the vessel and/or Shutdown Zones. Reticulated binoculars must be available to PSOs for use as appropriate based on conditions and visibility to support the sighting and monitoring of marine species.

- (i) Position data must be recorded using hand-held or vessel global positioning system (GPS) units for each sighting.
- (j) Dominion must consult NMFS' North Atlantic right whale reporting systems for the presence of North Atlantic right whales throughout survey operations for the establishment of a Dynamic Management Area (DMA).
- (k) During good conditions (*e.g.*, daylight hours; Beaufort sea state (BSS) 3 or less), to the maximum extent practicable, visual PSOs must conduct observations when the acoustic source is not operating for comparison of sighting rates and behavior with and without use of the acoustic source and between acquisition periods.
- (l) Night-vision equipment (*i.e.*, night-vision goggles and infrared technology) must be available for use.
- (m) If the Shutdown Zone, Buffer Zone and/or Monitoring Zone are not fully visible to PSOs due to darkness or inclement weather, survey activities may continue, unless a marine mammal is detected within or entering the Shutdown Zones as described under 4(d).
- (n) 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 type of survey equipment in operation, acoustic source power output while in operation, and any other notes of significance (*i.e.*, pre-clearance survey, ramp-up, shutdown, end of operations, 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);
- (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: and
- (R) Documentation of whether the marine mammal was estimated to have been within 100 meters (Geo Marine Dual 400 Sparker in use) or 25 meters (Only Triple Plate Boomer 1000J in use) of active survey equipment.

6. Reporting – a monitoring 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 both visual and passive acoustic monitoring, estimates the number of marine mammals that may have been taken during survey activities, describes, assesses and compares the effectiveness of monitoring and mitigation measures. Any recommendations made by NMFS must be addressed in the final report prior to acceptance by NMFS. PSO datasheets or raw sightings data must also be provided with the draft and final monitoring report.

(a) Reporting sightings of North Atlantic right whales:

- (i) If a North Atlantic right whale is observed at any time by any project vessels, during surveys or during vessel transit, Dominion must immediately report sighting information to the NMFS North Atlantic Right Whale Sighting Advisory System: (866) 755-6622. North Atlantic right whale sightings in any location may also be reported to the U.S. Coast Guard via channel 16.

(b) Reporting injured or dead marine mammals:

- (i) Discovery of injured or dead marine mammal – In the event that personnel involved in the survey activities covered by the authorization discover an injured or dead marine mammal, the IHA-holder shall report the incident to the Office of Protected Resources (OPR) (301-427-8401), NMFS and to the New England/Mid-Atlantic Regional Stranding Coordinator (978-282-8478) as soon as feasible. The report must include the following information:
 - (A) Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
 - (B) Species identification (if known) or description of the animal(s) involved;
 - (C) Condition of the animal(s) (including carcass condition if the animal is dead);
 - (D) Observed behaviors of the animal(s), if alive;
 - (E) If available, photographs or video footage of the animal(s); and
 - (F) General circumstances under which the animal was discovered.

- (ii) Vessel Strike – In the event of a ship strike of a marine mammal by any vessel involved in the activities covered by the authorization, the IHA-holder shall report the incident to OPR, NMFS and to the New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. The report must include the following information:
 - (A) Time, date, and location (latitude/longitude) of the incident;
 - (B) Species identification (if known) or description of the animal(s) involved;
 - (C) Vessel's speed during and leading up to the incident;
 - (D) Vessel's course/heading and what operations were being conducted (if applicable);
 - (E) Status of all sound sources in use;
 - (F) 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;

- (G) Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike;
- (H) Estimated size and length of animal that was struck;
- (I) Description of the behavior of the marine mammal immediately preceding and following the strike;
- (J) If available, description of the presence and behavior of any other marine mammals immediately preceding the strike;
- (K) 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
- (L) To the extent practicable, photographs or video footage of the animal(s).

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. Renewals – On a case-by-case basis, NMFS may issue a one-time one-year Renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical or nearly identical, or nearly identical, activities as described in the Specified Activities section of this notice is planned or (2) the activities as described in the Specified Activities section of this notice would not be completed by the time the IHA expires and a Renewal would allow for completion of the activities beyond that described in the Dates and Duration section of this notice, provided all of the following conditions are met:
 - (a) A request for renewal is received no later than 60 days prior to the needed Renewal IHA effective date (recognizing that the Renewal IHA expiration date cannot extend beyond one year from expiration of the initial IHA).
 - (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted under the requested Renewal IHA are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (e.g., reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).

- (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 will remain the same and appropriate, and the findings in the initial IHA remain valid.

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Donna S. Wieting,
Director, Office of Protected Resources
National Marine Fisheries Service

Date

Table 1. Numbers of Incidental Take of Marine Mammals Authorized

Species	Authorized Takes by Level B Harassment
Atlantic white sided dolphin	44
Bottlenose dolphin (WNA offshore stock)	511
Bottlenose dolphin (Southern migratory coastal stock)	224
Pilot whale	12
Risso's dolphin	6
Common dolphin	68
Spotted dolphin	2,427
Harbor porpoise	39
Harbor seal	18
Gray seal	17