

## INCIDENTAL HARASSMENT AUTHORIZATION

Avangrid Renewables LLC (Avangrid) 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 high-resolution geophysical (HRG) surveys off of North Carolina and Virginia, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid for a period of one year from the date of issuance.
2. This IHA is valid only for marine site characterization survey activity, as specified in the IHA application, in the area of the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS-A 0508) and coastal waters of North Carolina and Virginia where one or more cable route corridors will be established.
3. General Conditions
  - (a) A copy of this IHA must be in the possession of Avangrid, the vessel operator, and other relevant personnel, the lead protected species observer (PSO), and any other relevant designees of Avangrid 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 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 (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) 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) Avangrid shall instruct relevant vessel personnel with regard to the authority of the protected species monitoring team, and shall ensure that relevant vessel personnel and the protected species monitoring team participate in a joint onboard briefing (hereafter PSO briefing) led by the vessel operator and lead PSO prior to beginning work to ensure that responsibilities, communication procedures, protected species monitoring protocols, operational procedures, and IHA requirements are clearly understood. This PSO briefing must be repeated when relevant new personnel join the survey operations before work commences.
  - (e) The acoustic source must be deactivated when not acquiring data or preparing to acquire data, except as necessary for testing. Unnecessary use of the acoustic source shall be avoided.

#### 4. Mitigation Measures

The holder of this Authorization is required to implement the following mitigation measures:

- (a) Avangrid must use at least four (4) NMFS-approved 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.
- (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) Monitoring Zone, Harassment Zone, and Exclusion Zone -PSOs must observe a monitoring zone during all HRG survey activities, which must encompass the maximum sight distance possible and must include the Harassment Zone and Exclusion Zones. Distances to the Harassment Zone and Exclusion Zones must be from any survey equipment, not the distance from the vessel. The Exclusion Zones are as follows:
  - (i) 500 m exclusion zone for North Atlantic right whales;
  - (ii) 200 m exclusion zone for sei and fin whales; and
  - (iii) 100 m exclusion zone for other large cetaceans (i.e., humpback whale, minke whale, pilot whale, Risso's dolphin).
- (d) The Harassment Zone represents the zone within which marine mammals would be considered taken by Level B harassment and shall encompass a distance of 200 m from survey equipment for all marine mammal species.
- (e) 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 delay the start of survey operations or to call for shutdown of the acoustic source if a marine mammal is detected within the applicable exclusion zone
  - (ii) The operator must establish and maintain clear lines of communication directly between PSOs on duty and crew controlling the acoustic source to ensure that shutdown commands are conveyed swiftly while allowing PSOs to maintain watch.
  - (iii) When a shutdown is called for by a PSO, the shutdown must occur and any dispute resolved only following shutdown.

- (iv) 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 the 200 m Level B harassment zone, shutdown must occur.
- (v) Upon implementation of shutdown, the source may be reactivated after the marine mammal has been observed exiting the applicable exclusion zone or following a clearance period (15 minutes for small odontocetes and 30 minutes for all other species)
- (vi) If geophysical equipment shuts down for reasons other than mitigation (i.e., mechanical or electronic failure), resulting in the cessation of the survey activity for a period of less than 30 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. If visual surveys were not continued diligently during the pause of 30 minutes or less, a 30-minute pre-clearance period must precede the restart of the geophysical survey equipment as described in 4(f).
- (f) Pre-clearance observation – 30 minutes of pre-clearance observation must be conducted prior to use of geophysical survey equipment. If a marine mammal is observed within or approaching the pre-clearance zones described below during the pre-clearance period, use of geophysical survey equipment must not be initiated until the animal(s) is confirmed by visual observation to have exited the relevant pre-clearance zone, or, until an additional time period has elapsed with no further sighting of the animal (15 minutes for small cetaceans and 30 minutes for all other species). Use of geophysical survey equipment shall not be initiated if:
  - (i) A North Atlantic right whale is observed within 500 m of geophysical survey equipment during the pre-clearance period;
  - (ii) Sei or fin whales are observed within 200 m during the pre-clearance period, or
  - (iii) Other large cetaceans are sighted within 100 m of geophysical survey equipment during the pre-clearance period.
- (g) 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 turned up and other acoustic sources added such that the source level would increase gradually.
- (h) 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) All vessels (e.g., source vessels, chase vessels, supply vessels), regardless of size, must observe a 10-knot speed restriction in specific areas designated by NMFS for the protection of North Atlantic right whales from vessel strikes: any Dynamic Management Areas (DMA) when in effect, and the Mid-Atlantic Seasonal Management Areas (SMA) (from November 1 through April 30). See [www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales](http://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 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.
- (vii) 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.

## 5. Monitoring

The holder of this Authorization is required to conduct marine mammal monitoring during geophysical surveys using approved PSOs. PSO resumes must be provided to NMFS for approval prior to commencement of the survey. Monitoring and reporting must be conducted in accordance with the following requirements:

- (a) The following equipment must be provided to PSOs:
  - (i) PSOs must be equipped with binoculars and have the ability to estimate distances to marine mammals located in proximity to their established zones using range finders. Reticulated binoculars must also be available to PSOs for use as appropriate based on conditions and visibility to support the siting and monitoring of marine species.
  - (ii) Cameras of appropriate quality must be used for photographs and video to record sightings and verify species identification.
  - (iii) Night-vision equipment (night-vision goggles with thermal clip-ons) and infrared technology must be used for night operations.
  - (iv) Position data must be recorded using hand-held or vessel global positioning system (GPS) units for each sighting.
  - (v) Radios for each PSO are required in order to communicate among vessel crew and PSOs
- (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 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.
- (d) 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) 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;
  - (ii) PSO names and affiliations;
  - (iii) Dates of departures and returns to port with port name;
  - (iv) Date and participants of PSO briefings;

- (v) Dates and times (Greenwich Mean Time) of survey effort and times corresponding with PSO effort;
  - (vi) Vessel location (latitude/longitude) when survey effort begins and ends; vessel location at beginning and end of visual PSO duty shifts;
  - (vii) Vessel heading and speed at beginning and end of visual PSO duty shifts and upon any line change;
  - (viii) 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;
  - (ix) 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);
  - (x) Survey activity information, such as acoustic source power output while in operation, and any other notes of significance (i.e., pre-ramp-up survey, ramp-up, shutdown, testing, ramp-up completion, end of operations, etc.);
- (e) Upon visual observation of any marine mammal, the following information must be recorded:
- (i) Watch status (sighting made by PSO on/off effort, opportunistic, crew, alternate vessel/platform);
  - (ii) PSO who sighted the animal;
  - (iii) Time of sighting
  - (iv) Vessel location 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 its heading relative to vessel at initial sighting;

- (xi) 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;
- (xii) Estimated number of animals (high/low/best);
- (xiii) Estimated number of animals by cohort (adults, yearlings, juveniles, calves, 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, number of surfaces, breaching, spy hopping, diving, feeding, traveling; as explicit and detailed as possible; note any observed changes in behavior);
- (xvi) Animal's closest point of approach and/or closest distance from the center point of the acoustic source;
- (xvii) Platform activity at time of sighting (e.g. , deploying, recovering, testing, data acquisition, other); and
- (xviii) 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. PSO names and affiliations;
- (xix) If observed within 200 m of geophysical survey equipment, marine mammals must be documented as takes by Level B harassment.

## 6. Reporting

The holder of this Authorization is required to submit a technical report to NMFS within 90 days after completion of survey activities or expiration of IHA 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) The technical report must include the following:
  - (i) Description of all activities conducted and sightings of marine mammal species;
  - (ii) Full documentation of methods, results, and interpretation pertaining to all monitoring,

- (iii) Summary of the dates and locations of survey operations and all marine mammal species sightings (dates, times, locations, activities, associated survey activities).
  - (iv) All raw observational data shall be made available to NMFS
  - (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.
- (b) Reporting injured or dead marine mammals:
- (i) In the event that personnel involved in the survey activities covered by the authorization (if issued) 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 NMFS Southeast Regional Stranding Coordinator (305-361-4586). 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 Avangrid to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Avangrid may not resume their activities until notified by NMFS.

- (ii) In the event that Avangrid 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), Avangrid must immediately report the incident to

the NMFS Office of Protected Resources and the NMFS Southeast Regional Stranding Coordinator. 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 Avangrid to determine whether additional mitigation measures or modifications to the activities are appropriate.

- (iii) In the event that Avangrid 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), Avangrid must report the incident to the NMFS Office of Protected Resources and the NMFS Southeast Regional Stranding Coordinator within 24 hours of the discovery. Avangrid 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. Renewals - On a case-by-case basis, NMFS may issue a one-year IHA renewal with an expedited public comment period (15 days) 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 beyond that allowed for under this IHA, 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.

**Table 1. Numbers of Authorized Take by Level B Harassment**

<b>Species</b>	<b>Level B Takes Authorized</b>
Humpback whale	10
Minke whale	17
Pilot whale	10
Bottlenose dolphin (WNA Southern Migratory Coastal)	105
Bottlenose dolphin (Offshore)	307
Short beaked common dolphin	120
Atlantic white-sided dolphin	53
Spotted dolphin	204
Risso's dolphin	40
Harbor porpoise	30