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Jolie Harrison and Jaclyn Daly
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, Maryland 20910
[submitted via email to: jaclyn.daly@noaa.gov]

Subject: Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf, OCS-A 0499 – Incidental Harassment Authorization Renewal

Dear Ms. Harrison and Ms. Daly:

On January 22, 2021, Atlantic Shores Offshore Wind, LLC (Atlantic Shores), a joint venture between EDF-RE Offshore Development, LLC and Shell Renewables and Energy Solutions, submitted a renewal request to the National Marine Fisheries Service (NMFS) regarding the previously issued Incidental Harassment Authorization (IHA) (Appendix A). On April 10, 2020, NMFS authorized Atlantic Shores to take, by Level B harassment only, small numbers of marine mammals incidental to marine site characterization surveys in the Atlantic Ocean in 2020-2021. In discussions with your office subsequent to the January 22, 2021 submittal, the additional information provided herein was requested.

Proposed Activities

Atlantic Shores proposes to conduct the second year of marine high-resolution geophysical (HRG) and geotechnical surveys within the 183,353-acre Lease Area, located approximately 18 nautical miles southeast of Atlantic City, New Jersey, and proposed Export Cable Route (ECRs) corridors from the Lease Area to shore landing locations along the coast of New Jersey (Figure 1). The purpose of the HRG and geotechnical surveys is to:

- Support site characterization, siting, and engineering design of offshore Project facilities including wind turbine generators (WTGs), offshore substation(s), and submarine cables within the Lease Area and proposed ECR Areas; and
- Collect the data necessary to support Project review requirements associated with 30 C.F.R. § 585 and the National Environmental Policy Act.

To support the characterization of seabed conditions within the Lease Area, Atlantic Shores will conduct the following HRG survey activities:

- Depth sounding (multibeam depth sounder) to determine water depths and general bottom

- topography;
- Magnetic intensity measurements (gradiometer) for detecting local variations in regional magnetic field from geological strata and potential ferrous objects on and below the bottom;
- Seafloor imaging (side-scan sonar survey) for seabed sediment classification purposes, to identify natural and human-made acoustic targets resting on the bottom, as well as any anomalous features;
- Shallow penetration sub-bottom profiler (pinger/chirp) to map the near-surface stratigraphy (top zero to 5 m soils below seabed); and
- Medium penetration sub-bottom profiler (chirps/parametric profilers/sparkers) to map deeper subsurface stratigraphy as needed (soils down to 75 m to 100 m below seabed).
- Grab samples and video imagery will also be collected to support the validation of seabed classifications obtained from the multibeam echosounder/side scan sonar data.

Atlantic Shores is looking to renew the IHA that was approved by NMFS in 2020 under the basis that “(1) up to another year of identical or nearly identical, activities as described in the Specified Activities section of [the issued IHA] is planned” and, “(2) the activities as described in the Specified Activities section of [the issued 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 Dates and Duration section of [the issued IHA]”.

The proposed activities are nearly identical in 2021 to those approved by NMFS in 2020. Atlantic Shores’ 2021 geophysical surveys will be completed using the same survey equipment as included in the approved IHA. Survey operations will occur in the same areas already designated in the 2020 IHA. The only minor change is that there may be fewer geophysical vessels operating during the 2021 survey campaign. We are currently considering the use of half the number of geophysical survey vessels (i.e., two in 2021 instead of four in 2020), though the number of vessels may change depending on the possible bid award from the state of New Jersey in June 2021. Regardless of the award outcome, our vessel number will be either the same or half the number required during the 2020 campaign.

These minor changes do not affect our previously presented analyses, mitigation measures, or monitoring requirements. The mitigation, monitoring, and reporting measures will remain the same in 2021 as they were in 2020.

2020 Campaign Monitoring Report

Atlantic Shores has provided to NMFS under separate cover a preliminary report of the protected species monitoring of the geophysical surveys conducted from April 21, 2020 to October 31, 2020. This monitoring report is interim as Atlantic Shores continued geophysical surveys and protected species monitoring until January 17, 2021. As indicated in the interim monitoring report, the estimated number of marine mammals observed within the predicted Level B Harassment radius was low. Atlantic Shores has also prepared a table summarizing the total take by Level B harassment for all surveys to date under the current IHA (Table 1).

2021 Campaign Take Estimate

Atlantic Shores is providing the revised requested marine mammal take estimates for the 2021 survey campaign based on the anticipated activities to be conducted under the renewed IHA (Table 2). These take estimates follow the same formula and procedures adopted by NMFS in the previously-approved IHA (Appendix 1). Atlantic Shores used the remaining survey variables (e.g., the number of remaining survey kilometers) and insights learned from the previous season (e.g., the amount of kilometers it is feasible to survey per day) to calculate the estimated take associated with the 2021 survey campaign.

Should you have any questions or comments regarding the enclosed request, please feel free to contact me or the Atlantic Shores Permitting Manager, Dr. Paul Phifer. Our contact information is as follows:

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We thank you in advance for your time. We look forward to working with you and your team on the finalization and acceptance of the Renewal IHA application.

Sincerely,



Jennifer A. Daniels
Development Director
Atlantic Shores Offshore Wind, LLC

cc: Deanne Hargrave, Atlantic Shores Offshore Wind, LLC
Paul Phifer, Atlantic Shores Offshore Wind, LLC
Will Waskey, Bureau of Ocean Energy Management
Ursula Howson, Bureau of Ocean Energy Management

Figure 1: Location of Proposed Survey Activities in 2021 – ECR and Lease Area

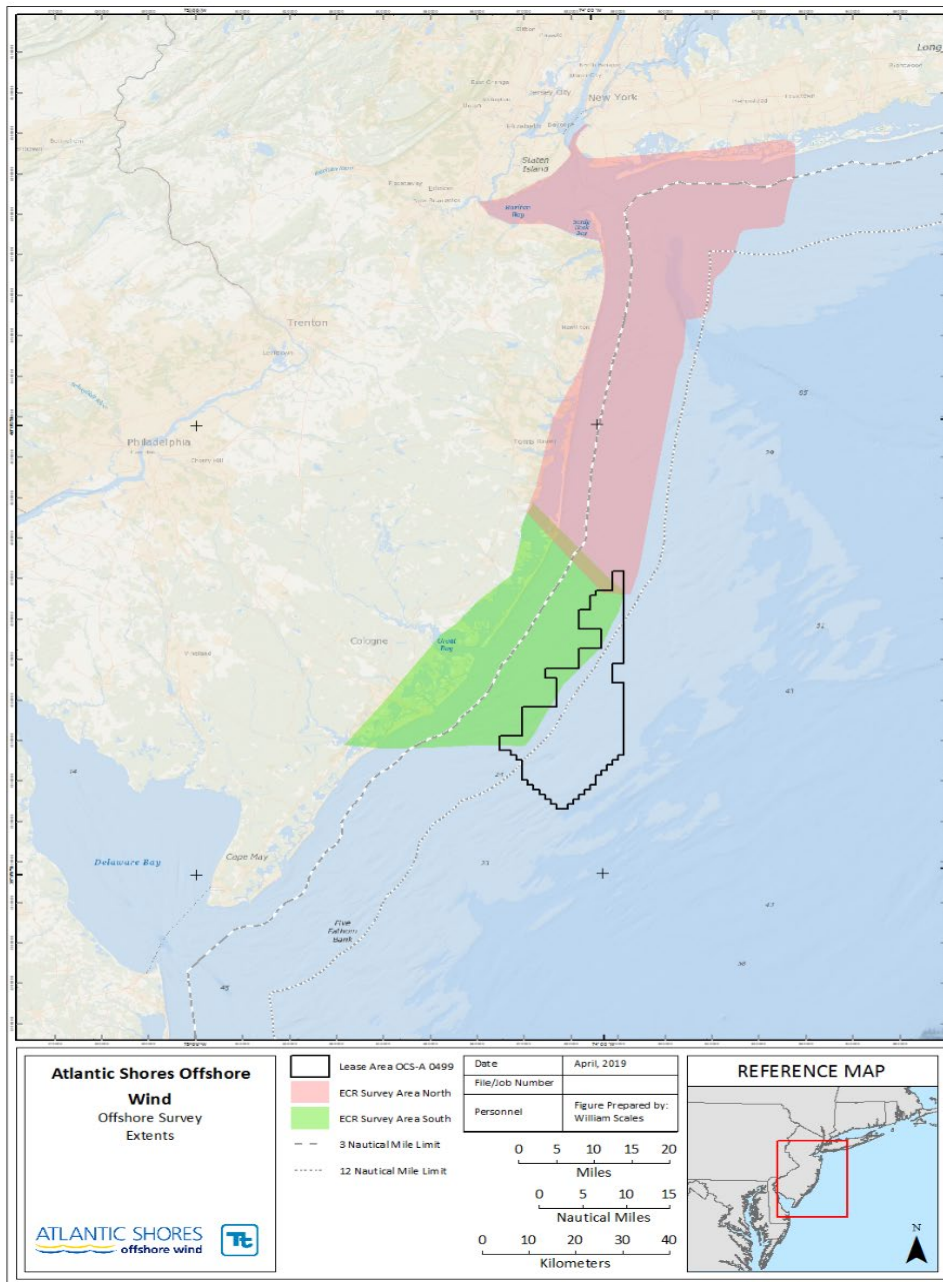


Table 1: Total Reported Level B Harassment Take Compared to the Number of Authorized Level B Harassment Take, Atlantic Shores Geophysical Surveys from April 21, 2020 until January 17, 2021

Species Common Name	Numbers of Authorized Level B Harassment Takes	Total Reported Level B Harassment Takes
North Atlantic right whale	9	1
Humpback whale	18	8
Fin whale	20	2
Sei whale	2	1
Minke whale	9	1
Sperm whale	3	0
Long-finned pilot whale	6	0
Bottlenose dolphin (W.N. Atlantic Coastal Migratory)	1,102	148
Bottlenose dolphin (W.N. Atlantic Offshore)	5,113	0
Common dolphin	544	366
Atlantic white-sided dolphin	82	0
Atlantic spotted dolphin	100	0
Risso's dolphin	6	0
Harbor porpoise	115	0
Harbor seal	1,404	5
Gray seal	1,404	0
<i>Unidentified dolphin</i>	<i>N/A</i>	32
<i>Unidentified whale</i>	<i>N/A</i>	3

Table 2: 2021 Campaign - Maximum Marine Mammal Density, Total Estimated Level B Harassment Take Numbers and Adjusted Requested Take Numbers

	Lease Area		Northern ECR Corridor		Southern ECR Corridor		Total Estimated Takes		
	Maximum Seasonal Density ^a (No./100 km ²)	Calculated Take (No.)	Maximum Seasonal Density ^a (No./100 km ²)	Calculated Take (No.)	Maximum Seasonal Density ^a (No./100 km ²)	Calculated Take (No.)	Adjusted Take Authorization (No.)	Percent of Population	
North Atlantic right whale	0.087	6.9798969	0.068	0.562428	0.073	0.603783	8	1.78	
Humpback whale	0.076	6.0973812	0.082	0.678222	0.103	0.851913	8	2.28	
Fin whale	0.1	8.02287	0.08	0.66168	0.057	0.471447	9	0.57	
Sei whale	0.004	0.3209148	0.004	0.033084	0.002	0.016542	2¹	0.56	
Minke whale	0.055	4.4125785	0.017	0.140607	0.019	0.157149	5	0.18	
Sperm whale	0.013	1.0429731	0.005	0.041355	0.003	0.024813	1	0.05	
Long-finned pilot whale	0.036	2.8882332	0.012	0.099252	0.009	0.074439	20²	0.35	
Bottlenose dolphin	<i>N. Coastal Migratory</i>	-	-	21.675	179.273925	58.524	484.052004	663	9.99
	<i>Offshore</i>	21.752	1,745.13	21.675	179.273925	58.524	484.052004	2408	3.11
Short beaked common dolphin	3.12	250.313544	1.644	13.597524	1.114	9.213894	406³	0.58	
Atlantic white-sided dolphin	0.487	39.0713769	0.213	1.761723	0.152	1.257192	42	0.09	
Atlantic spotted dolphin	0.076	6.0973812	0.059	0.487989	0.021	0.173691	50²	0.11	
Risso's Dolphin	0.01	0.802287	0.001	0.008271	0.002	0.016542	30²	0.16	
Harbor porpoise	2.904	232.9841448	7.357	60.849747	2.209	18.270639	312	0.39	
Harbor seal ^b	4.918	394.5647466	9.737	80.534727	6.539	54.084069	529	0.70	
Gray seal ^b	4.918	394.5647466	9.737	80.534727	6.539	54.084069	529	1.95	

Notes

1. The number of authorized Level B harassment takes was increased based on observations collected by PSOs during 2020 HRG operations
2. The number of authorized Level B harassment takes for these three species was increased from the estimated take to the mean group size
3. The number of authorized Level B harassment takes was increased based on observations collected by PSOs during 2020 HRG operations

Appendix 1: Estimation of Potential Level B Harassment Take for 2021

In the initial IHA application submitted in 2019 for the 2020 HRG survey activities, Atlantic Shores used the following maximum (or upper-end) parameters to estimate the potential for take:

- Maximum number of days of survey that could occur over a 12-month period in each of the identified survey areas;
- Maximum distance each vessel could travel per 24-hour period in each of the identified survey areas;
- Maximum ensonified area (zone of influence [ZOI]) from the HRG;
- Maximum marine mammal densities for any given season that a survey could occur.

These same upper end parameters have been used to calculate the maximum ZOI associated with the planned survey activities and the estimates and associated requests for take.

Calculation of the Maximum ZOI

The same formula for a mobile source was used to calculate the ZOI as was used in the 2019 IHA application:

$$\text{Mobile Source ZOI} = (\text{Distance/day} \times 2r) + \pi r^2$$

Where:

- Distance/day = the maximum distance a survey vessel could travel in a 24-hour period
- r = the maximum radial distance from a given sound source to the NOAA Level A or Level B harassment thresholds.

The estimated number of survey days in the Lease Area and each of the two Export Cable Routes (ECRs) is provided (Table 1) along with the total distance/day, which is estimated to be approximately 55 km per day. The HRG survey equipment that will be employed during the planned activities is identical to that described in the 2019 IHA application.

Table 1: 2021 HRG Survey Area Distance and Maximum ZOI

Survey Area	Number of Active Survey Days	Survey distances per day (km)	Calculated ZOI per day (km ²)
Lease Area	194	55	41.355
ECR North	20		
ECR South	20		

In the original 2019 IHA application, Atlantic Shores calculated a conservative ZOI by applying the maximum radial distance (“r”) for any category and type of HRG survey equipment considered in its assessment to the mobile source ZOI calculation. This maximum calculated distance to the Level B harassment threshold for the sparker of 372 m was also used to calculate the ZOI for the requested extension.

Marine Mammal Take Estimates for 2021 Survey Activities

Estimates of take were made using the same formula used to calculate take estimates in the 2019 IHA application, which was provided to Atlantic Shores from NOAA:

$$\text{Estimated Take} = D \times \text{ZOI} \times (d).$$

Where:

D = average highest marine mammal species density (number per m²)

ZOI = maximum ensonified (Table 1)

d = number of days (Table 1)

The maximum densities for each marine mammal species was obtained as described in section 7.3 of the Atlantic Shores 2019 IHA application. Note that pinniped density values in the original IHA application were not species specific and this same density value for “seals” was used for the requested take calculations in the renewal request.

The estimated take and adjusted take requested for each species is provided in in Table 2 of the renewal application. The number of requested take for long-finned pilot whales, Risso’s dolphins, and Atlantic spotted dolphins was adjusted to account for the typical group size (this adjustment was also made in the initial 2019 application for Risso’s dolphins and Atlantic spotted dolphins). A total of 20 takes are requested for pilot whales, 30 takes for Risso’s, and 50 takes for Atlantic spotted dolphins. The source for Atlantic spotted dolphin group size estimate is Jefferson et al. (2008), for Risso’s dolphin group size estimate is from Baird et al. (1991), both as reported in the 2019 IHA application, and for long-finned pilot whales the group size is as provided by NOAA (personal communication, 26 February, 2021).

The requested take for common dolphins has also been adjusted to reflect field observations collected by Protected Species Observers (PSOs) during the 2020 survey season, which suggest that the voluntary approach behavior exhibited by this species results in more take being accumulated than the density-data based calculations would support. In 2019, the IHA application used seasonal density data to calculate requested take for 544 common dolphins. 2020 survey activities resulted in 366 takes accumulated for this species, which involved 58 common dolphin detection events where the mean pod size reported was 6.79. For the 2021 campaign, Atlantic Shores is requesting 406 common dolphin takes based on an encounter rate similar to that observed in 2020 (58 detection events) and a mean pod size as observed in 2020 (7 animals). That is, 58 detection events multiplied by 7 animals per event, equals 406 common dolphin takes.

In the initial 2019 IHA application, Atlantic Shores adjusted the take authorization numbers for the North Atlantic right whale (NARW), fin whale, sei whale and sperm whale to zero, as a result of the exclusion zone at which shutdowns of the HRG sources would be implemented (i.e., 500 m for NARW and 200 m for other whales) exceeding the Level B isopleth for these species (i.e., 372 m). However, the NMFS-issued 2020 IHA included permitted take as it deferred to the numbers defined by the calculated take estimates. Atlantic Shores has reflected this same pattern in the adjusted take requested for 2021. Atlantic Shores is also requesting one additional sei whale take for a total of two animals based on an encounter during 2020 survey operations where a single sei whale surfaced inside the Level B exposure zone resulting in a take.