



## INCIDENTAL HARASSMENT AUTHORIZATION

Ørsted Wind Power North America, LLC (Ørsted) 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 in coastal waters from New York to Massachusetts, when adhering to the following terms and conditions.

1. This incidental harassment authorization (IHA) is valid from September 25, 2020 through September 24, 2021.
2. This IHA is valid only for marine site characterization survey activities specified in the IHA application, in the Atlantic Ocean.
3. General Conditions
  - (a) A copy of this IHA must be in the possession of Ørsted, the vessel operators, the lead protected species observers (PSO), and any other relevant designees of Ørsted 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) Ørsted 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) Ørsted must employ independent, qualified, NMFS-approved PSOs (see section 5 of this IHA) to conduct visual monitoring. When specified acoustic sources (impulsive: boomers and/or sparkers; non-impulsive: non-parametric sub-bottom profilers) are operating, a minimum of one (1) PSO must be on duty during daylight hours and two (2) PSOs must be on duty during nighttime hours. PSOs must be employed by a third-party observer provider and must not have tasks other than to conduct

observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of protected species and mitigation requirements (including brief alerts regarding maritime hazards). At least one PSO aboard each acoustic source vessel must have a minimum of 90 days at-sea experience working as a PSO during a geophysical survey, with no more than 18 months elapsed since the conclusion of the at-sea experience. This lead PSO must coordinate duty schedules and roles for the PSO team and serve as primary point of contact for the vessel operator. (Note that the responsibility of coordinating duty schedules and roles may instead be assigned to a shore-based, third-party monitoring coordinator). To the maximum extent practicable, the lead PSO must devise the duty schedule such that experienced PSOs are on duty with those PSOs with appropriate training but who have not yet gained relevant experience.

- (b) Visual monitoring must begin no less than 30 minutes prior to initiation of acoustic sources and must continue until 30 minutes after use of acoustic sources ceases.
- (c) Operational Exclusion Zones – PSOs must establish and monitor marine mammal Exclusion Zones. Distances to Exclusion Zone limits must be from any acoustic sources, not the distance from the vessel. Exclusion Zones must be as follows:
  - (i) 500-m Exclusion Zone for North Atlantic right whales for use of impulsive acoustic sources (*e.g.*, boomers and/or sparkers) and non-impulsive, non-parametric sub-bottom profilers; and
  - (ii) 100-m Exclusion Zone for all other marine mammals for use of impulsive acoustic sources (*e.g.*, boomers and/or sparkers), except for as noted in condition 4(g)(vii) of this IHA.
- (d) Harassment Zones – PSOs must establish and monitor Level B Harassment Zones specific to the acoustic sources used during the survey. Harassment Zones must be as follows:
  - (i) 141-m Harassment Zone for all marine mammals during survey operations employing impulsive sources (*e.g.*, boomers and/or sparkers) as the predominant acoustic source; and
  - (ii) 54-m Harassment Zone for all marine mammals during survey operations employing non-impulsive, non-parametric sub-bottom profilers as the predominant acoustic source.
- (e) Pre-start clearance observation – PSOs must conduct 30 minutes of pre-start clearance observation prior to initiation of geophysical survey operations (except as described under condition 4(g)(ix) of this IHA). If a marine mammal is observed

entering or within the pre-start clearance zones, described below, during the pre-start clearance period, relevant acoustic sources 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, see Table 1). The pre-start clearance requirement includes small delphinids that approach the vessel. Geophysical surveys using impulsive sources and non-impulsive, non-parametric sub-bottom profilers must not be initiated if:

- (i) a North Atlantic right whale is observed within a 500-m radius of impulsive acoustic sources (*e.g.*, boomers and/or sparkers) and non-impulsive, non-parametric sub-bottom profilers during the pre-start clearance period;
  - (ii) any other marine mammals are observed within a 100-m radius of impulsive acoustic sources (*e.g.*, boomers and/or sparkers) and non-impulsive, non-parametric sub-bottom profilers during the pre-start clearance period.
- (f) Ramp-up – when technically feasible, acoustic sources must be ramped up at the start or re-start of survey activities. Ramp-up must begin with the power of the smallest acoustic source at its lowest practical power output. 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.
- (g) Shutdown requirements
- (i) If a marine mammal is observed within or entering the relevant Exclusion Zones as described under condition 4(c) of this IHA while acoustic sources are operational, the acoustic sources must be immediately shut down (except as described in condition 4(g)(vii) of this IHA).
  - (ii) Any PSO on duty has the authority to call for shutdown of acoustic sources. 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 acoustic source(s) to ensure that shutdown commands are conveyed swiftly, while allowing PSOs to maintain watch.
  - (v) Upon implementation of a shutdown, acoustic sources may be reactivated

when all marine mammals that triggered the shutdown 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 small odontocetes [*i.e.*, species comprising the family Phocoenidae and the species comprising the genera *Delphinus*, *Lagenorhynchus*, *Stenella* (*frontalis* only), or *Tursiops*, as detailed in Table 1] and seals; 30 minutes for all other marine mammals).

- (vi) If acoustic sources are shut down for less than 30 minutes for reasons other than marine mammal mitigation (*e.g.*, due to mechanical or electronic failure) the acoustic sources 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 Exclusion Zones during that time. For a shutdown of 30 minutes or longer, pre-start clearance observation is required, as described in condition 4(e) of this IHA, unless visual observation was continued diligently during the entire pause with no further detections of any marine mammals.
- (vii) If delphinids from the genera *Delphinus*, *Lagenorhynchus*, *Stenella* (*frontalis* only), or *Tursiops* (Table 1) are visually detected approaching the vessel or towed acoustic sources, shutdown is not required. If there is uncertainty regarding identification of a marine mammal species (*i.e.*, whether the observed marine mammal(s) belongs to one of the delphinid genera for which shutdown is waived), PSOs must use best professional judgment in making the decision to call for a shutdown.
- (viii) Shutdown of acoustic sources is required upon observation of either a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met, entering or within the Level B harassment zone.
- (ix) Shutdown, pre-start clearance, and ramp-up procedures are not required during HRG survey operations using only non-impulsive sources (*e.g.*, USBL and parametric sub-bottom profilers) other than non-parametric sub-bottom profilers (*e.g.*, CHIRPs). Pre-clearance and ramp-up, but not shutdown, are required when using non-impulsive, non-parametric sub-bottom profilers.
- (h) Vessel Strike Avoidance – Ørsted must ensure that vessel operators and crew maintain a vigilant watch for marine mammals and slow down or stop their vessels to avoid striking these species. Survey vessel crew members responsible for navigation duties must receive site-specific training on marine mammals and vessel strike avoidance measures. Vessel strike avoidance measures include the following, except under circumstances when complying with these requirements would put the safety of the vessel or crew at risk:

- (i) 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) broadly to 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;
- (ii) All vessels, regardless of size, must observe a 10-knot speed restriction in the following specific areas designated by NMFS for the protection of North Atlantic right whales: any dynamic management areas (DMAs) when in effect, and the applicable Seasonal Management Area (SMA) and corresponding speed restriction dates (Mid-Atlantic SMA from November 1 through April 30);
- (iii) Vessel speeds must also be reduced to 10 knots or less when any large whale, mother/calf pairs, pods, or large assemblages of cetaceans are observed near a vessel;
- (iv) All vessels must maintain a minimum separation distance of 500-m from North Atlantic right whales at all times. 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 (see condition 4(h)(vi) of this IHA);
- (v) All vessels must maintain a minimum separation distance of 100-m from sperm whales and all baleen whales. 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 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 a North Atlantic right whale is sighted within the relevant separation distance, the vessel must steer a course away at 10 knots or less until the 500-m separation distance has been established;
- (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 that restriction, cannot comply.

- (i) Seasonal Restrictions – No more than 3 survey vessels may operate concurrently from January through May within the area that includes the three Lease Areas (OCS-A 0486/0517, 0487, and 0500) and ECR areas north of the Lease Areas up to, but not including, coastal and bay waters.
5. Monitoring Requirements – Ørsted is required to conduct marine mammal visual monitoring during geophysical survey activity. Monitoring must be conducted in accordance with the following requirements:
- (a) Visual monitoring must be performed by qualified, NMFS-approved PSOs. PSO resumes must be provided to NMFS for review and approval prior to the start of survey activities.
  - (b) In order to be considered qualified, PSOs must have successfully completed an acceptable PSO training course and/or have demonstrated experience in the role of independent PSO during a geophysical survey. On a case-by-case basis, non-independent observers may be approved by NMFS for limited, specific duties in support of approved, independent PSOs on smaller vessels with limited crew capacity operating in nearshore waters.
  - (c) PSOs must coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts.
  - (d) 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.
  - (e) In cases where multiple vessels are surveying concurrently, any observations of marine mammals must be communicated to PSOs on all active survey vessels.
  - (f) 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. 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.
  - (g) Position data must be recorded using hand-held or vessel global positioning system (GPS) units for each sighting.

- (h) Ørsted must consult NMFS' North Atlantic right whale reporting systems for the presence of North Atlantic right whales throughout survey operations and for the existence of a DMA.
- (i) Visual PSOs must conduct observations in the following circumstances (in addition to those described in condition 4(b) of this IHA):
  - (i) during good conditions (*e.g.*, daylight hours; Beaufort sea state 3 or less) and no acoustic sources are operating, for comparison of sighting rates and behavior with and without use of the specified acoustic sources and between acquisition periods (to the maximum extent practicable); and
  - (ii) during all daylight hours, when any acoustic sources are active (in addition to those specified in condition 4(a) of this IHA).
- (j) Night-vision equipment (*i.e.*, night-vision goggles and/or infrared technology) must be available for use during nighttime monitoring.
- (k) Any observations of marine mammals by crew members aboard any vessel associated with the survey must be relayed to the PSO team.
- (l) In cases when pre-clearance has begun in conditions with good visibility, including via the use of night-vision equipment, and the lead PSO has determined that the pre-start clearance zones (as described in condition 4(e) of this IHA) are clear of marine mammals, survey operations may commence (*i.e.*, no delay is required) despite brief periods of inclement weather and/or loss of daylight. In cases where Exclusion Zones (as described in condition 4(c) of this IHA) become obscured for brief periods due to inclement weather, survey operations may continue (*i.e.*, no shutdown is required).
- (m) 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-start 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) Speed of the vessel(s) from which the observation was made;
  - (H) Direction of animal's travel relative to the vessel;
  - (I) Pace of the animal;
  - (J) Estimated distance to the animal and its heading relative to vessel at initial

sighting;

- (K) 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;
- (L) Estimated number of animals (high/low/best);
- (M) Estimated number of animals by cohort (adults, yearlings, juveniles, calves, group composition, etc.);
- (N) 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);
- (O) 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);
- (P) Animal's closest point of approach and/or closest distance from the center point of the acoustic source;
- (Q) Platform activity at time of sighting (*e.g.*, deploying, recovering, testing, data acquisition, other);
- (R) 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
- (S) If observed within Level B harassment zones (141 m during surveys operating boomers or sparkers, or 54 m during surveys using non-impulsive, non-parametric sub-bottom profilers), marine mammals must be documented as potential takes by Level B harassment. Marine mammals detected at any distance, including during use of other acoustic sources, must also be recorded and these observations reported.

6. Reporting – Ørsted is required to report to NMFS in accordance with the following requirements:

- (a) A monitoring report must be provided to NMFS within 90 days after completion of survey activities or expiration of this IHA, whichever comes sooner. The report must fully document the methods and monitoring protocols, summarize the data

recorded during monitoring, describe, assess, and compare 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.

(b) Reporting sightings of North Atlantic right whales:

- (i) If a North Atlantic right whale is observed at any time by PSOs or personnel on any project vessels, during surveys or during vessel transit, Ørsted 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.

(c) Reporting injured or dead marine mammals:

- (i) In the event that personnel involved in the survey activities covered by the authorization discover an injured or dead marine mammal, Ørsted must report to the NMFS New England/Mid-Atlantic Regional Stranding Coordinator by phone (866-755-6622) or by email (nmfs.gar.stranding@noaa.gov) 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) **In the event** of a vessel strike of a marine mammal by any vessel involved in the activities covered by the authorization, Ørsted must report the incident to the NMFS New England/Mid-Atlantic Regional Stranding Coordinator (866-755-6622) and NMFS Office of Protected Resources (itp.esch@noaa.gov) 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, 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.*, changes in equipment models but not type) 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); and
  - (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

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Date

**Table 1. Numbers of Incidental Take of Marine Mammals Authorized**

Common Name	Genus / Species	Marine Mammal Category as it Applies to Mitigation Requirements in the IHA.	Total Takes by Level B Harassment Authorized
North Atlantic right whale	<i>Eubalaena glacialis</i>	North Atlantic right whale	37
Humpback whale	<i>Megaptera novaeangliae</i>	Large whale	21
Fin whale	<i>Balaenoptera physalus</i>	Large whale	36
Sei whale	<i>Balaenoptera borealis</i>	Large whale	2
Minke whale	<i>Balaenoptera acutorostrata</i>	Large whale	13
Sperm whale	<i>Physeter macrocephalus</i>	Large whale	3
Long-finned pilot whale	<i>Globicephala melas</i>	Large odontocete	69
Bottlenose dolphin (W.N. Atlantic Offshore)	<i>Tursiops truncatus</i>	Small odontocete	419
Common dolphin	<i>Delphinus delphis</i>	Small odontocete	2,211
Atlantic white-sided dolphin	<i>Lagenorhynchus acutus</i>	Small odontocete	418
Atlantic spotted dolphin	<i>Stenella frontalis</i>	Small odontocete	7
Risso's Dolphin	<i>Grampus griseus</i>	Small odontocete	30
Harbor porpoise	<i>Phocoena phocoena</i>	Small odontocete	916
Harbor seal	<i>Phoca vitulina</i>	Seal	215
Gray seal	<i>Halichoerus grypus</i>	Seal	215