17 July 2023

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National Marine Fisheries Service
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(*Submitted via email to PR.ITP.applications@noaa.gov*)

Subject: **Renewal of Incidental Harassment Authorization for Orsted Wind Power North America, LLC Site Characterization Surveys off New York to Massachusetts (OCS-A 0486, 0487, 0500)**

Dear Ms. Harrison:

Orsted Wind Power North America, LLC (Orsted NA) was issued an incidental harassment authorization (IHA) on 6 October 2022 (87 *Federal Register* [*FR*] 61575), pursuant to Section 101(a)(5) of the Marine Mammal Protection Act and 50 Code of Federal Regulations § 216 Subpart I to allow for the incidental Level B harassment of small numbers of marine mammals during marine site characterization surveys in coastal waters off of New York to Massachusetts in the areas of the Bureau of Ocean Energy Management (BOEM) *Commercial Leases of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf* (OCS)-A 0486, 0487, and 0500 (Lease Areas).

The issued IHA, effective through 5 October 2023, includes the provision for a one-year renewal, on a case-by-case basis when (1) up to another year of identical, or nearly identical, activities as described in the Specified Activities section of the IHA is planned, or (2) the activities as described in the Specified Activities of the IHA 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 authorization. Orsted NA plans to conduct a second year of high-resolution geophysical (HRG) site characterization surveys identical to those described in the issued IHA and is therefore requesting a Renewal IHA. The information provided below is pursuant to the requirements of 8(b)(i) and (ii) of the issued IHA and discussions with Office of Protected Resources (OPR) staff.

Proposed Activities

Orsted NA proposes to continue site characterization HRG surveys within the geographic area depicted in the issued IHA, including federal waters located in the Lease Areas, as well as federal and state waters along potential export cable routes (ECRs) to landfall locations between Raritan Bay (part of the New York Bight) and Falmouth, Massachusetts, collectively referred to as the Project Area. **Figure 1** shows the Project Area boundaries (gray shaded area) for the site characterization surveys.

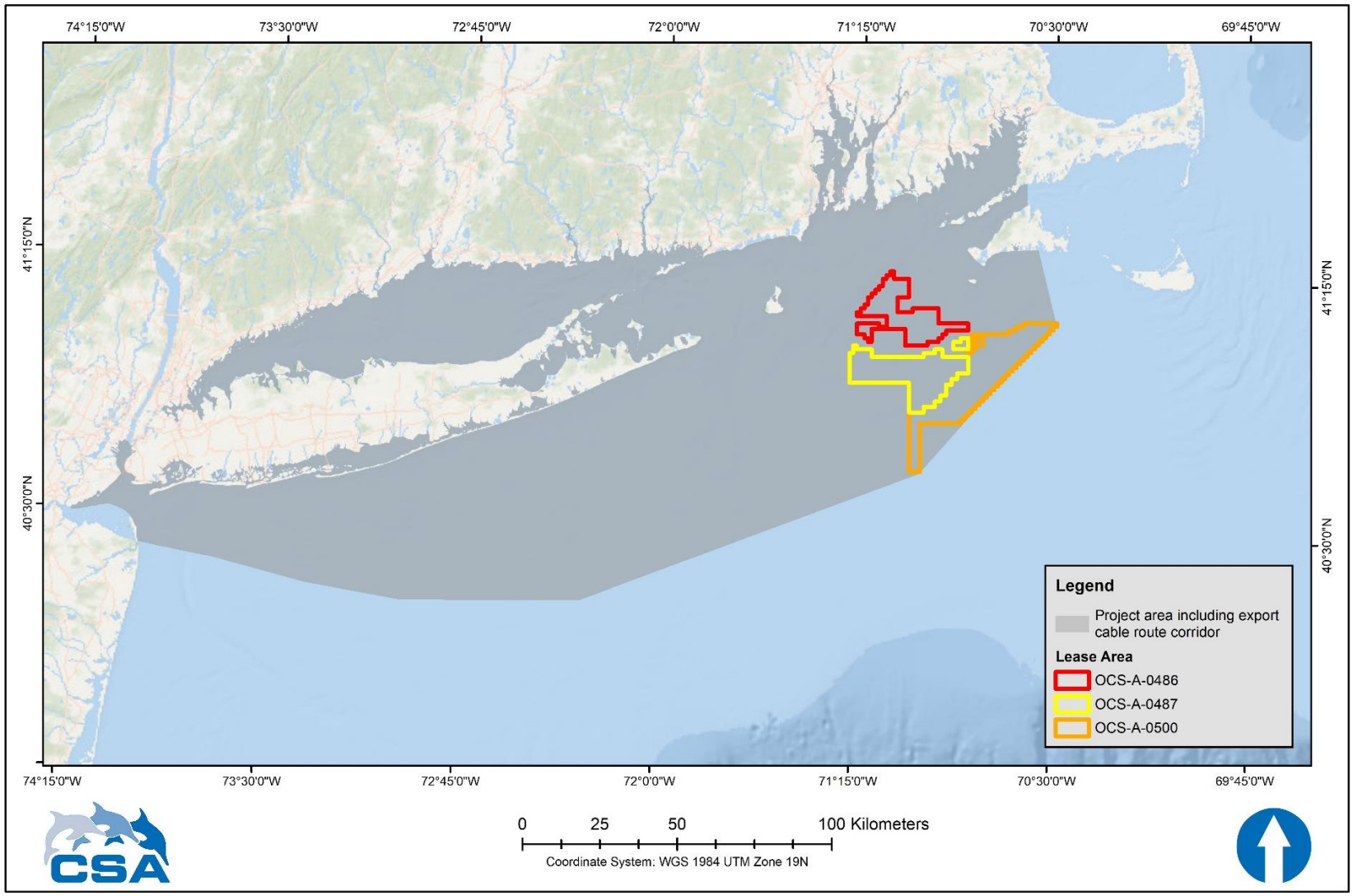

Figure 1. Project Area for the site characterization surveys, indicated in gray, which include the Lease Areas in red, yellow, and orange, and the potential export cable route area under consideration in this Renewal incidental harassment authorization (IHA) request.

Consistent with the issued IHA, HRG surveys will be completed with shallow- to medium-penetration sub-bottom profiling (SBP) equipment (e.g., parametric sonars, compressed high-intensity radiated pulses [CHIRPs], boomers, sparkers) with operating frequencies below 180 kHz. Survey equipment will be deployed from multiple vessels or remotely operated vehicles (ROVs) during the site characterization activities conducted within the Project Area, however only one vessel would operate at a time within the Lease Areas and ECR area. No deep-penetration sub-bottom profiling (e.g., airgun or bubble gun surveys) will be conducted. In the prior analysis conducted for the issued IHA, it was determined that only two categories of equipment would result in potential take: non-impulsive, non-parametric SBP (i.e., CHIRPs) and impulsive SBP (i.e., boomers, sparkers). No other types of equipment were included in the take assessment (87 *FR* 61575). The maximum Level B threshold ranges identified for the two equipment categories were as follows:

- 48 m for all non-impulsive, non-parametric SBP (i.e., CHIRPs); and
- 141 m for all impulsive sources (i.e., boomers, sparkers).

During the one-year period covered by this Renewal, the Applicant is proposing up to 390 vessel survey days within Lease Areas OCS-A 0486, 0487, 0500, and the associated ECR area, which is consistent with the surveys being conducted under the issued IHA (87 *FR* 61575). The only difference between the current IHA and the renewal request is that fewer survey days are being proposed for Lease Areas OCS-A 0486 and 0487. The OCS-A 0486 and 0487 are close to the construction phase and will only require coverage until their respective Letter of Authorizations (LOAs) for construction become effective. It is anticipated that the LOA coverages will begin in Quarter 4 of 2023 for Lease OCS-A 0486, and Quarter 1 of 2024 for Lease OCS-A 0487. Surveys required under this renewal for those lease areas are expected to be minimal, but still could occur prior to LOA coverage. The number of proposed survey days by Lease Area and ECR area are provided in **Table 1**. All survey days assume the use of sparker systems which produce the largest impact isopleths. Therefore, no changes to the mitigation and monitoring protocols established under the issued IHA are proposed.

Table 1. Proposed number of survey days for each of the three Lease Areas as well as the export cable route (ECR) area.

Area	Total Number of Survey Days
OCS-A 0486	5
OCS-A 0487	5
OCS-A 0500	200
ECR	180
TOTAL	**390**

2022 – 2023 Survey Activities

There is one PSO data set that is applicable to information provided in this renewal application. This is the final PSO data set collected under the 2022 Renewal of Northeast Projects (NEP) IHA issued under Federal Register Notice 87 FR 13975, *Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Marine Site Characterization Surveys Offshore From New York to Massachusetts,* Posted on 11 March 2022**.** The effective dates for this authorization were 3 March 2022 through 24 September 2022 and this authorization has expired. While these data were not collected under the most recent IHA for which this renewal is being submitted, they do represent the most complete, finalized data set for the proposed survey area. Data regarding number of visual detections, number of individuals, and mean group size were used to better assess the take requests in this renewal application. No HRG surveys have been conducted under the active IHA (87 *FR* 61575), thus no estimated takes have occurred between October 2022 and the present, as detailed in **Table 2**.

Table 2. Authorized Level B harassment takes from current incidental harassment authorization (87 *Federal Register* [*FR*] 61575) and estimated Level B takes realized between 6 October 2022 and 26 May 2023. Mean group size for each species group derived from the final PSO reports submitted under the most recently expired IHA (87 FR 13975) for the Northeast project region

Species		Authorized Takes (87 *FR* 61575)	Estimated Takes under 87 *FR* 61575	Total number of individuals reported under 87 FR 13975	Mean group size estimate from data collected under 87 FR 13975
North Atlantic Right Whale	*Eubalaena glacialis*	17	0	0	-
Humpback Whale	*Megaptera novaeangliae*	34	0	122	2.3
Fin Whale	*Balaenoptera physalus*	14	0	136	3
Sei Whale	*Balaenoptera borealis*	3	0	0	-
Minke Whale	*Balaenoptera acutorostrata*	13	0	8	1
Sperm Whale	*Physeter macrocephalus*	2	0	0	-
Long-finned Pilot Whale	*Globicephala melas*	52	0	0	-
Bottlenose Dolphin (Offshore)	*Tursiops truncatus*	139	0	200	14.3
Common Dolphin	*Delphinus delphis*	6,000	0	1,212	18.6
Atlantic White-sided Dolphin	*Lagenorhynchus acutus*	210	0	0	-
Atlantic Spotted Dolphin	*Stenella frontalis*	29	0	0	-
Risso's Dolphin	*Stenella frontalis*	30	0	0	-
Striped dolphin	*Stenella coeruleoalba*	20	0	0	-
Harbor Porpoise	*Phocoena phocoena*	287	0	3	1.5
Gray Seal	*Phoca vitulina*	118	0	4	1
Harbor Seal	*Halichoerus grypus*	118	0	1	1

- Indicates no detections of that species in the PSO records

2023 – 2024 Survey Take Estimation

Marine mammal take estimates for the 2023/2024 survey campaign (6 October 2023 – 5 October 2024) for the anticipated activities to be conducted under the renewed IHA are provided in **Table 3** through **Table 6** for each of the Lease Areas and the ECR area, respectively. The estimated takes are based on the annual average species density estimates derived from the latest data from Roberts et al. [2022][1]) and harassment zones[2] from

[1]Roberts, J.J., T. Yack, and P.N. Halpin. 2022. Habitat-based Marine Mammal Density Models for the U.S. Atlantic: Latest Versions (last updated 20 June 2022), provided by Duke University Marine Geospatial Ecology Laboratory, v.12. Available at: https://seamap.env.duke.edu/models/Duke/EC/. Accessed. 2 January 2023.
[2]The harassment zone is a representation of the maximum extent of the ensonified area around a sound source over a 24-hour period. The harassment zone for each piece of equipment operating below 200 kHz was calculated per the following formulae: Harassment Zone = (Distance/day × 2r) + πr where r is the linear distance from the source to the isopleth for Level A or Level B thresholds and day = 1 (i.e., 24 hours). The estimated potential daily active survey distance of 70 km was used as the estimated areal coverage over a 24-hour period.

the issued IHA. The density models from Robert (2021)[3] were updated for the North Atlantic right whale in February 2022, and for all other species in June 2022 (Roberts et al., 2022). Consistent with the issued IHA (87 *FR* 61575), no Level A takes are expected to result from any of the proposed survey activities and only Level B take estimates were included in this request.

The actual risk of Level B takes is very low due to the assumption of sparker use that results in conservative take calculations. As described above, the take calculations are based on 100% use of the sparker source, which produced the maximum isopleth. However, it is expected that portions of the survey will not require sparkers, so therefore take calculations based on 100% sparker use will overestimate the total Level B takes that may be realized. In addition, some portions of the survey may only use CHIRP sources which produce smaller Level B ranges, and there is the potential that some sources that produce no Level B isopleth ranges (e.g., side scan sonar, multibeam sonar) will be used. However, because the actual amount of sparker use versus other sources is not known at this time and may evolve during the survey, the take calculations use this maximum approach and assumed 100% use of the sparker. In addition to this, the mitigation measures for North Atlantic right whales are based upon highly protective ranges (500 m), which fully encompass the maximum Level B ranges (141 m); therefore, shutdowns would occur before the North Atlantic right whale would be exposed to sound levels that exceed Level B thresholds. Level B take is requested for North Atlantic right whales under the assumption that some whales could potentially be missed by visual observation. This scenario is also unlikely to occur due to the monitoring protocols. This calculation therefore represents a highly conservative estimate of individual North Atlantic right whales that could potentially be exposed to sound levels above Level B thresholds.

Table 3. Maximum potential Level B take exposure resulting from 100% usage of the sparker systems during five days of survey in Lease Areas OCS-A 0486.

Species	Density	Total Calculated Takes
North Atlantic Right Whale	0.0040	0
Humpback Whale	0.0012	0
Fin Whale	0.0013	0
Sei Whale	0.0000	0
Minke Whale	0.0005	0
Sperm Whale	0.0001	0
Long-finned Pilot Whale	0.0020	0
Common Bottlenose Dolphin (Offshore)	0.0151	1
Common Dolphin	0.0457	5
Atlantic White-sided Dolphin	0.0092	1
Atlantic Spotted Dolphin	0.0001	0
Risso's Dolphin	0.0000	0
Striped Dolphin	0.0000	0
Harbor Porpoise	0.0335	3
Gray Seal[1]	0.0104	1
Harbor Seal[1]	0.0104	1

[1]Seal species are not separated in the Roberts et al. (2022) data therefore densities were evenly split between the two species.

[3] Roberts JJ. 2021. Habitat-based marine mammal density models for the U.S. Atlantic: Latest Versions. https://seamap.env.duke.edu/models/Duke/EC/. Accessed 19 December 2021.

Table 4. Maximum potential Level B take exposure resulting from 100% usage of the sparker systems during five days of survey in Lease Areas OCS-A 0487.

Species	Density	Total Calculated Takes
North Atlantic Right Whale	0.0020	0
Humpback Whale	0.0013	0
Fin Whale	0.0021	0
Sei Whale	0.0001	0
Minke Whale	0.0008	0
Sperm Whale	0.0001	0
Long-finned Pilot Whale	0.0074	1
Common Bottlenose Dolphin (Offshore)	0.0078	1
Common Dolphin	0.0924	9
Atlantic White-sided Dolphin	0.0234	2
Atlantic Spotted Dolphin	0.0003	0
Risso's Dolphin	0.0001	0
Striped Dolphin	0.0000	0
Harbor Porpoise	0.0399	4
Gray Seal[1]	0.0110	1
Harbor Seal[1]	0.0110	1

[1]Seal species are not separated in the Roberts et al. (2022) data therefore densities were evenly split between the two species.

Table 5. Maximum potential Level B take exposure resulting from 100% usage of the sparker systems during 200 days of survey in Lease Areas OCS-A 0500

Species	Density	Total Calculated Takes
North Atlantic Right Whale	0.0034	13
Humpback Whale	0.0015	6
Fin Whale	0.0023	9
Sei Whale	0.0001	0
Minke Whale	0.0009	4
Sperm Whale	0.0001	0
Long-finned Pilot Whale	0.0090	36
Common Bottlenose Dolphin (Offshore)	0.0097	39
Common Dolphin	0.0945	374
Atlantic White-sided Dolphin	0.0367	145
Atlantic Spotted Dolphin	0.0004	2
Risso's Dolphin	0.0001	1

Striped Dolphin	0.0000	0
Harbor Porpoise	0.0384	152
Gray Seal[1]	0.0124	49
Harbor Seal[1]	0.0124	49

[1]Seal species are not separated in the Roberts et al. (2022) data therefore densities were evenly split between the two species.

Table 6. Maximum potential Level B take exposure resulting from 100% usage of the sparker systems during 180 days of survey in the export cable route (ECR) area

Species	Density	Total Calculated Takes
North Atlantic Right Whale	0.0008	3
Humpback Whale	0.0006	2
Fin Whale	0.0015	5
Sei Whale	0.0000	0
Minke Whale	0.0005	2
Sperm Whale	0.0001	0
Long-finned Pilot Whale	0.0043	15
Common Bottlenose Dolphin (Offshore)	0.0097	95
Common Dolphin	0.0562	200
Atlantic White-sided Dolphin	0.0163	58
Atlantic Spotted Dolphin	0.0003	1
Risso's Dolphin	0.0001	0
Striped Dolphin	0.0000	0
Harbor Porpoise	0.0337	120
Gray Seal[1]	0.0182	65
Harbor Seal[1]	0.0182	65

[1]Seal species are not separated in the Roberts et al. (2022) data therefore densities were evenly split between the two species.

The estimated take numbers for some species were adjusted from the calculated takes based on mean group sizes from PSO data collected in 2022 (Table 2) or from the issued take numbers in the active IHA (87 *FR* 61575); these methods generally follow the same methods used in the active IHA. Species take calculations were adjusted based on a review of PSO data collected under 87 FR 13975 from March through September 2022 in the Northeast project lease areas. Where take requests appeared lower than expected based on the number of visual detections in the PSO reports, the take request was adjusted by multiplying the number of calculated takes by the mean group size provided in the following references:

- Humpback whale: PSO data collected under 87 FR 13975
- Sei whale: Kenney and Vigness-Raposa, 2010[4];
- Minke whale: Kenney and Vigness-Raposa, 2010;

[4]Kenney, RD, Vigness-Raposa KJ. 2010. Marine Mammals and Sea Turtles of Narragansett Bay, Block Island Sound, Rhode Island Sound, and Nearby Waters: An Analysis of Existing Data for the Rhode Island Ocean Special Area Management Plan. University of Rhode Island. Ocean Special Area Management Plan Technical Report #10. 337 pp.

- Sperm whale: Barkaszi and Kelly, 2019[5];
- Risso's dolphin: Barkaszi and Kelly, 2019[5];
- Striped dolphin: Kenney and Vigness-Raposa, 2010[4].

In the case of bottlenose dolphin, Atlantic spotted dolphin, and common dolphin the number of issued takes from the active IHA (87 *FR* 61575) was used to adjust the take request. Calculated and requested Level B takes are presented in Table 7.

Table 7. Requested Level B takes for the incidental harassment authorization renewal request.

Species		OCS-A 0486	OCS-A 0487	OCS-A 0500	ECR	**Total Calculated Takes**	**Requested Takes**
North Atlantic Right Whale	*Eubalaena glacialis*	0	0	13	3	**16**	**16**
Humpback Whale	*Megaptera novaeangliae*	0	0	6	2	**8**	**19**
Fin Whale	*Balaenoptera physalus*	0	0	9	5	**14**	**14**
Sei Whale	*Balaenoptera borealis*	0	0	0	0	**0**	**3**
Minke Whale	*Balaenoptera acutorostrata*	0	0	4	2	**6**	**9**
Sperm Whale	*Physeter macrocephalus*	0	0	0	0	**0**	**2**
Long-finned Pilot Whale	*Globicephala melas*	0	1	36	15	**52**	**52**
Bottlenose Dolphin	*Tursiops truncatus*	1	1	39	95	**136**	**139**
Common Dolphin	*Delphinus delphis*	5	9	374	200	**588**	**6,000**
Atlantic White-sided Dolphin	*Lagenorhynchus acutus*	1	2	145	58	**206**	**206**
Atlantic Spotted Dolphin	*Stenella frontalis*	0	0	2	1	**3**	**29**
Risso's Dolphin	*Stenella frontalis*	0	0	1	0	**1**	**30**
Striped dolphin	*Stenella coeruleoalba*	0	0	0	0	**0**	**20**
Harbor Porpoise	*Phocoena phocoena*	3	4	152	120	**279**	**279**
Harbor Seal[1]	*Phoca vitulina*	1	1	49	65	**116**	**116**
Gray Seal[1]	*Halichoerus grypus*	1	1	49	65	**116**	**116**

ECR = export cable route; OCS = Outer Continental Shelf; W.N.A = Western North Atlantic.
[1]Roberts et al. (2022) only provides density estimates for "generic" seals; therefore, densities were split evenly between the two species due to low mean group sizes and low detection rates in the PSO reports.

Orsted NA appreciates the opportunity to submit this IHA renewal request. Should you have any questions or need further information, please do not hesitate to contact Melanie Gearon at melge@orsted.com or (857) 348-3261

[5]Barkaszi MJ, Kelly CJ. 2019. Seismic survey mitigation measures and protected species observer reports: synthesis report. U.S. Department of the Interior, Bureau Ocean Energy Management, Gulf of Mexico OCS Region, New Orleans, LA. Contract No.: M17PD00004. OCS Study BOEM 2019-012. 220 pp.

Yours sincerely,
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