

INCIDENTAL HARASSMENT AUTHORIZATION

Skipjack Offshore Energy, LLC (Skipjack) 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 coasts of Delaware and Maryland, 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 incidental take caused by underwater noise during the marine site characterization survey specified in the IHA application, in the Atlantic Ocean.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of Skipjack, the vessel operators, the lead protected species observers (PSO), and any other relevant designees of Skipjack 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 species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (d) Skipjack 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) Skipjack must employ a minimum of one (1) NMFS-approved PSO on duty at all times during daylight hours (i.e., from 30 minutes prior to sunrise through 30 minutes following sunset) and 30 minutes prior to and during nighttime ramp-ups of HRG equipment on all survey vessels during geophysical surveys. 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. Requirements for PSOs are described further under 5 (1).

- (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 – PSOs must establish and monitor marine mammal Exclusion Zones. Distances to Exclusion Zones must be from any survey equipment, not the distance from the vessel. Exclusion Zones must be as follows:
 - (i) a 500-m Exclusion Zone for North Atlantic right whales;
 - (ii) a 200-m Exclusion Zone for other ESA-listed marine mammals (i.e., fin, sei, and sperm whales); and
 - (iii) a 100-m Exclusion Zone for all other marine mammals.
- (d) Marine Mammal Monitoring Zone – PSOs must establish and monitor a marine mammal Monitoring Zone that represents a distance of 500 m from survey equipment.
- (e) Marine Mammal Buffer Zone – PSOs must establish and monitor a 200 m Buffer Zone.
 - (i) During use of geophysical sources with the potential to result in marine mammal harassment (i.e., anytime the acoustic source is active, including ramp-up), 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.
- (f) Shutdown requirements
 - (i) If a marine mammal is observed within or entering the relevant Exclusion Zones as described under 4(c) 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 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 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 Exclusion 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(g).

- (vii) If a delphinid(s) from the genera *Delphinus*, *Lagenorhynchus*, *Stenella*, or *Tursiops* is visually detected approaching the vessel (i.e., to bow ride) or towed survey equipment, 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. If delphinids from the above genera are observed within or entering the relevant EZ but do not approach the vessel or towed survey equipment, 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 Level B harassment zone (i.e., within 141 m of geophysical survey equipment).
- (g) Pre-clearance observation – 30 minutes of pre-clearance observation must be conducted prior to initiation of geophysical survey equipment. If a marine mammal is observed within or approaching the pre-clearance zones 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 delphinoids that approach the vessel (e.g., bow ride). 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.
- (h) 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 will then be gradually turned up and other acoustic sources added in a way such that the source level would increase gradually.
- (i) 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 knots (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. 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 maintain a minimum separation distance of 500 m.
- (iv) If underway, the vessel must steer a course away from any sighted North Atlantic right whale at 10 knots (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 500-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 500-m. If stationary, the vessel must not engage engines until the North Atlantic right whale has moved beyond 500-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 must remain parallel to a sighted delphinoid cetacean's course whenever possible, and avoid excessive speed or abrupt changes in direction. 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; and
- (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 knot (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, Skipjack must contact

the NMFS Office of Protected Resources ((301) 427-8401) and NMFS Greater Atlantic Fisheries Office (978) 281-9328) and must work with NMFS to alter survey activities to avoid the DMA as appropriate.

5. Monitoring Requirements – Skipjack 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 one NMFS-approved PSO must be on duty and conducting visual observations at all times on all active survey vessels during daylight hours (i.e., from 30 minutes prior to sunrise through 30 minutes following sunset) during geophysical surveys.
 - (b) 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.
 - (c) PSOs must coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts
 - (d) Visual observations must be conducted using binoculars and the naked eye while free from distractions and in a consistent, systematic, and diligent manner.
 - (e) 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.
 - (f) In cases where multiple vessels are surveying concurrently, any observations of marine mammals must be communicated to PSOs on all active survey vessels.
 - (g) 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.
 - (h) Position data must be recorded using hand-held or vessel global positioning system (GPS) units for each sighting.
 - (i) A briefing must be conducted between survey supervisors and crews, PSOs, and Skipjack to establish responsibilities of each party, define chains of command, discuss communication procedures, provide an overview of monitoring purposes, and review operational procedures.
 - (j) PSO qualifications must include completion of a PSO training course and direct field experience conducting similar surveys.
 - (k) When not on watch duty, PSOs 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 DMA.
 - (l) 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. Non-third-party observers may be approved by NMFS on a case-by-case basis for limited, specific duties in support of approved, independent PSOs.

- (m) 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.
- (n) Night-vision equipment (i.e., night-vision goggles and/or infrared technology) must be used during nighttime monitoring.
- (o) Any observations of marine mammals by crew members aboard any vessel associated with the survey must be relayed to the PSO team.
- (p) If Exclusion Zones, 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 Exclusion Zones as described under 4(c).
- (q) 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) If observed within 141 m of geophysical survey equipment, marine mammals must be documented as takes by Level B harassment.
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 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.
- (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 authorized by this IHA, such as serious injury or mortality, Skipjack must immediately cease the specified activities and immediately report the incident to the NMFS Office of Protected Resources ((301) 427-8401) and the NMFS Northeast / 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 Skipjack to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Skipjack may not resume their activities until notified by NMFS.
- (ii) In the event that Skipjack W 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), Skipjack must immediately report the incident to the NMFS Office of Protected Resources ((301) 427-8401) and the NMFS Northeast / 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 Skipjack to determine whether additional mitigation measures or modifications to the activities are appropriate.
- (iii) In the event that Skipjack 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), Skipjack must report the incident to the NMFS Office of Protected Resources ((301) 427-8401) and the NMFS Northeast / Mid-Atlantic Stranding Coordinator ((978) 282-8478)), within 24 hours of the discovery. Skipjack 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 additional 15 days for public comments when (1) 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 second IHA 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 expiration of the current IHA.
 - (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted under the requested Renewal 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 because only a subset of the initially analyzed activities remain to be completed under the Renewal).
 - (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 findings in the initial IHA remain valid.

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

Date

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

Species	Takes by Level B Harassment	Total Takes Authorized
Fin whale	8	8
Sei whale	1	1
Minke whale	2	2
Humpback whale	3	3
North Atlantic right whale	3	3
Sperm Whale	3	3
Atlantic white-sided dolphin	40	40
Atlantic spotted dolphin	100	100
Bottlenose dolphin (W. N. Atlantic Coastal Migratory)	1,465	1,465
Killer whale	3	3
Short-finned pilot whale	20	20
Long-finned pilot whale	20	20
Risso's dolphin	30	30
Common dolphin	83	83
Harbor porpoise	79	79
Gray seal	4	4
Harbor seal	4	4